

Tees Valley Combined Authority Cabinet Agenda

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Date: Friday 26th July 2019, at 10.00am

Venue: Cavendish House, Teesdale Business Park, Stockton-On-Tees, TS17 6QY

Membership:

Mayor Ben Houchen (Tees Valley Mayor)
Councillor Heather Scott (Leader of Darlington Borough Council)
Councillor Shane Moore (Leader of Hartlepool Borough Council)
Mayor Andy Preston (Mayor of Middlesbrough)
Councillor Mary Lanigan (Leader of Redcar and Cleveland Borough Council)
Councillor Bob Cook (Leader of Stockton-On-Tees Borough Council)
Paul Booth (Chair of Tees Valley Local Enterprise Partnership)

Associate Membership:

Darren Hankey (Member of Tees Valley Local Enterprise Partnership)
Professor Paul Croney (Member of Tees Valley Local Enterprise Partnership)
Jerry Hopkinson (Member of Tees Valley Local Enterprise Partnership)
Angela Howey (Member of Tees Valley Local Enterprise Partnership)
Mike Matthews (Member of Tees Valley Local Enterprise Partnership)
Mark South (Member of Tees Valley Local Enterprise Partnership)
Nigel Perry (Member of Tees Valley Local Enterprise Partnership)
David Soley (Member of Tees Valley Local Enterprise Partnership)
Albert Pattison (Member of Tees Valley Local Enterprise Partnership)
Graham Robb (Member of Tees Valley Local Enterprise Partnership)
Siobhan McArdle (Member of Tees Valley Local Enterprise Partnership)
Annabel Turpin (Member of Tees Valley Local Enterprise Partnership)
Vikki Jackson-Smith (Member of Tees Valley Local Enterprise Partnership)
Brenda McLeish (Member of Tees Valley Local Enterprise Partnership)

AGENDA

- 1. Apologies for Absence**
- 2. Declarations of Interest**
Attached
- 3. Minutes**
Minutes of the meeting held on 28th June 2019 for confirmation
- 4. Matters Arising**
- 5. Mayor's Update**
Attached
- 6. Decision of Overview & Scrutiny Committee Call-In**
To Follow
- 7. Governance and Appointments**
Attached
- 8. Strategic Transport Plan**
Attached
- 9. Bus Network Delivery Options**
Attached
- 10. Tees Valley Local Industrial Strategy**
Attached
- 11. Audit Completion Report**
To Follow
- 12. Annual Financial Statements**
To Follow

13. Appointment of Directors

This report is not for publication by virtue of paragraphs 1 and 2 of schedule 12A of the Local Government Act 1972

14. Any Other Business

15. Date and Time of Next Meeting:

Friday 25th October 2019 at 10am

Members of the Public - Rights to Attend Meeting

With the exception of any item identified above as containing exempt or confidential information under the Local Government Act 1972 Section 100A(4), members of the public are entitled to attend this meeting and/or have access to the agenda papers.

Persons wishing to obtain any further information on this meeting or for details of access to the meeting for disabled people, please contact: Sarah Brackenborough, 01642 524423 or sarah.brackenborough@teesvalley-ca.gov.uk

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Tees Valley Combined Authority Declaration of Interests Procedures

1. The purpose of this note is to provide advice and guidance to all members (the Mayor, elected and co-opted members, substitute members and associate members) of the Combined Authority Cabinet, Sub-Committees and Local Enterprise Partnership Board, on the procedure for declaring interests. The procedure is set out in full in the [Combined Authority's Constitution](#) under the "Code of Conduct for Members" (Appendix 8).

Personal Interests

2. The Code of Conduct sets out in full, the principles on the general conduct of members in their capacity at the Combined Authority. As a general principle, members should act impartially and should not use their position at the Combined Authority to further their personal or private interests.
3. There are two types of personal interests covered by the constitution:
 - a. "disclosable pecuniary interests". In general, a disclosable pecuniary interest will involve any financial interests, such as paid employment or membership of a body, interests in contracts, or ownership of land or shares. Members have a pecuniary interest in a matter where there is a reasonable likelihood or expectation that the business to be considered will affect your well-being or financial position, or the well-being or financial position of the following persons:
 - i. a member of your family;
 - ii. any person with whom you have a close association;
 - iii. in relation to a) and b) above, their employer, any firm in which they are a partner, or a company of which they are a director;
 - iv. any person or body in whom persons described in a) and b) above have a beneficial interest in a class of securities exceeding the nominal value of £25,000; or
 - v. any body as described in paragraph 3 b) i) and ii) below.
 - b. Any other personal interests. You have a personal interest in any business of the Combined Authority where it relates to or is likely to affect:
 - i. any body of which you are a member (or in a position of general control or management) and to which you are appointed or nominated by the Combined Authority;
 - ii. any body which:
 - exercises functions of a public nature;
 - is directed to charitable purposes;
 - one of whose principle purposes includes influencing public opinion or policy (including any political party or trade union) of which you are a member (or in a position of general control or management).

Declarations of interest relating to the Councils' commercial role

4. The constituent councils of the Combined Authority are closely integrated with its governance and financial arrangements, and financial relationships between the Combined Authority and Councils do not in themselves create a conflict of interest for Council Leaders who are also Combined Authority Cabinet members. Nor is it a conflict

of interest if the Combined Authority supports activities within a particular council boundary. Nevertheless, there are specific circumstances where the Cabinet is considering entering into direct contractual arrangements with a council, for example in relation to a particular commercial investment project, or in which that council is a co-funder. In these circumstances a non-pecuniary declaration of interest should be made by the Council Leader or their substitute.

Procedures for Declaring Interests

5. In line with the Code of Conduct, members are required to adhere to the following procedures for declaring interests:

Register of Interests

6. Each member is required to complete a register of interests form with their personal interests, within 28 days of their appointment to the Combined Authority. Details of any personal interests registered will be published on the Combined Authority's website, with the full register available at the Combined Authority's offices for public inspection. The form will be updated on an annual basis but it is the responsibility of each member to notify the Monitoring Officer of any changes to the register throughout the year. Notification of a change must be made to the Monitoring Officer within 28 days of becoming aware of that change.

Declaration of Interests at Meetings

7. The Combined Authority will include a standing item at the start of each meeting for declaration of interests. Where members are aware that any of their personal interests are relevant to an item of business being considered at a meeting they are attending, they must declare that interest either during the standing item on the agenda, at the start of the consideration of the item of business, or when the interest becomes apparent, if later.
8. Where members consider that their interest could be considered by the public as so significant that it is likely to prejudice the members' judgement then they may not participate in any discussion and voting on the matter at the meeting, but may attend the meeting to make representations, answer questions or give evidence relating to the business, before it is discussed and voted upon.
9. If the interest is a disclosable pecuniary interest (as summarised in paragraph 3a) then the member must leave the meeting room during discussion and voting on the item of business, but may make representations, give evidence and answer questions before leaving the meeting room. Failure to comply with the requirements in relation to disclosable pecuniary interests is a criminal offence.

Sensitive Information

10. Members can seek the advice of the monitoring officer if they consider that the disclosure of their personal interests contains sensitive information.

TEES VALLEY COMBINED AUTHORITY CABINET

**Cavendish House, Teesdale Business Park, Stockton-On-Tees at 10.00am on
Friday 28th June 2019**

These minutes are in draft form until approved at the next Cabinet meeting and are therefore subject to amendments.

<u>ATTENDEES</u>	
<u>Members</u>	
Mayor Ben Houchen (Chair)	Tees Valley Mayor
Councillor Heather Scott	Leader, Darlington Borough Council
Councillor Shane Moore	Leader, Hartlepool Borough Council
Mayor Andy Preston	Mayor of Middlesbrough
Councillor Mary Lanigan	Leader, Redcar and Cleveland Borough Council
Councillor Bob Cook	Leader, Stockton-on-Tees Borough Council
<u>Associate Members</u>	
Darren Hankey	Member of Tees Valley LEP
Mike Matthews	Member of Tees Valley LEP
David Soley	Member of Tees Valley LEP
Graham Robb	Member of Tees Valley LEP
Siobhan McArdle	Member of Tees Valley LEP
Brenda McLeish	Member of Tees Valley LEP
<u>Apologies for Absence</u>	
Paul Booth	Chair of Tees Valley Local Enterprise Partnership
Professor Paul Croney	Member of Tees Valley LEP
Angela Howey	Member of Tees Valley LEP
Jerry Hopkinson	Member of Tees Valley LEP
Annabel Turpin	Member of Tees Valley LEP
Vikki Jackson-Smith	Member of Tees Valley LEP
Alby Pattison	Member of Tees Valley LEP
Mark South	Member of Tees Valley LEP
Nigel Perry	Member of Tees Valley LEP
<u>Officers and Others in Attendance</u>	
Councillor Norma Stephenson	Chair, Overview & Scrutiny Committee
Julie Danks	Chief Executive, Stockton on Tees Borough Council
Denise McGuckin	Director of Regeneration and Neighbourhoods, Hartlepool Borough Council
Sarah Robson	Corporate Director of Economic Growth, Enterprise and Environment, Redcar and Cleveland Borough Council
Tony Parkinson	Chief Executive, Middlesbrough Council
Julie Gilhespie	Chief Executive, Tees Valley Combined Authority
Andrew Nixon	Monitoring Officer, Tees Valley Combined Authority
Sarah Brackenborough	Governance Manager, Tees Valley Combined Authority
Alison Fellows	Investment Director, Tees Valley Combined Authority

Jacqui Banks	Adult Education Manager, Tees Valley Combined Authority
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TVCA 01/19	Mayor Houchen welcomed the new Leaders to their first Cabinet meeting on behalf of all members and congratulated them on their election.
TVCA 02/19	DECLARATIONS OF INTEREST Councillor Cook, Councillor Lanigan, Councillor Moore, Councillor Scott, Mayor Preston, Darren Hankey and Brenda McLeish declared an interest in agenda item 8, Adult Education Budget, as their establishments were involved in the grant process.
ANNUAL MEETING BUSINESS:	
TVCA 03/19	GOVERNANCE AND APPOINTMENTS Cabinet considered several items of business at its Annual General Meeting. Councillor Bob Cook noted that the Stockton Council nomination for substitute Transport Committee member was Councillor Nigel Cooke. Councillor Shane Moore noted that the Hartlepool Council nomination for substitute Audit and Governance Committee member was Councillor Amy Prince. RESOLVED that: i. the appointments as set out at Appendix 1 be agreed; ii. the members' allowances scheme for 2019-20 at Appendix 2 be agreed; iii. the Mayoral Allowance be agreed; iv. the proposal to extend the term of LEP Board members who have already completed their initial two-year term be approved.
BUSINESS MEETING:	
TVCA 04/19	MATTERS ARISING None
TVCA 05/19	MINUTES OF PREVIOUS MEETING RESOLVED that the minutes of the meeting held on 15th March be confirmed and signed as a correct record.
TVCA 06/19	OVERVIEW & SCRUTINY COMMITTEE ANNUAL REPORT Councillor Norma Stephenson, Chair of the Overview and Scrutiny Committee for 2018/19, presented the Committee's Annual Report for the period of May 2018 to April 2019. Councillor Stephenson commented that attendance at the Committee was very poor towards end of the last municipal year and that she hoped all of the Leaders would be making it clear to their members that this is an important

	<p>Committee that needs to make decisions. She noted her disappointed in particular that the Diversity report, which was requested by the Cabinet, had not yet been approved due to poor attendance.</p> <p>Councillor Stephenson also noted that the Committee would be discussing their role in the Airport going forward at their next meeting.</p> <p>Mayor Houchen noted the comments and said it was his personal belief that some Committee members had been told not to attend, particularly in relation to the Diversity report.</p> <p>Councillor Moore, who had previously sat on the Committee, acknowledged the importance of the Committee and the poor attendance by Hartlepool members in particular, and gave a commitment that this would improve.</p> <p>Councillor Scott, who had also sat on the Committee commented that the poor attendance had been an insult to the rest of the Committee and gave an assurance that Darlington members would attend.</p> <p>RESOLVED that the report be noted.</p>
<p>TVCA 07/19</p>	<p>CONSTITUTION AMENDMENTS</p> <p>Cabinet agreed the Combined Authority Constitution in May 2017.</p> <p>Since that time there had been changes to policies, processes, documents and legislation that needed to be reflected in the Constitution. The Constitution had therefore been reviewed according to these areas to ensure it was up to date and fit for purpose. A table summarising the amendments was presented to Cabinet along with a full version of the updated Constitution. The tabled amendments were circulated to the Monitoring Officers of the five constituent authorities prior to finalising the updated document.</p> <p>Mayor Houchen asked that it be noted that, constitutionally, all Leaders hold a portfolio and are therefore responsible for and are the lead for that portfolio throughout the year. The Local Authority Chief Executives are there to support their Leader in their portfolio area and are not to support other portfolio areas. He asked for agreement of this position to which the Cabinet agreed.</p> <p>RESOLVED that the Constitution be approved.</p>
<p>TVCA 08/19</p>	<p>ADULT EDUCATION BUDGET (AEB)</p> <p>Cabinet considered a report recommending, for approval, the funding awards to be granted to successful Training Providers following the recent commissioning process. The report summarised the commissioning process undertaken, the analysis undertaken to consider impact of the recommendations and suggested next steps for future grant awards. The grants suggested would be awarded for delivery of skills training for academic year 2019/20, commencing 1 August 2019.</p> <p>RESOLVED that:</p> <ul style="list-style-type: none"> i. the Training Provider funding awards of £25.8m as presented be approved; ii. the intention to provide management resourcing of no more than £400k annually be noted; and

	iii. the proposed approach to allocating the remaining budget of £3.3m be approved. iii. Approves the proposed approach to allocating the remaining budget of £3.3m.
TVCA 09/19	ANY OTHER BUSINESS None.
TVCA 10/19	DATE OF NEXT MEETING Friday July 26 th 2019

AGENDA ITEM 5**REPORT TO THE TEES VALLEY
COMBINED AUTHORITY CABINET****26 JULY 2019****REPORT OF THE TEES VALLEY MAYOR****TEES VALLEY MAYOR'S UPDATE****SUMMARY**

This report provides a general update on the key activities of the Mayor and Combined Authority since the last Cabinet meeting, which are not covered in other reports to this meeting.

RECOMMENDATIONS

It is recommended that the Tees Valley Combined Authority Cabinet notes the report.

DETAIL**TEES VALLEY CAREERS.COM**

1. Tees Valley has been announced by the Careers and Enterprise Company as one of the successful bids to expand the Careers Hub. Tees Valley has been one of twenty national Careers and Enterprise Hubs since October 2018 and consists of 35 schools in the Tees Valley. The Tees Valley Careers Hub will now include a further 25 schools and colleges – with the vision to cover all 11-18 learning establishments in Tees Valley.
2. The launch of the Hub extension took place on 9 July at Middlesbrough Football Club where existing Hub schools and colleges showcased their successes with new Hub learning providers, had the opportunity to network and to share best practice.

TEES VALLEY SKILLS DEVELOPMENT PARTNERSHIP

3. The Combined Authority, in partnership with Teesside University, has submitted an application to the European Social Fund (ESF) for a £3.1m project. This is made up of an ESF request of £1.8m, match from TVCA of £1m and £300k from Teesside University.
4. The project will:
 - Identify requirements within Tees Valley SMEs which will address the projected vacancy gap across the region over the next ten years and ensure that, where possible, Tees Valley residents can benefit;
 - Inform and shape the development of curricula ensuring a better fit with the emerging skills needs of SMEs across all priority and growth sectors; and

- Promote and assist Tees Valley SMEs to develop capabilities that improve their productivity and competitive position.
5. The project has an anticipated start date of September 2019, subject to approval of the funding application which is anticipated in August. The project will engage with 800 SMEs and an estimated 1,080 individuals will be supported through the project.

CULTURE AND TOURISM UPDATE

6. We are in the process of developing our Culture strategy with partners. It will set out the core principles and broad strategic priorities for activity and investment across Tees Valley and support our City of Culture bid development. We will be aiming to engage many people across Tees Valley in developing the ideas that underpin our bid.
7. A new film 48 hours in Tees Valley has been produced. Please look for it on Enjoy Tees Valley .com.
9. Users of the Enjoy Tees Valley website have increased by over 600%, comparing May 2019 to May 2018.

NEW TEES CROSSING – CONSULTATION FEEDBACK

10. Providing a new Tees Crossing is one of the main transport priorities for the Tees Valley. It is seen as essential to facilitate growth and is supported and endorsed by Transport for the North. The preferred capacity enhancement scheme would see a new two-lane bridge built parallel to the existing A19 viaduct to carry traffic travelling northbound and the existing structure widened to allow for an extra lane of southbound traffic.
11. In a recent public consultation on the proposal, over 300 responses were received and almost 5,000 people viewed the proposal online. Results show over 84% of consultees support the need for additional road capacity over the River Tees. Furthermore over 70% of respondents favoured the preferred capacity enhancement scheme. Work is now underway to finalise the business case and discussions are on-going with Government to secure the funding required to deliver the scheme.

STOCKTON AND DARLINGTON RAILWAY (S&DR) HERITAGE PROGRAMME

12. The Railway Heritage Programme is a partnership between the Combined Authority, Stockton Borough Council, Darlington Borough Council and Durham County Council.
13. The Programme continues to make great progress with the Railway Heritage Quarter Masterplan and Interpretation Plan due in its first full draft by the end of June 2019 and with sign off scheduled by end August 2019. The Interpretation Plan which seeks to develop the 'grand narrative' around the whole 26 miles of the S&DR line is also in its final draft and will be signed off in July by the Railway Heritage Board. Alongside the grand narrative, an Access Audit is underway to determine possible routes of 26 mile walking and cycling route by 2025 and beyond, this work is expected to be complete by October 2019.

14. The Stockton and Darlington Railway Heritage Programme Delivery Plan is also being refreshed with Historic England, looking at governance, resources and timescales in particular.

MIDDLESBROUGH STATION

15. The Combined Authority is continuing to work in collaboration with Middlesbrough Council (MBC), the Department for Transport (DfT), Transport for the North (TfN), Network Rail (NR) and Trans-Pennine Express (TPE) to develop and progress the series of proposed projects at Middlesbrough Station.
16. The first stage of feasibility work looking to address the capacity constraints at the station has been completed in accordance with the Rail Network Enhancements Pipeline (RNEP) process. TVCA and MBC are now working with DfT and NR to move this forward to the next stage of the process.
17. Work is also progressing with TPE and NR to seek improvements to passenger facilities and refurbish the dilapidated station undercroft. These projects are linked to the increased rail services over coming years, the potential of a new third platform being built to address the capacity constraints and an expected growth in passenger numbers using the station.

DARLINGTON STATION

18. Progress continues to be made on Darlington Station with the production of a Strategic Case clearly demonstrating the requirement for intervention from the Department for Transport (DfT). This will be incorporated in to an Outline Business Case (OBC) for Phase 1 of the scheme by the end of December 2019. The project team is working closely with Network Rail to agree how Network Rail needs to contribute to the OBC. A multi-disciplinary technical advisory team is in the process of being procured to lead design work for the OBC process.
19. A Phase 1 Feasibility Design for the Station East side has now been completed and was presented to the Darlington Station Programme Board in June 2019. It was very well received by representatives of each of the key stakeholders in the project.
20. Network Rail has now also completed a Darlington Station Capacity Analysis report which has identified a number of interventions required in order to deliver improved rail connectivity across Tees Valley and beyond. Network Rail is to provide broad indication of costs of the intervention.

MIDDLESBROUGH DISTRICT ENERGY NETWORK

21. The Outline Business Case (OBC) for the project was previously considered by the Combined Authority Cabinet and an in-principle commitment given that the Combined Authority would use its borrowing powers and invest up to £40m in the project subject to a commercially viable Full Business Case.
22. Subsequently, expert legal, technical and financial advisers have been appointed and work has continued on the development of the Middlesbrough District Energy Network (MDEN) project, which will provide greener heat and power to a number of sites across the town centre, including the James Cook University Hospital and a number of

University and Council buildings in the town centre in the first phase, followed by phases of expansion to other premises.

23. Over recent weeks, significant work has been done on refining and developing the project, including additional work on the network design and routing, how buildings can be connected and negotiating the commercial terms with those who will be supplying and off-taking heat or power from the network. All of this is being used to inform the project's Full Business Case. A more detailed report on this exciting and innovative project is expected to be provided for the next Cabinet meeting.

FINANCIAL IMPLICATIONS

24. There are no financial implications to this report.

LEGAL IMPLICATIONS

25. There are no legal implications to this report.

RISK ASSESSMENT

26. This report is an update and therefore is categorised as low risk.

Name of Contact Officer: Chris Duggan
Post Title: Chief of Staff to the Mayor
Telephone Number: 01642 528893
Email Address: chris.duggan@teesvalley-ca.gov.uk

AGENDA ITEM 7**REPORT TO THE TEES VALLEY
COMBINED AUTHORITY CABINET****26 JULY 2019****REPORT OF THE CHIEF EXECUTIVE****GOVERNANCE AND APPOINTMENTS****SUMMARY**

This report requests Cabinet ratification for the Chair and Vice Chair of the Combined Authority Overview and Scrutiny Committee, the Audit and Governance Committee and also the Vice Chair of the Transport Committee. The appointment of Chair and Vice Chair of the Audit and Governance Committee will be updated verbally at the meeting due to the timing of that meeting. It also confirms the Further Education representative for the forthcoming academic year.

RECOMMENDATIONS

It is recommended that the Combined Authority Cabinet agrees the appointments as set out in this report.

DETAIL**Overview and Scrutiny Committee**

1. At its meeting on 12th July 2019 the Tees Valley Combined Authority Overview and Scrutiny Committee nominated the following:
 - Councillor Norma Stephenson as Chair for the civic year 2019/20
 - Councillor Denise Rooney as Vice-Chair for the civic year 2019/20

Transport Committee

2. At its meeting on 5th July, 2019 the Tees Valley Combined Authority Transport Committee nominated Councillor Christopher Akers-Belcher as Vice Chair for the Civic Year 2019/20.
3. Middlesbrough Council have advised that their representative on the Transport Committee is Cllr Ashley Waters, the Executive Member for Regeneration.

Audit and Governance Committee

4. Audit and Governance Committee will meet to nominate its Chair and Vice Chair for the coming year on 24th July 2019 and Cabinet will receive a verbal update on the outcome of this meeting.
5. At the same meeting the Audit and Governance Committee will also nominate a member to be on the South Tees Development Corporation Audit and Risk Committee and this will be reported verbally at Cabinet.

Other appointments

6. The FE College Principals have confirmed that Zoe Lewis, Principal of Middlesbrough College, has been nominated as their representative on the Local Enterprise Partnership (LEP) for the Academic year 2019/20. Zoe replaces Darren Hankey, Principal of Hartlepool College of Further Education, on the LEP.

FINANCIAL IMPLICATIONS

7. Support for the governance of the Tees Valley Combined Authority is provided from within the Authority's core budget, as agreed by Cabinet through the annual budget process, and funded through resources devolved from central government.

LEGAL IMPLICATIONS

8. The report relates to the Constitution of the Combined Authority which sets out the appropriate statutory framework.

RISK ASSESSMENT

9. This report is categorised as low to medium risk. Existing management systems and daily routine activities are sufficient to control and reduce risk.

CONSULTATION & COMMUNICATION

10. Appointments are made in accordance with the Combined Authority Constitution and the processes governing each Local Authority.

EQUALITY & DIVERSITY

11. As reported to Cabinet previously, there is a commitment from Cabinet to achieve a 50/50 gender balance and to increase overall diversity on the LEP by 2020. Overview & Scrutiny Committee have also carried out a study into a perceived lack of diversity in gender, sexuality, disability and ethnicity in the membership of the Tees Valley Combined Authority Cabinet and Committee membership. This study is now complete and findings and recommendations from this will be presented to Cabinet in July.

LOCAL ENTERPRISE PARTNERSHIP

12. The items in this report have been circulated to LEP members in advance of coming forward to Cabinet.

Name of Contact Officer: Sally Henry

Post Title: Governance Officer

Telephone Number: 01642 524405

Email Address: sally.henry@teesvalley-ca.gov.uk

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AGENDA ITEM 8**REPORT TO THE TEES VALLEY
COMBINED AUTHORITY
CABINET****26 JULY 2019****REPORT OF THE
HEAD OF TRANSPORT****PORTFOLIO: TRANSPORT****STRATEGIC TRANSPORT PLAN****SUMMARY**

The Tees Valley Combined Authority is the Local Transport Authority for the Tees Valley and has therefore led on the development of a draft Strategic Transport Plan. It is proposed that the Combined Authority consult on the plan with the public and key stakeholders between August and October 2019 through an online and paper-based questionnaire and at least one event within each local authority area.

RECOMMENDATIONS

It is recommended that the Combined Authority Cabinet:

- i. Approve the draft Strategic Transport Plan for the purposes of consultation between August and October 2019 (**Appendix 1**);

DETAIL**Tees Valley Draft Strategic Transport Plan**

1. The Tees Valley Combined Authority has developed a draft Strategic Transport Plan (summary and full version attached as **Appendix 1**) in partnership with the five Local Authorities. This has included close collaboration on the development of the plan with officers at each of the authorities via the Transport Planning Officers Group (TPOG) and the Transport Advisory Group (TAG). Two workshops have also been held with the Combined Authority Transport Committee to inform the plan's development.
2. Over the 10 years up to 2026, the Tees Valley Strategic Economic Plan sets out the aim to create 25,000 new jobs and build 22,000 new homes. To ensure that everyone in Tees Valley is able to work, study, enjoy and fully participate in these ambitious plans for the future, there is a need for a world class transport system. Transport is about connecting people and businesses in the Tees Valley and beyond.

Delivering a world-class transport system that is fit for the future is a critical enabler for the success of the area.

3. Based on this, the proposed transport vision for Tees Valley is:

“To provide a high quality, clean, quick, affordable, reliable and safe transport network for people and freight to move within, to and from the Tees Valley”
4. To support the vision, three broad objectives are proposed which reflect the main challenges and opportunities facing the Tees Valley:
 - Social opportunity – helping people access jobs, education, services and leisure opportunities and improving public health;
 - Economic growth – delivering the Strategic Economic Plan and the economic growth plans of Tees Valley Local Authorities; and
 - Environmental protection and enhancement – addressing the impact of the transport network on the environment and supporting the legislative requirements to reduce air and noise pollution, carbon emissions and detrimental impacts on the natural and built environment.
5. Based on feedback received there is now more emphasis in the plan on local journeys, whilst recognising that very often improving local journeys requires action on a larger scale. For example, the frequency and service patterns on our local rail network are determined by the interaction of local trains at the national rail gateways of Darlington and Middlesbrough. Congestion and incidents on the main highway network, particularly the A19 and the A66, have a major impact on the operation of more local roads, including those on which the core bus services operate.
6. The plan also includes a section outlining what the plan means for everyone living, working, having a business or visiting the Tees Valley.
7. To deliver against the vision and objectives a framework has been developed around six themes. No one theme is more important than the other, but the plan is set out in this way to recognise where the Tees Valley has more autonomy through the devolution deal to bring forward the right intervention, at the right time. The six themes are set out below:
 - National rail;
 - Major roads;
 - Connecting economic centres;
 - Unlocking key sites;
 - Local journeys; and
 - Deliver social equality and protect and enhance the environment.
8. The plan has been developed as a suite of documents, with the Strategic Transport Plan being the overarching transport plan for the Tees Valley. The detailed actions are then set out within a series of Implementation Plans including the:

- Tees Valley Road Implementation Plan;
- Tees Valley Rail Implementation Plan;
- Tees Valley Freight Implementation Plan;
- Tees Valley Bus Implementation Plan;
- Tees Valley Cycling & Walking Implementation Plan; and
- Tees Valley Airport Implementation Plan

9. These implementation plans will be dynamic and will enable the Combined Authority to be agile when responding to new challenges and opportunities.
10. These documents will be supported by Local Implementation Plans (LIPs) produced by each of the local authorities following the plan's adoption. These LIPs will align local responsibilities and sources of funding with the Strategic Transport Plan. There is also an Integrated Sustainability Appraisal, which is aimed at ensuring the early integration of sustainability considerations within the plan.

Consultation

11. It is proposed to undertake a 12-week consultation on the plan between August 2019 and October 2019. Statutory consultees, key stakeholders and the public will be able to view the documents on the Combined Authority's website and at selected locations. There will also be a launch event plus at least one roadshow held within each of the local authorities where access will be carefully considered to ensure as many people as possible are able to contribute. Consultees will be given the opportunity to comment on the plan through an online questionnaire and the normal postal and email channels. The proposed consultation timetable, which is still to be confirmed, is set out below.

Proposed consultation timetable	
W/C 12/08/19	12-week consultation commences
Throughout September 2019	Consultation exhibition Darlington
	Consultation exhibition Hartlepool
	Consultation exhibition Middlesbrough
	Consultation exhibition Redcar & Cleveland
	Consultation exhibition Stockton-on-Tees
W/C 4/11/19	Consultation Ends

12. Informed by the findings of the consultation process, the final Strategic Transport Plan will come back to Cabinet for formal approval in early 2020 and will then be published.

FINANCIAL IMPLICATIONS

13. None

LEGAL IMPLICATIONS

14. None.

RISK ASSESSMENT

15. This Strategic Transport Plan is categorised as low to medium risk. Existing management systems and daily routine activities are sufficient to control and reduce risk.

CONSULTATION & COMMUNICATION

16. The draft Strategic Transport Plan has been discussed with local authorities, at the Chief Executives Group and at Transport Committee. There will be a public consultation between August 2019 and October 2019, before the final plan is published at the beginning of 2020.

EQUALITY & DIVERSITY

17. An Equality Impact Assessment of the Strategic Transport Plan has been undertaken as part of the Integrated Sustainability Appraisal. The equality and diversity impacts of individual projects and schemes will be considered during development.

LOCAL ENTERPRISE PARTNERSHIP

18. This item has been considered at the LEP meeting in advance of it coming forward to Cabinet.

Name of Contact Officer: Tom Bryant
Post Title: Head of Transport
Telephone No. 01642 524463
Email Address: tom.bryant@teesvalley.gov.uk

Appendix 1 – Summary and full version of the draft Strategic Transport Plan

Connecting the Tees Valley 2019 - 2029



TEES VALLEY
COMBINED
AUTHORITY

| TEES VALLEY MAYOR

STRATEGIC TRANSPORT PLAN

Draft v3.5

Contents

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2. **Our vision**
3. **Why invest in improving the transport network?**
4. **What is needed to make the vision a reality?**
5. **How will the plan be delivered?**

How to Give Feedback

We would welcome your feedback on the draft document. Please complete our questionnaire which is available online at:

www.teesvalley-ca.gov.uk/transport/strategic-transport-plans

We will also be holding a number of consultation events across the Tees Valley, where you can meet us and discuss any questions, hopes or concerns for transport in the Tees Valley. Staff will also be on hand to help you complete the questionnaire. Further details on the events can be found on the website.

Deadline

The deadline for completing the questionnaire or any other comments on the consultation is 31 October 2019

Foreword

Tees Valley Mayor – Ben Houchen

Quote from the Tees Valley Mayor

Chair of the Tees Valley Combined Authority Transport Committee – Councillor Heather Scott





Quote from Councillor

Executive Summary

In order to ensure that everyone in Tees Valley is able to work, study, enjoy and fully participate in our ambitious plans for the future, we need a world class transport system. Delivering a world-class transport system that is fit for the future is a critical enabler for the success of the area. Our vision for transport in the Tees Valley is therefore:

“To provide a high quality, clean, quick, affordable, reliable and safe transport network for people and freight to move within, to and from the Tees Valley.”




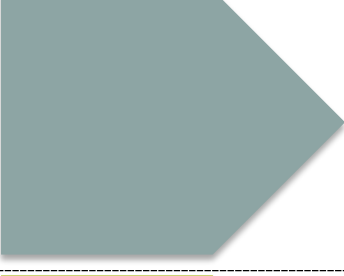


There are a number of challenges that we need to address and opportunities that we need to seize as summarised below:

 <p>31% OF HOUSEHOLDS HAVE NO CAR Compared to 25% Nationally</p>	<p>87% of Tees Valley residents work within Tees Valley</p>	<p>73% of Tees Valley residents travel to work by car</p>
 <p>110k Annual Average Daily Flow Tees Crossing</p>	 <p>Over 28m bus journeys in 2017/18 a 13% decrease since 2012/13</p>	 <p>Over 6.5m rail boardings & alightings in 2017/18. A 10% increase since 2010</p>
<p>Only 55% of vehicle journeys on the Tees Valley section of the A19 are classed as “on time”.</p>	<p>78% of bus users are satisfied with bus punctuality, but the figure is decreasing.</p>	<p>9% of Tees Valley CO₂ emissions are from transport compared to 27% nationally.</p>
<p>Light vans delivering goods are now the fastest growing element of the road freight sector.</p>	<p>94% of the population are within walking distance of a bus service and 66% are within walking distance of a regular bus service.</p>	<p>Cycling makes up just 2.1% of travel to work trips in the Tees Valley and walking 11% (2011 Census).</p>

The focus of this plan is on improving the transport system for local people and businesses. This means improving our walking and cycling networks and making sure that the public transport network, particularly buses, works for people now and in the future. However, very often improving local journeys requires action on a larger scale to ensure that we can do what is necessary in the Tees Valley. For example, the frequency and service patterns on our local rail network are determined by the interaction of local trains at the national rail gateways of Darlington and Middlesbrough. Congestion and incidents on the main highway network, particularly the A19 and the A66, have a major impact on the operation of more local roads.

The Strategic Transport Plan has therefore been developed with this in mind. The following table provides a summary of the plan and outlines:

- The required outcomes of the plan and why intervention and investment is required in the Tees Valley transport network;
- The actions and interventions that are needed to deliver these outcomes and what resources and investment will be focused upon; and
- The required inputs to the plan – how the actions and interventions will be delivered.

		Required Outcomes (“Why?”)
	National Rail	<ul style="list-style-type: none"> • Improve rail links between the Tees Valley and the rest of the country. • Improve rail station infrastructure – ready for major projects such as High Speed Rail and Northern Powerhouse Rail. • Ensure that existing rail networks are able to cater for future growth in both freight and passenger demands across the North.
	Major Roads	<ul style="list-style-type: none"> • Deliver and maintain a safe, resilient and reliable Key Route Network for the Tees Valley and a Major Road Network for the TfN area – facilitating future economic and housing growth across the North.
	Connecting Economic Centres	<ul style="list-style-type: none"> • Deliver and maintain a frequent, high quality, reliable and integrated public transport network. • Develop and improve transport interchanges, ticketing options and information – providing a seamless integrated experience for the travelling public.
	Unlocking Key Sites	<ul style="list-style-type: none"> • Address specific problems on the major and local transport networks – providing a transport system that facilitates future economic and housing growth across Tees Valley. • Develop and maintain a transport network that is fit for purpose for freight by road, rail, sea and air – enabling the economy to grow effectively and sustainably.
	Local Journeys	<ul style="list-style-type: none"> • Deliver and maintain safe walking and cycling routes and local bus services that link housing sites to key destinations and transport interchanges for onward journeys.
	Delivering Social Equality and Protecting and Enhancing the Environment	<ul style="list-style-type: none"> • Improve Access for those with physical disabilities, mental health conditions, learning difficulties and those with sensory impairment. • Deliver measures to improve local air quality, minimising the emission of nitrogen oxide, nitrogen dioxide and particulates; and reducing carbon emissions and the contribution of transport to global carbon levels. • Reduce noise and vibration from transport. • Protect and enhance the Tees Valley’s built and natural environment. • Improve equality of opportunity for more remote and deprived communities and enhance health and wellbeing.

	Actions & Interventions (“What?”)	Required Inputs (“How?”)
National rail	<ul style="list-style-type: none"> • Delivery of Darlington Station Masterplan improvements • Delivery of Middlesbrough Station Masterplan Improvements • Delivery of improved national rail services • Influence on key rail franchises which serve the Tees Valley • Delivery of infrastructure that will enable large containers to be transported by rail to / from the Tees Valley 	<ul style="list-style-type: none"> • Tees Valley Integrated Transport Programme • Transport for the North (including Northern Powerhouse Rail) • Network Rail Control Period funding • Department for Transport (including Rail Network Enhancement Pipeline) • High Speed Rail • Private Sector Contributions
Major roads	<ul style="list-style-type: none"> • Additional major road crossing of the River Tees • Improved east-west road connectivity along the A66 corridor from the A1(M) to the international gateway at the ports of Tees and Hartlepool • Incorporate the needs of strategically important sites into the development and maintenance of the DfT’s Major Road Network and the Tees Valley’s Key Route Network • Secure appropriate improvements for the movement of freight on the Major Road Network and Key Route Network 	<ul style="list-style-type: none"> • Tees Valley Integrated Transport Programme • Transport for the North (Strategic Roads) • Highways England Roads Investment Strategy • Department for Transport (including National Productivity Investment Fund and Large Local Major Transport Schemes Fund) • Private Sector Contributions
Connecting economic centres	<ul style="list-style-type: none"> • Improvements to local rail services, including increased frequency, newer trains and improved / new stations • Tees Valley bus network improvements • Improved ticketing for bus, rail and across modes, making the most of emerging technologies • Local road network improvements 	<ul style="list-style-type: none"> • Tees Valley Integrated Transport Programme • Transport for the North (including Rail North and Integrated and Smart Travel) • Public Transport Operators (Rail and Bus) • Private Sector Contributions
Unlocking key sites	<ul style="list-style-type: none"> • Delivery of the airport masterplan • Delivery of the South Tees Development Corporation masterplan • Develop and deliver transport infrastructure at locations where growth would be constrained without action, linked to large scale planning applications when appropriate • Refresh and expand the Tees Valley Urban Traffic Management and Control System to improve traffic management and live route information • Develop road and rail networks with appropriate capacity, capability and facilities for freight movement 	<ul style="list-style-type: none"> • Tees Valley Integrated Transport Programme • Department for Transport (including National Productivity Investment Fund, Large Local Major Transport Schemes Fund and Local Transport Plan Integrated Transport Block Allocations) • Ministry of Housing, Communities & Local Government (Housing Infrastructure Fund) • Highways England (including Growth and Housing Fund and Pinch Point Fund) • Private Sector Contributions
Local Journeys	<ul style="list-style-type: none"> • Improvements to the Tees Valley cycling and walking networks targeted at corridors identified within the Local Cycling and Walking Infrastructure Plan • Improvements to key corridors on the Tees Valley bus network to improve reliability and journey times • Integration of sustainable transport improvements within larger infrastructure schemes • Develop a partnership agreement with Bus Operators • Investigate whether Demand Responsive Transport and community based initiatives could be a solution to the problem of accessibility in rural areas • Extension of existing Community Rail Partnership concept • Identify opportunities to develop the Tees Valley’s leisure and tourism offer • Local road network maintenance and improvements • Increase road safety for all road users 	<ul style="list-style-type: none"> • Tees Valley Integrated Transport Programme • Department for Transport (including Access Fund, Local Transport Plan Integrated Transport Block, National Productivity Investment Fund, Local Major Transport Schemes Fund and Highways Maintenance) • Public Transport Operators (Rail and Bus) • Private Sector Contributions

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Delivering Social Equality and Protecting and Enhancing the Environment</p>	<ul style="list-style-type: none"> • Development of integrated sustainable transport choices • Deliver Wheels 2 Work project to support access to work • Incorporate provision for all potential users within wider scheme development • Let's Go Tees Valley behaviour change programmes, encouraging healthier more sustainable travel choices • Establish a coordinated approach to the provision of Low Emission Vehicle Infrastructure in the Tees Valley • Seek alternatives to diesel as the main fuel source for local rail services in the Tees Valley. 	<ul style="list-style-type: none"> • Tees Valley Integrated Transport Programme • Department for Transport (including Access Fund and Local Transport Plan Integrated Transport Block Allocations) • Office of Low Emission Vehicles • Public Transport Operators (Rail and Bus) • Private Sector Contributions
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1. Our vision

The Combined Authority is the local transport authority for the Tees Valley. This is the first Strategic Transport Plan for the Tees Valley for the period up to 2029. It has been developed by the Tees Valley Combined Authority including the five constituent unitary local authorities of Darlington, Hartlepool, Middlesbrough, Redcar & Cleveland and Stockton-on-Tees.

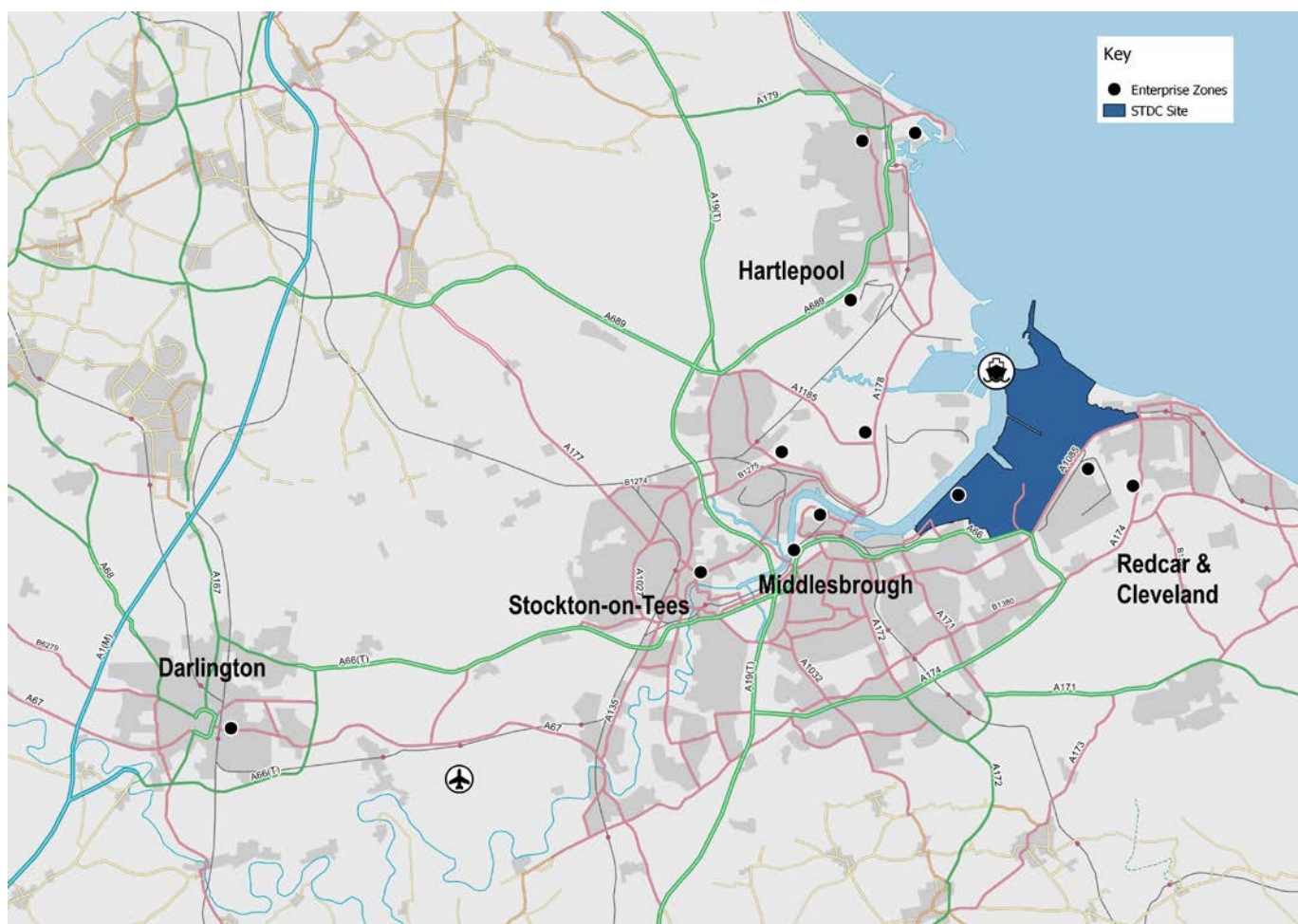
Tees Valley has ambitious plans to grow the local economy and the Strategic Economic Plan aims to create 25,000 new jobs and deliver an additional £2.8 billion into the Tees Valley economy by 2026. We are also developing a Local Industrial Strategy, an agreement between us and the Government on how we will improve our economy over the next ten years and how this will feed into the Government's overall UK strategy.

In order to ensure that everyone in Tees Valley is able to work, study, enjoy and fully participate in these ambitious plans for the future, we need a world class transport system. Transport is about connecting people and businesses in the Tees Valley and beyond. Delivering a world-class transport system that is fit for the future is a critical enabler for the success of the area. It is also vital that we consider transport as a system ensuring integration between different modes for the benefit of all transport users.

Our vision for transport in the Tees Valley is therefore:

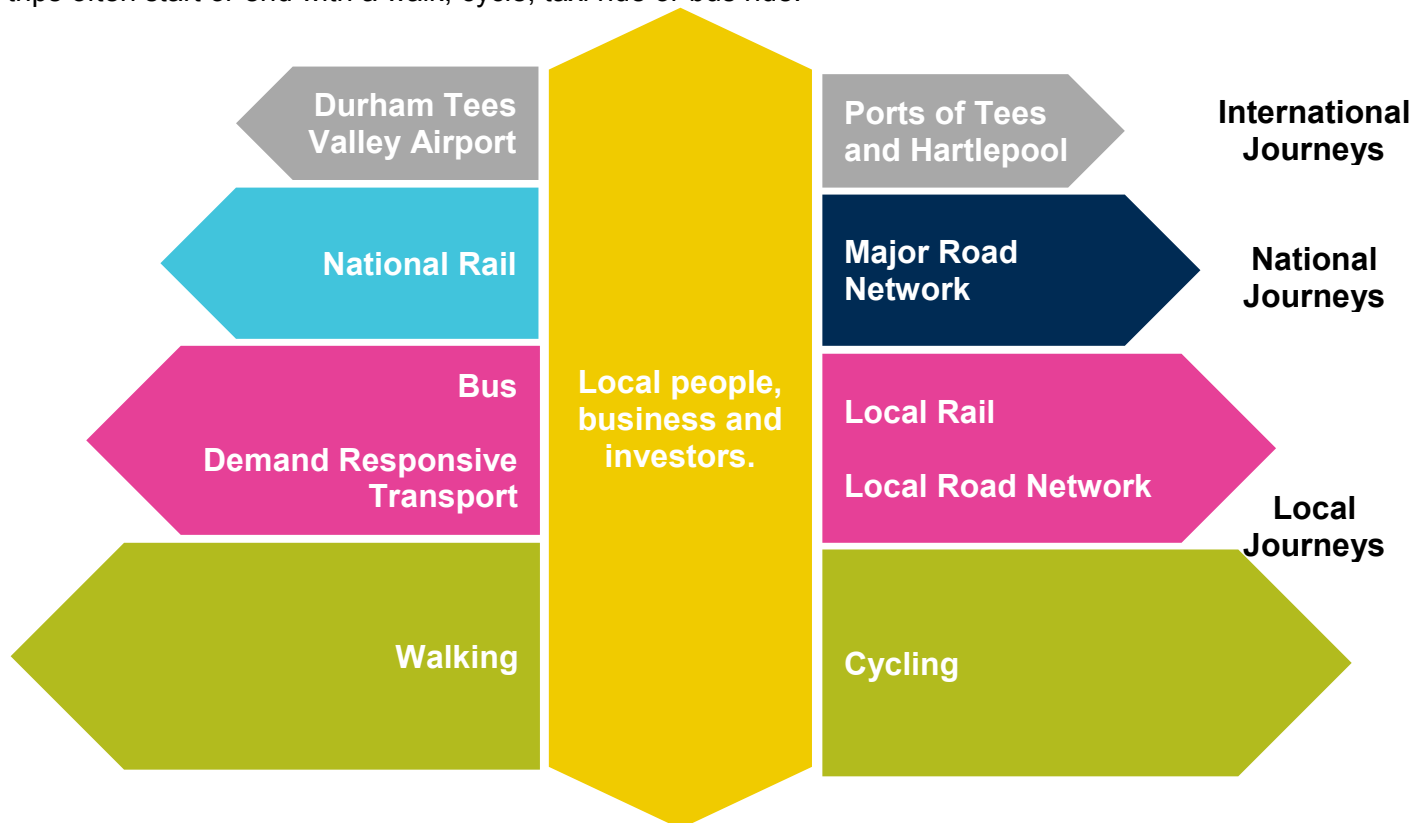
“To provide a high quality, clean, quick, affordable, reliable and safe transport network for people and freight to move within, to and from the Tees Valley.”

The map below shows the polycentric nature of the Tees Valley. It highlights some of the key existing and future employment sites and their connection to existing transport networks and interchanges.



The focus of this plan is on improving the transport system for local people and businesses. That means improving our walking and cycling networks and making sure that the public transport network, particularly buses, works for people now and in the future. However, very often improving local journeys requires action on a larger scale to ensure that we can do what is necessary in the Tees Valley. For example, the frequency and service patterns on our local rail network are determined by the interaction of local trains at the national rail gateways of Darlington and Middlesbrough. Congestion and incidents on the main highway network, particularly the A19 and the A66, have a major impact on the operation of more local roads, on which the core bus services operate.

The diagram below shows how each of the transport modes has a role for different lengths of journey and highlights the need to integrate these modes to cater for different journey requirements. 54% of the Tees Valley's working population travel less than 5km to work on a daily basis (2011 Census), but even longer trips often start or end with a walk, cycle, taxi ride or bus ride.



What does the Strategic Transport Plan mean for you?

We have developed this Strategic Transport Plan to benefit everyone in the Tees Valley, whether you live, study, work, have a business here or just enjoy visiting the area for all that it has to offer. This plan works towards our longer term aspiration to provide a transport network for the Tees Valley where:

- There will be better transport links that will help create more jobs, improve access from existing houses and allow us to build the houses we need;
- The affordability, quality and reliability of your daily commute will be improved, giving you confidence that you will get to where you need to, when you need to;
- More reliable and affordable public transport, walking and cycling options will be available for you to:
 - get to work;
 - get to study at a nearby school, college or university;
 - get to a hospital or a doctor's appointment;
 - go shopping, visit friends and family, or one of our local attractions;
- National and international accessibility will be enhanced through the provision of additional air routes for both business and pleasure at Durham Tees Valley Airport, with local access for residents and visitors made easier by public transport;

- You will be able to rely on the latest technology to make travelling around as easy and as simple as possible; and
- Visitors to the area will find it easy to access, high quality transport – be it for business or social reasons or to visit one of our natural or cultural events or destinations.

This means lobbying for investment in national transport networks and developing the case with commercial partners for air route connectivity, but also delivering the local networks to ensure that you can access them and benefit from them, whatever your requirements.

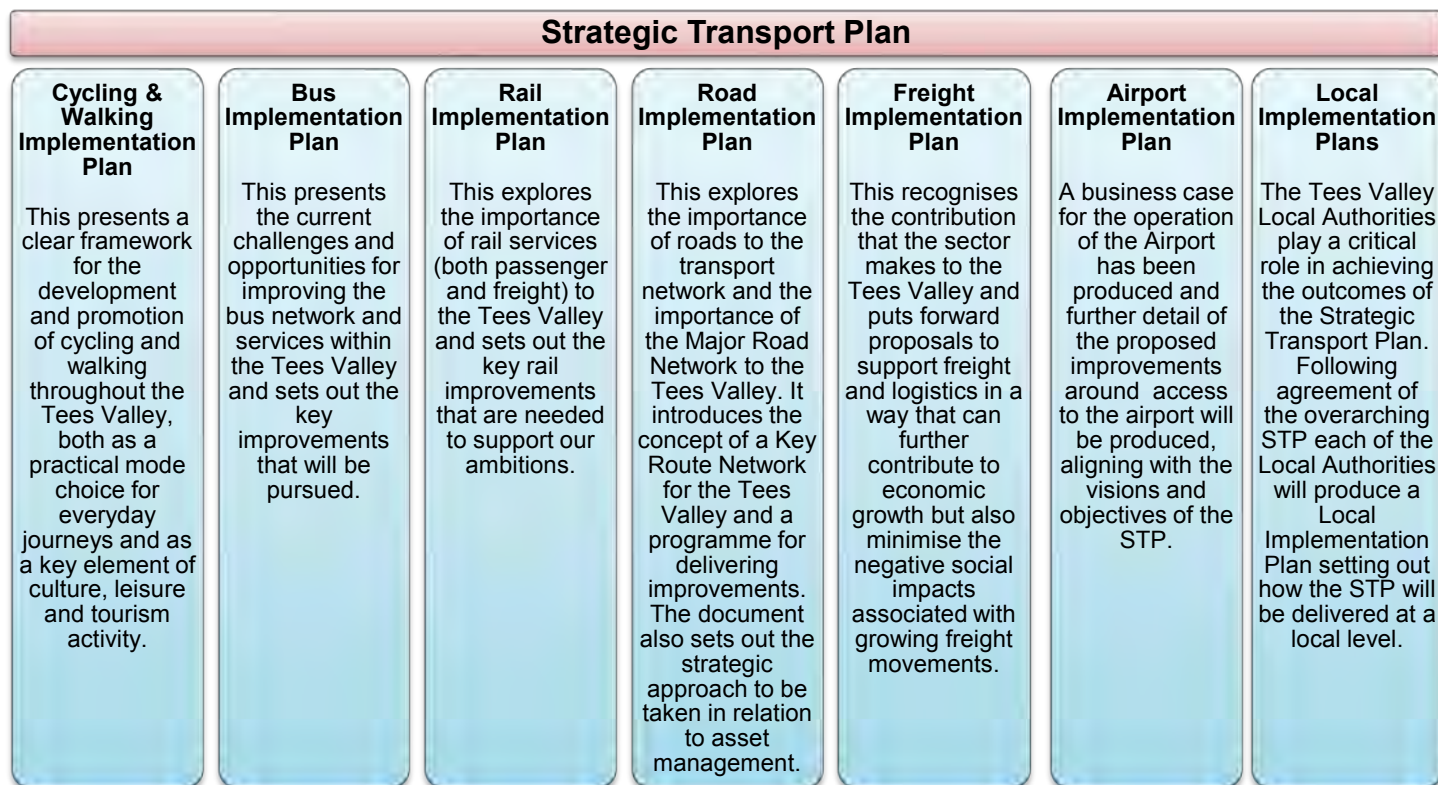
Structure of the Strategic Transport Plan

In December 2016, we published a framework document which set out briefly the intentions of the Strategic Transport Plan and summarised what sorts of interventions will be needed. This was the subject of a public consultation exercise and the feedback received has helped to shape this plan.

This Strategic Transport Plan sets out how we will improve and invest in the transport network to make the vision a reality. It is intended to complement the Department for Transport’s Transport Investment Strategy and the development of a similar transport plan by Transport for the North (TfN), recognising that even national and global journeys start on the ground, near to homes or places of work. The chapters within it are set out to answer the following questions:

- **Why** is investment in our transport network needed? This sets out why transport investment is fundamental to the future of Tees Valley and explores the driving forces behind future need.
- **What** is proposed? This summarises the schemes and initiatives that will help achieve the vision, and points the reader towards a series of Implementation Plans covering Walking, Cycling, Bus, Rail, Freight, Road and Air.
- **How** will the vision of the Strategic Transport Plan be achieved? This includes a discussion on how the Plan will be managed and funded, how the Tees Valley Combined Authority will work with delivery partners such as Highways England and Network Rail, and what impact future changes will have on the Plan.

The plan has been developed as a suite of documents, with the Strategic Transport Plan being the overarching transport plan for the Tees Valley. The detailed actions are then set out within a series of Implementation Plans as shown below.



These implementation plans will be dynamic and will enable the Combined Authority to be agile when responding to new challenges and opportunities.

2. Why Invest in Improving the Transport Network?

Most people use some part of the transport network on a daily basis, whether to get to work, to an educational establishment, for a health appointment, to go shopping, to enjoy leisure pursuits, or to get to a social engagement. Transport plays an important role in delivering wellbeing and prosperity for the people of the Tees Valley.

Transport & Infrastructure is one of the priority themes of the Strategic Economic Plan; acknowledging that a high quality, resilient and integrated network is required to deliver the economic growth and other aspirations of the Tees Valley.

This Strategic Transport Plan sets out how we will achieve our vision by continuing the collaborative working that has characterised our recent achievements. This includes working with partners across the wider North through Transport for the North, whose own Strategic Transport Plan was published in February 2019, and by building on key national transport infrastructure commitments, such as High Speed Two (HS2) and investment in the A1, A66 and the A19.

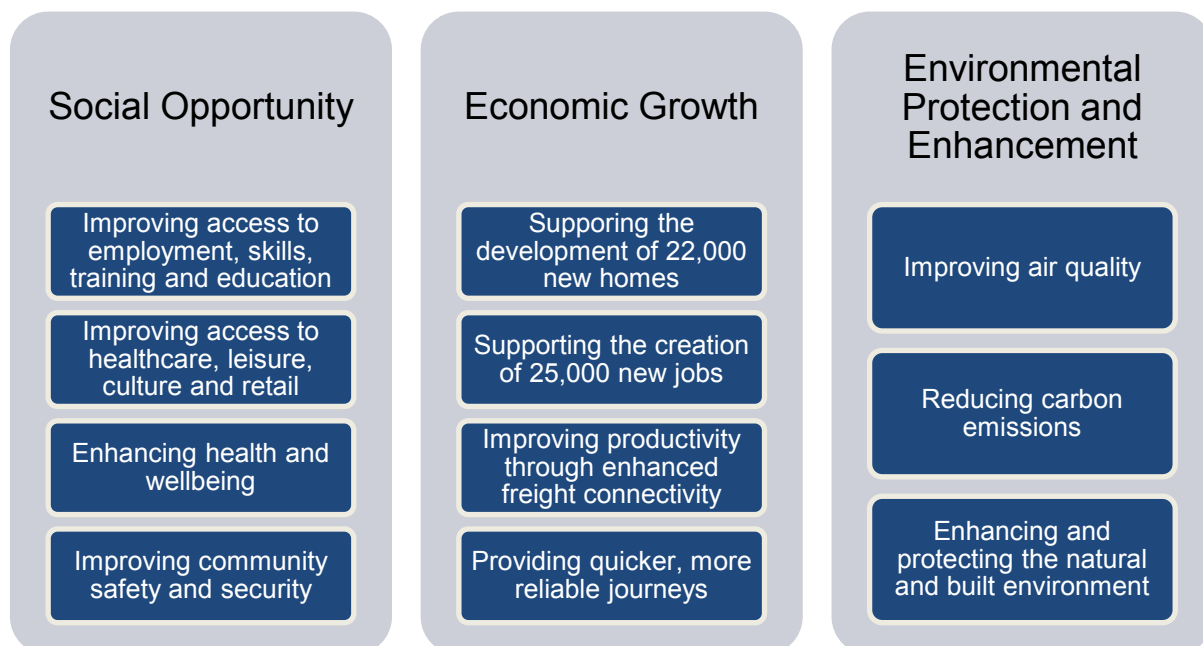
Objectives

It has long been recognised that transport is a means to an end, not an end in itself. In recognition of this we have developed the Strategic Transport Plan to deliver three broad objectives:

- **Social Opportunity** - Helping people access employment, education, healthcare, culture, leisure and retail locations and improving public health and wellbeing;
- **Economic Growth** - Delivering the Strategic Economic Plan and the economic growth plans of Tees Valley Local Authorities, helping businesses to grow and flourish; and
- **Environmental Protection & Enhancement** - Addressing the impact of the transport network on the environment and supporting the legislative requirements to reduce carbon emissions, air and noise pollution.

These objectives reflect the existing situation and recognise some of the main opportunities and challenges facing the Tees Valley today and into the future.

Underneath each objective there are a series of outcomes that we wish to see delivered through this Strategic Transport Plan. These outcomes have guided the development of the actions and interventions that will be needed between 2019 and 2029.



2.1 Social opportunity

This section outlines the challenges around each of the outcomes we are trying to deliver under the social opportunity objective.

Improving access to employment, skills, training and education

- Middlesbrough is the most deprived Local Authority in the Tees Valley and is ranked as the 16th most deprived Local Authority in England according to the Office of National Statistics, whilst Stockton-on-Tees is the least deprived but still ranked at 130 out of a total of 326 Local Authorities nationally.
- Patterns of relative deprivation show the most deprived neighbourhoods are clustered within Middlesbrough, Redcar and Cleveland and Hartlepool. There is also a cluster of neighbourhoods amongst the most deprived nationally around the centre of Darlington.
- Census data shows that 31% of households do not own a car compared to 25% nationally. Our residents should be able to get where they need to be, regardless of car ownership
- Ensuring that local people can access new jobs created in the Tees Valley, irrespective of car ownership, is imperative. There is a real opportunity to influence the travel choices of young people as their travel behaviours are not yet embedded. Furthermore, the choices available to young people around training and skills opportunities should not be constrained by the transport system.

Improving access to healthcare, leisure, culture and retail

- There are rural areas in the Tees Valley that are not well served by public transport services. It can therefore be difficult for non-car owners in these areas to access essential services and employment. Often it is not commercially viable to deliver bus services in these communities and we therefore need to be innovative in terms of how we consider future solutions, potentially through demand responsive services and community based initiatives.
- There is a need to consider the role of buses, cycling and walking as new residential developments are planned. Ensuring services can be accessed through these transport modes and reducing reliance on the car should be a consideration in all future housing sites.

Enhancing health and wellbeing

- 7% of Tees Valley residents view their health as 'bad' or 'very bad' – this is 2% higher than the national average – and life expectancy is one year less than the national averages for males and for females.
- 21% of children and 30% of adults are obese, compared to 19% and 24% nationally – only 50% of adults take the recommended 150 minutes of exercise per week, compared to 57% nationally, and 35% are considered inactive (29% nationally).
- Health deprivation and disability is a measure of the risk of premature death and the impairment of quality of life through poor physical or mental health. The proportion of people who live in areas that fall within areas of health deprivation and disability is high at 48% in Tees Valley, compared to 39% for the North as a whole.
- By 2034, 1 in 4 of the population in Tees Valley will be over the age of 65. The considerable increase seen in the number of over 65s is projected to continue by an average of 2,600 per annum, reaching 173,700 by 2034 (an increase of 43%). The number of over 85s is projected to more than double by 2034, reaching over 30,000, with an average increase of 800 per annum. The transport system will need to prioritise inclusive design and accessibility, to adapt and prepare for the needs of an ageing population. The financial impact of an ageing population – for example due to increased use of the National Concessionary Fare Travel Scheme – will also need to be considered.

- Encouraging people to walk and cycle can have significant health benefits. For example, the Darlington Healthy New Towns initiative aimed to bring about better health and illness prevention through the way that estates and areas are developed. This included the improvement of footpaths and cycleways and the introduction of bikeability and affordable bike schemes. There is also the 'You've Got This' project funded by Sport England and being delivered jointly by Redcar & Cleveland and Middlesbrough councils. The project recognises the opportunities provided by getting people to be active, and uses sport and physical activity to drive improvement across health, education, employment and community cohesion.

Improving community safety and security

- Road casualties are categorised as fatal, serious or slight. Whilst Tees Valley has a lower fatal transport casualty rate and fewer slight casualties than the national average, it does have more serious transport casualties than the national average. Continuing to improve road safety is therefore an on-going priority for the local authorities.
- Levels of crime and anti-social behaviour and perception of safety can impact on a person's decision to travel by public transport, walk or cycle. We need to do everything we can to ensure that people feel safe using these transport modes.

2.2 Economic growth

This section outlines the challenges around each of the outcomes we are trying to deliver under the economic growth objective.

Supporting the development of 22,000 new homes

- Authorities within the Tees Valley are at various stages of Local Plan preparation. Local Plans have recently been adopted for Redcar and Cleveland (2018), Hartlepool (2018) and Stockton-on-Tees (2019) Borough Councils. Local Plans for Darlington Borough and Middlesbrough Councils are at draft stage. The Local Plans establish a framework for the sustainable economic growth and development over their respective plan periods in part through the identification of site for housing and employment growth to meet identified needs. In terms of housing delivery the Tees Valley Local Plans aim to provide over the 22,000 homes in the period identified 2016 to 2026.
- There is a preference for the utilisation of brownfield land for new housing developments next to existing transport networks, but this is not always possible. Therefore providing large housing sites with a range of effective and efficient transport choices from the outset of the development will be key. These connections will need to cater for travel within the Tees Valley and beyond.

Supporting the creation of 25,000 new jobs

- The Tees Valley Strategic Economic Plan sets out the Tees Valley priorities to improve, diversify and accelerate growth in the local economy to benefit businesses and residents between 2016 and 2026. It is the key policy document for Tees Valley and acts as the principal economic driver for transport improvements.
- Tees Valley is recognised as an economic functioning geography with several economic centres, rather than one single dominant commercial centre. This polycentric character results in complex traffic flows between the various Tees Valley centres, which combined with the significance of intra-regional commuting emphasises the importance of good, reliable interconnectivity for the economy.
- 87% of residents work within Tees Valley, with relatively few commuters crossing the Tees Valley boundary (around 248,000 people live and work in Tees Valley with 38,000 Tees Valley residents working outside of the area and 35,000 Tees Valley workers resident in other areas).
- Car travel accounts for 72.6% of all journey to work trips in the Tees Valley (2011 Census) compared to 62% nationally and road transport will continue to play a significant role in the future economy of the Tees Valley.
- Unemployment is a persistent issue with youth unemployment, deprivation and barriers to work particular problems. Long term unemployed people face multiple and complex barriers to accessing work. To reduce unemployment it is vital to ensure education, training and job opportunities are easily accessible, particularly in our growth and high demand sectors. Increasing the mobility of residents will help to support the workforce offer of the Tees Valley. It will increase the accessibility of employment sites and contribute to releasing capacity on the highway network to accommodate future development.

Improving productivity through enhanced freight connectivity

- The Tees is the largest exporting port in England and local freight industry currently supports over 10,000 jobs in Tees Valley and provides over £450million GVA pa.
- Teesport is the principal container handling facility and at the heart of the South Tees Development Corporation site. Its container traffic has been growing by an average of more than 4% per annum. It is the only port facility in the North of England with existing daily intermodal services to transporting shipping containers to and from Scotland and the South.

- As container throughput increases, the ability to transfer boxes to/from rail will become increasingly important. Container traffic heading either north or south is currently impeded by some of the existing rail infrastructure which cannot accommodate the higher cube shipping containers carried on standard rail wagons.
- To offer the most flexible and cost effective options to shippers, the port and the rail freight operators need to offer access to the East Coast Main Line, north and south, and the local rail network connecting Teesport needs to facilitate the most efficient movement of containers.
- It has been estimated that improved rail freight connections will generate over £120 million in economic benefit across the North. An improved rail link will help to unlock investment and jobs at the South Tees site and other key development sites and the transfer of more freight to rail would ease capacity issues on local roads, benefit air quality and reduce our carbon footprint.

Providing quicker, more reliable journeys

- The Tees Valley has historically had a higher than national average speed on A-roads, but this varies across the area and there is a trend towards lower speeds and more congestion. In Middlesbrough for example the average speed has reduced by 3.7 mph between 2015 – 2018, whereas the average speed in England has only dropped by 0.6 mph.
- There are specific sections of the network that suffer from severe congestion, for example the existing Tees Viaduct which carries the A19 Trunk Road.

The expansion of supply chains and markets across the North, the UK and globally, will increase the need for effective connections to the national road and rail networks. For the Tees Valley this includes connections to Tees Valley's international gateways: the Ports of Tees and Hartlepool; Durham Tees Valley Airport; as well as other international gateways across the North. Such connections will be equally important for people and goods, bearing in mind that Tees Valley is, and will remain, an exporting and trading area.

2.3 Environmental protection and enhancement

This section outlines the challenges around each of the outcomes we are trying to deliver under the environmental protection and enhancement objective.

Improving air quality

- The latest (2015) air quality data presented within the Tees Valley Environment Protection Group Annual Report (2016) confirms that air quality in much of the Tees Valley continues to meet the regulated objectives. Pollutants mainly associated with road transport have stabilised, with any reduction in emission levels per vehicle being largely offset by increases in traffic flow. There are currently no Air Quality Management Areas in the Tees Valley. However, road transport continues to be the main source of some air pollutants in the Tees Valley and air pollution is associated with a number of adverse health impacts, so air quality needs to be kept under continual review.

Reducing carbon emissions

- Tees Valley is one of the most carbon intense regions in the UK, with emissions per capita over twice the national average. A large part of this is down to the level of heavy industry in the area. However, there is a clear challenge to ensure we do everything feasible to minimise carbon emissions from transport.
- There is a need to ensure that the increased demand for travel is made wherever possible by the most sustainable means. However, it needs to be recognised that the car will continue to account for a significant proportion of trips and therefore advocating the use of low emission vehicle fuels is one of the means by which the apparent tension between increased travel demand and environmental issues can be resolved. We must do all we can to ensure new vehicle technologies are encouraged across the Tees Valley.

Enhancing and protecting the natural and built environment

- The Tees Valley sub-region contains several distinctive landscapes, including part of a National Park (North York Moors) and part of a Heritage Coast (North Yorkshire and Cleveland). The Durham Heritage Coast adjoins Hartlepool and extends north towards Seaham and Sunderland, and may be extended south into Hartlepool in the longer term. Most of the Tees Valley is within the 'Tees Lowlands' Countryside Character area, as defined by Natural England.
- There are a number of designated conservation sites and also a number of areas designated at the 'local' level (i.e. at the regional, Tees Valley Local Authority or community level) for nature conservation purposes, the most important being Local Nature Reserves. Key pressures and risks in respect of biodiversity and nature conservation include air pollution and climate change, which can change distribution of species and habitats, and impacts due to infrastructure provision necessitating suitable mitigation.
- The Tees Valley is highly urbanised with 90% of the population living in urban areas and 35% living in the five town centres.
- There is a wide range of historic and other cultural heritage features located across Tees Valley that need to be protected and which span the full range of human settlement, from the prehistoric to the present.
- For the most part, Tees Valley is located within the Northumbria River Basin Districts. A range of significant water management issues have been identified and within the River Tees catchment, urban and diffuse pollution are key challenges.
- The built environment includes designated heritage assets such as registered parks and gardens and scheduled monuments many of which are located across the Plan area, as well as other buildings and public spaces. Industrial heritage assets are also an important component of the cultural and historic built environment. Several elements of the transport infrastructure in the Plan

area (bridges, stations etc) are designated heritage assets. Together, all these assets make an important contribution to the character of urban areas.

- Green Infrastructure has been a priority across the Tees Valley for a number of years and the ambition, shared with the local authorities, is to develop a network of green corridors and green spaces that:
 - Enhances the quality of place for existing and future communities and potential investors;
 - Provides an enhanced environmental context for new development, regeneration projects and housing market renewal, and produces high quality design and developments;
 - Creates and extends opportunities for access, regeneration, and enhancement of biodiversity; and
 - Provides a buffer against the effects of climate change.
- An Integrated Sustainability Appraisal has been conducted alongside the development of this Strategic Transport Plan. This has highlighted a number of issues which need to be considered within the context of the Strategic Transport Plan and has helped prioritise areas where the impact of transport can be reduced or negated.

Infographic 41

Infographic 39

3. What is needed to make the vision a reality?

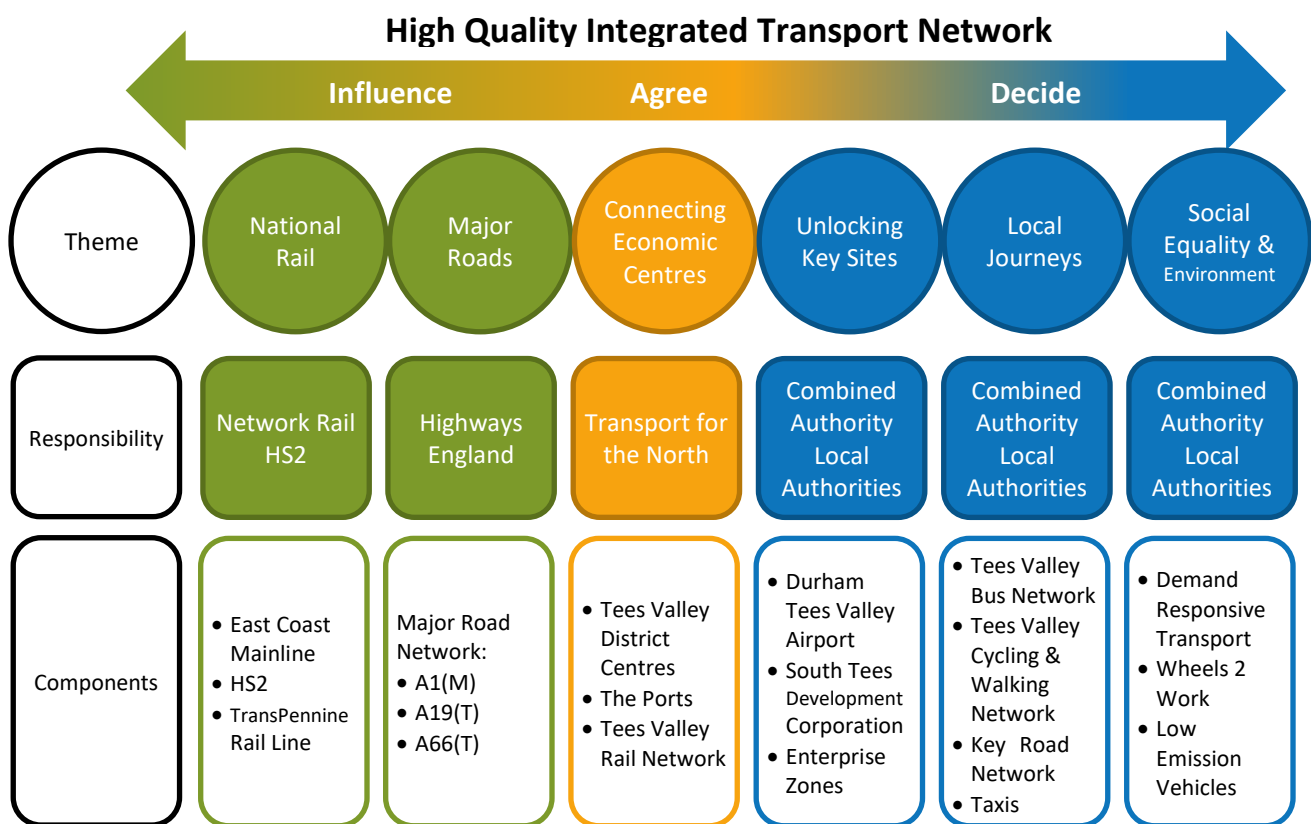
Making the vision a reality will involve interventions across a range of different modes. The ease of the start of any journey is often what determines how somebody chooses to make that journey, whilst the end of a journey is often the last impression of an area. So we need to recognise that the whole of the journey that people make is important.

That means improving our walking and cycling networks and making sure that the public transport network, particularly buses, works for people now and in the future. Improving the conditions for the start and end of more local journeys is also how we can attract people away from the private car.

However, very often improving local journeys requires action on a larger scale to ensure that we can do what is necessary in the Tees Valley. For example, the frequency and service patterns on our local rail network are determined by the interaction of local trains at the national rail gateways of Darlington and Middlesbrough. Congestion and incidents on the main highway network, particularly the A19 and the A66, have a major impact on the operation of more local roads, on which the core bus services operate.

The development of a world class transport system requires us to set out what the Tees Valley needs at a national and regional level, as well as a more local one. We also have to recognise that the allocation of funding for transport interventions, and their delivery, comes with varying levels of responsibility. Therefore, we have developed a framework for setting out the main interventions needed based upon six themes, which are closely linked together.

No one theme is more important than the other, but the plan is set out in this way to recognise where the Tees Valley has more autonomy through the devolution deal to bring forward the right intervention, at the right time.



For example, the first two themes, **National Rail** and **Major Roads**, recognise the role played by Network Rail, HS2 Ltd and Highways England in managing and operating the existing rail network and the strategic

road network. This Strategic Transport Plan needs to make the case for nationally-led interventions on these networks through the five year funding allocations associated with them.

The third theme **Connecting Economic Centres** recognises the emerging role of Transport for the North in identifying and promoting pan-Northern connectivity improvements between the North's economic assets and clusters, a number of which are located in the Tees Valley. Transport for the North's Strategic Transport Plan and supporting Investment Programme set out those interventions for which a start could, and should, be made before 2027. A number of the Tees Valley's key priorities are included within the Investment Programme.

The third and fourth themes **Unlocking Key Sites** and **Local Journeys** link more closely to the three objectives of this Strategic Transport Plan and reflect where the Tees Valley has more autonomy through the devolution deal to bring forward the right intervention, at the right time.

The final theme **Delivering Social Equality and Protecting and Enhancing the Environment** is a cross cutting theme and delivering a sustainable transport system underpins the plan.

We recognise that these themes are all transport-related, whilst the wider definition of connectivity also includes digital connectivity, particularly broadband. Understanding the role of technology in creating and supporting the opportunities for seamless mobility will be important in the future, but the timeframe for this Strategic Transport Plan means that there is a greater emphasis on infrastructure at this time.

The remainder of this chapter describes the rationale behind each of the six themes, and provides a signpost to the relevant Implementation Plan(s) in which the detail of our planned interventions can be found.

3.1 National Rail

The East Coast Mainline (ECML) is the fundamental backbone for all of the Tees Valley's strategic growth aspirations for rail, both passenger and freight. Within the next two years East Coast services will increase in frequency through Darlington and to Middlesbrough with new, longer trains and exactly the same will happen with TransPennine services to both locations. CrossCountry and Grand Central services also provide vital connectivity on the route, whilst freight services are also forecast to grow, so the capacity and capability to meet all these demands must be provided.

The long term aspiration for national rail is that Northern Powerhouse Rail (NPR) and High Speed Rail (HS2) will play a critical role in supplementing these services and thus further enhance strategic rail connectivity to and from the Tees Valley.

NPR, which is the centrepiece of Transport for the North's (TfN's) long term rail strategy, will potentially further transform links to the key economic powerhouses of Leeds and Manchester, as well as to Manchester Airport, by delivering significant journey time reductions and improving journey quality across the Pennines.

NPR is being promoted as a single network for the North and the case is being made to Government. The network is shown in the plan below and stretches from Liverpool in the West, to Newcastle in the North, Hull in the East and Sheffield in the South. Beyond York, current plans show NPR using an upgraded ECML so Darlington will be the main calling point in the Tees Valley, although future expansion could see Middlesbrough and other parts of the region also served directly.

For assessment purposes, NPR is broken down into various corridors such as Liverpool-Manchester, Manchester-Leeds, Manchester-Sheffield, Leeds-Newcastle, Leeds-Hull and Sheffield-Hull. For the Tees Valley the Leeds-Newcastle corridor is of most direct interest and a series of options to upgrade the existing ECML, as well as the parallel route North of Northallerton, were included in the business case. This upgrade will be required in order to provide sufficient capacity to cater for the uplift in the number of services (both passenger and freight) that are needed in the future. The business case outlines that this uplift will be from 6 trains per hour to 9 trains per hour. The specific options along the Leeds-Newcastle corridor, that will provide the additional capacity that is required on the route, will be further refined and developed as the business case is developed.

INSERT NPR GRAPHIC?

HS2, which is the Government's main national long-term rail priority, will improve connectivity to London and Scotland and will have a particular transformational impact on links to the Midlands by drastically reducing journey times by rail. There will be dedicated infrastructure for HS2 between London and just south of York after which services will run on the upgraded ECML. Again Darlington will be the key calling point for the Tees Valley. As the infographic shows, HS2 will reduce journey times to London by nearly half an hour compared to the present day and by nearly one hour to Birmingham.

INSERT HS2 INFOGRAPHIC?

It is therefore vital and extremely welcome that both of these transformational high speed rail services have outlined a commitment to directly serve the Tees Valley in the future.

However, for all this to work there is a pressing need for major investment in additional capacity on the ECML north of York to allow for the combined demands of NPR, HS2, 'classic' rail and freight to be met in full. Network Rail has outlined the investment that will be needed to meet future growth requirements in its ECML Route Study which was published in 2018. As outlined above, Darlington Station is a particular pinch-point on this section of the strategic rail network which is now causing operational constraints for long distance services as well as for local passenger and freight services which cross or terminate here. The lack of capacity will be compounded when further service enhancements are introduced and it will severely restrict the impact of NPR and HS2 which will have a negative effect on the Tees Valley economy.

The ECML is therefore fundamental to all Tees Valley rail aspirations and it is clear that urgent investment to improve capacity and resilience is now of paramount importance. In support of this TVCA is an active member of the East Coast Mainline Authorities (ECMA) Group which is campaigning for this investment.

To date, investment in the UK's major stations has not been focused on the Tees Valley, meaning station facilities at Darlington and Middlesbrough do not reflect their role as key gateways to our area. Consequently, there are immediate capacity issues at both stations.

In addressing these constraints, we want to deliver the following for our passenger rail services:

- Improve rail links between Tees Valley and the rest of the country and to key Airports and Ports;
- Improve the East Coast Main Line, TransPennine, Durham Coast and Tees Valley rail networks to cater for future growth in both freight and passenger numbers across the North; and
- Ensure that our main rail stations at Darlington and Middlesbrough are ready for major projects such as the new Inter-City Express trains, High Speed Rail and Northern Powerhouse Rail.

The **Tees Valley Rail Implementation Plan** sets out our ambitions for the future of the rail network across Tees Valley, showing how rail can play a leading role in supporting growth and affecting mode shift away from the private car. This in itself sits within a number of other policy documents, including the **North East Rail Statement** developed jointly with the North East Combined Authority (NECA) and Transport for the North's **Long Term Rail Strategy** for the North, which has recently been updated to inform its Strategic Transport Plan.

Details of the preferred solution for Darlington can be found in the **Darlington 2025 Prospectus**, which sets out the proposal for new platforms and buildings at the station to allow more long distance and local rail services to stop at Darlington. This proposal will see public and private investment to develop Darlington station as an essential part of the town's heart. It would also see up to 30,000 sq m of new business space and 1,500 new homes around the station. The investment will also help to better integrate the station with Central Park and the town centre.

A Masterplan for Darlington Station was completed in 2017 and the scheme has since been showcased in various key documents and projects including Network Rail's *East Coast Mainline Route Study*, HS2's *Changing Britain: HS2 Taking Root* report and TfN's *Strategic Transport Plan* and *NPR* project. The key objective now is to ensure that the scheme is submitted to the Department for Transport for inclusion in the new Rail Network Enhancements Pipeline at the earliest opportunity in order that the target delivery timescale 'by 2025' is achieved.

The business case continues to be developed to make the case for investment to the DfT. The project is split into two delivery phases:

- Phase 1 – A new East side station comprising new platforms for local services, a new station building and passenger facilities, a new accessible footbridge linking the new East side with the existing station building, revised car parking arrangements, improved interchange and wider station fabric and public realm enhancements; and
- Phase 2 – Provision of a new mainline platform on the East side capable of servicing the much longer trains that will be provided by HS2 and NPR.

The **Middlesbrough Station Masterplan** outlines a series of major improvements at the station, to allow more efficient use by local and long distance rail services. This includes franchise commitments to provide new direct rail services between Middlesbrough and London and the improvement and expansion of services operated by TransPennine Express and Northern Rail, as recently confirmed by the Office of Road and Rail. It also highlights the role, as a new transport hub, that the station will play as a result of regeneration proposals around the town centre.

There are two distinct elements to the Middlesbrough Station project:

- The provision of additional platform capacity at the station. A business case is being developed to determine the optimum solution that can deliver the required capacity for all future growth in service levels including service improvements and enhancements included in both the Northern and TransPennine franchises, new East Coast services to London and further improved local services; and

- The provision of improved station facilities. This includes the remediation of the station undercroft to create new operational and business space, improved facilities for passengers in the booking hall and concourse areas improving access to / from the station including enhanced public realm on its various approaches.

There is also an aspiration to influence future franchises to ensure that services on the strategically important **Transpennine route** are extended beyond Middlesbrough to Redcar and Saltburn.

Rail freight is key to the future economy of Tees Valley, and the need to provide routes for freight services to move between port facilities in particular and key markets is imperative. More detail on the interventions needed are included in the **Tees Valley Freight Implementation Plan**.

A key early requirement is a major upgrade of the rail line between Northallerton and Middlesbrough to the Ports of Tees and Hartlepool, so that it can be used by bigger freight trains. This supports the ongoing development of the Tees as a truly international freight gateway for the north of England. Funding is already in place to more than double existing container capacity, creating up to 4,000 direct and indirect jobs. The upgrade will also facilitate the passenger rail service improvements required at Darlington and Middlesbrough.

The work on these projects will also be considered by TfN through their work on the Connecting the Energy Coasts and East Coast to Scotland Strategic Development Corridors to inform their emerging long term Investment Programme for the North.

Benefits of the plan for:

Business	Passengers	Communities	Visitors
<ul style="list-style-type: none"> •Enhanced freight connectivity •Quicker, more reliable journeys •Attracting investment •Attracting / retaining staff 	<ul style="list-style-type: none"> •Quicker, more reliable journeys •More frequent trains •Better trains •Cheaper tickets •Less delays 	<ul style="list-style-type: none"> •Improved access to employment skills, training, education, healthcare, leisure, culture and retail •Enhanced station environment •Reduced carbon emissions 	<ul style="list-style-type: none"> •Better connections from the rest of the UK and abroad

3.2 Major Roads

Major national roads form the Strategic Road Network (SRN) and are operated by Highways England on behalf of the Secretary of State. The SRN comprises approximately 4,200 miles of road (some 2% of the road network in England) and carries, on average, four times as many vehicles each day per mile of road than locally managed major roads. In Tees Valley, the SRN accounts for 4% of the road network and comprises the following routes – A1(M), A19, A66 (west of the A19), A174 (between the A19 and the A1053) and the A1053 itself.

Recognising that the SRN accounts for a very small part of the total road network across the North of England, recent work by Transport for the North (TfN) has defined a new Major Road Network (MRN) for the North, based on routes that join a series of agreed important economic centres, including all ports and airports and designated Enterprise Zones across the North. This approach is a much more economically-focused method that is intended to be a 'live' network, responding to changes in demand as growth takes place. The Tees Valley routes within TfN's MRN for the North include the remainder of the A66, the A689, a number of key radial routes in Darlington, the A172 north west of Hartlepool, the A135 and A67 in Stockton, and the A171 and A172 in Redcar and Cleveland.

In late 2018, the DfT published its own MRN proposals across England to set out a tier of roads managed by local highway authorities that would now be able to access funding for improvements and maintenance through the National Roads Fund from 2020 onwards. Whilst it is disappointing that not all of the TfN network is included, particularly for routes such as the A172, it is a welcome recognition from DfT of the role that these roads play and the need to identify a sustained funding stream for them.

Whilst this approach provides a much more comprehensive coverage of those roads that are important to a local areas, it does not necessarily account for key public transport routes, nor links within local highway authority areas that serve the social needs of the Tees Valley. To address this, the Tees Valley has taken the TfN approach one step further and defined our own Key Route Network (KRN) within the **Tees Valley Roads Implementation Plan**, as shown below.

Tees Valley Key Route Network

Map of Key Route Network

This is the network of roads across Tees Valley that we see as being the most vital to the future growth aspirations of our area from both an economic and social perspective, and will form the basis for developing a long term programme of transport improvements. The proposed KRN covers 888 miles or 22% of all the roads in Tees Valley.

Defining a KRN in this way will ensure that the Combined Authority can more effectively plan and manage a programme of road improvements to support the delivery of economic growth. Improving the KRN will help us influence conditions on local roads, as increased congestion on main routes often leads to traffic re-routing onto more minor roads and/or the minor roads being impacted by vehicles queuing to join main routes. These more minor roads are not intended to accommodate the volume of traffic now being placed on them, and as such have not been designed or equipped sufficiently.

The focus on improving the performance of the KRN will assist in the delivery of other priorities, for example the Freight Implementation Plan, given that the majority of road freight movements will utilise this network. The freight sector is a key enabler in terms of investment, jobs and economic wellbeing. The Tees Valley does not have the levels of urban area congestion seen in some other cities, but does have pinch points of congestion across key freight routes, which affect network efficiency. The fact that principal bus routes have been included in the proposed KRN will also help improve bus journey times and reliability and assist in promoting this important mode of travel.

Reliability and resilience is important for all users – the ability to get where people want, when people want, with a high degree of certainty, is a key selling point for any area for both residents, workers, students and

visitors. In developing our priorities for future road investment and management, we need to ensure that this applies across the KRN.

TfN has developed a series of pan-Northern indicators against which the performance of its MRN will be monitored as the data becomes available. We will be working with TfN to agree the exact details of these indicators and using them to develop a corresponding series of indicators for the Tees Valley KRN.

In developing future interventions across the KRN, and indeed all of the Tees Valley local road network, the starting point is to make best use of existing infrastructure and to ensure that all technological tools are used to provide the reliable, resilient and safe network to which we aspire. TfN identifies that through influencing travel behaviour, supporting higher quality design and adapting to innovative technologies, such as electric vehicles, the MRN for the North can be improved, managed and adapted for the future to support a sustainable Northern economy.

Even with such effective use of the existing network, there will still be a need to identify, develop and deliver significant highway infrastructure improvements to support housing and economic growth. In the future we are proposing that we will develop a pipeline of schemes that will improve the KRN.

However, the impact of roads on the environment cannot be overlooked. TfN are to explore options for reducing the impact of road-based travel on the environment, air quality and carbon emissions, including exploring how Highways England's Air Quality Strategy could be expanded to cover the MRN for the North through future investment on the network, and the Tees Valley will be part of this work as it applies to our network.

The Tees Valley Local Authorities will also continue to invest in the maintenance, improvement and safety of the local road network.

There are a number of 'live' schemes within the KRN Programme. The A19 has been identified as a new high quality strategic route – an “expressway” – by Highways England, yet there remains a pinch point at the Tees Viaduct, where delays regularly occur because there are too few alternative ways to cross the River Tees. The A19 Tees Viaduct carries over 100,000 vehicles per day – in contrast, the parallel A1(M) only carries 43,000 vehicles per day at the point where it crosses the River Tees, emphasising how important the A19 is to Tees Valley in connecting it to the rest of the UK.

There is no connection between the A1(M) north of Junction 57 and the A66 Darlington Bypass. This requires high levels of traffic, including heavy goods vehicles, to gain access via unsuitable residential areas to the north of Darlington. Sections of the A66 are also single carriageway and key junctions on the route are heavily congested. The A66 is only classified as part of the national Strategic Road Network and managed by Highways England to the west of the interchange with the A19. Beyond this point the A66 becomes the responsibility of the relevant Tees Valley Local Authority, so onward access to key strategic locations such as the South Tees Development Corporation, The Ports of Tees and Hartlepool and Wilton International is essentially via a local road, despite the fact that it carries up to 85,000 vehicles per average weekday, 10% of which are HGVs. Access to Durham Tees Valley Airport, a key hub for international connectivity is via the A67, a single carriageway local road.

These two routes are the main road arteries north-south and east-west through Tees Valley, so they need to be improved to support the growth that is anticipated. We want to enhance major road links within Tees Valley and to/from the rest of the country to improve travel and access to global markets and support inward investment.

A new major road crossing of the River Tees will ensure that the A19 expressway will meet the “mile per minute” objective for the Strategic Road Network, address current issues with journey times and delays, as well as allowing the local road network to be improved in order to help deliver a number of new employment and housing sites. It will also help realise the full benefit of the A19 Norton to Wynyard widening scheme, due for completion by Highways England in 2022.

Photo of the New Tees Crossing

The business case for a **New Tees Crossing** continues to be developed, which will be used to secure the funding required from Government to deliver the scheme.

We are also currently examining the feasibility and viability of an **Eastern Tees Crossing** associated with the South Tees Development Corporation site, albeit recognising that current Government policy on estuarial crossings suggests that this would need a different funding mechanism, should it be pursued.

Improving the east-west A66 corridor from the A1(M) will provide a consistent standard of route all the way to the Ports of Tees and Hartlepool and the South Tees Development Corporation site. This could be provided by a new route around the north of Darlington, capacity improvements along the A66 around Darlington and Stockton, and junction improvements along the local road section of the A66 between the A19 and the Port, including at the Cargo Fleet and Port access roundabouts.

An initial business case for a holistic set of improvements along the A66 has been prepared. Work is also on-going to develop the business case for the **A66 Darlington Northern Link Road**.

The work on these projects will also be considered by TfN through their work on the Connecting the Energy Coasts and Yorkshire to Scotland Strategic Development Corridors that inform their Investment Programme for the North.

Other significant schemes in the KRN programme include:

- Portrack Relief Road;
- A19, grade separated junction, Elwick bypass and Hartlepool Western Link;
- A689 Wynyard Improvements; and
- A number of junction improvement schemes on the A66, A67, A172 and A174.

Benefits of the plan for:

Business	Drivers	Communities	Visitors
<ul style="list-style-type: none"> • Reduced journey times • More reliable journey times • Supporting the creation of 25,000 new jobs • Supporting Inward Investment 	<ul style="list-style-type: none"> • Provision of quicker, more reliable journeys 	<ul style="list-style-type: none"> • Less through traffic on local roads • Safer roads • Safer road crossings • Supporting the development of 22,000 new homes 	<ul style="list-style-type: none"> • Quicker connections from the rest of the UK

3.3 Connecting Economic Centres

In addition to connections to the rest of the UK and beyond, linking together our own town centres, economic assets and key health, employment, education and retail locations is vital for Tees Valley to function effectively. Better transport connections within Tees Valley and into our main rail stations will also allow us to maximise the opportunities afforded by improvements to the national networks.

To support our economic growth aspirations, people need to be able to travel easily around Tees Valley to access jobs, education and training opportunities right across the area. This is particularly important for the significant proportion of the Tees Valley population who do not have access to a car - hence the need for frequent and high quality public transport services alongside improvements to the road network. As highlighted previously, the long term programme for achieving road improvements is governed by the KRN Programme approach within the **Tees Valley Roads Implementation Plan**.

The **Tees Valley Roads Implementation Plan** also explains the strategic approach the Tees Valley Local Authorities will take in relation to network management and asset management to address issues such as a backlog in maintenance work and increasing costs of undertaking repair work. This includes road surfacing, bridges, street lighting, traffic control systems and public transport infrastructure. The **Tees Valley Roads Implementation Plan** makes reference to the policies and plans of each of the Tees Valley Local Authorities, including the Transport Asset Management and Network Management Plans, and will draw on the best practice approaches identified within the Highways Maintenance Efficiency Programme.

The Tees Valley Local Authorities will continue to invest in the maintenance, improvement and safety of the local road network. Having defined the Key Route Network, we will look to develop an agreed set of standards for this network to help provide the resilient and reliable network that our key businesses need.

We will also continue to promote activities such as car sharing and the take up of electric vehicles so as to reduce the impact of private car use on health and the environment.

Buses are the most well used form of public transport in Tees Valley, accounting for 83% of public transport journeys. The Bus Services Act 2017 provides opportunities to work alongside bus operators to deliver an affordable, efficient and high quality bus network that is both easy and attractive to use and fully meets local needs. It also offers the opportunity to integrate the bus network with other transport modes in terms of ticketing, routes, timetabling and infrastructure.

The **Tees Valley Bus Implementation Plan** sets out how we will develop our bus network to serve local needs. The Combined Authority will continue to explore bus network delivery options in light of the Bus Services Act 2017. The Act strengthened arrangements for partnership working between bus operators and local authorities, introducing new Advanced Quality (AQP) and Enhanced Partnership (EP) schemes, and introduced bus franchising powers.

New AQP and EP powers provide the framework for the Combined Authority to work side by side with bus operators to set a shared vision for bus services in their area. Under both of these partnerships services continue to be operated by commercial bus operators, but new standards are set which some or all of the bus operators in the area are required to meet.

Under such an arrangement the Combined Authority commits to take steps to support local bus services, for example the provision of improved bus passenger waiting facilities, integrated real-time travel information and ticketing, highway network improvements and measures to encourage an increase in bus patronage. In exchange the bus operators are required to meet specific local standards, for example minimum service frequency, maximum fares, better buses etc.

The Act also provides Mayoral Combined Authorities with the powers to implement bus franchising in their area – akin to the system operated by Transport for London. Under a franchising scheme, bus services continue to be operated by private bus operators, however they do so under the direction of the local transport authority. The local transport authority specify all aspects of the bus network including routes, fares and vehicle quality and put this network out to tender. All bus companies are then be able to bid for the right to run the specified service, while the local transport authority assumes the revenue risk of running local bus services.

This is relatively new legislation and no combined authority has implemented a franchising scheme. At this stage the Combined Authority is committed to continue working with bus operators on a new partnership agreement.

Local rail services will also play a significant role in connecting our key centres and the **Tees Valley Rail Implementation Plan** describes how the identified interventions on the national rail network are fundamental to us realising our ambitions for the local rail network. Ongoing devolution of local rail services, through Rail North and the North East Rail Management Unit (NEMU), will allow us to have a greater level of input to both the specification of local rail services and their operation. Both are vital to make the network work better for our economy and housing growth aspirations.

The Tees Valley Combined Authority welcomes the improvements that are included within both the Northern and Transpennine Express franchises, but will be working hard through NEMU to secure further enhancements at the earliest feasible opportunity to ensure that:

- A minimum of 2 trains per hour operate on all rail lines wholly within the Tees Valley, which is not currently the case. This is consistent with the desirable minimum standards that have been set out by Transport for the North in its Strategic Transport Plan;
- Earlier morning, later evening and improved weekend services, particularly on Sundays, are delivered along with appropriate provision on key Bank Holidays such as Boxing Day and New Year's Day;
- Connections between all local/regional and national services are improved particularly at key interchange points and revisions to service patterns are fully investigated;
- Sufficient network capacity is provided to support our growth ambitions for both passenger and freight services;
- Masterplans for Hartlepool, Eaglescliffe and Redcar Central stations are developed further as well as for other locations as issues and opportunities are identified;
- Further station improvements are delivered, particularly in relation to accessibility;
- The potential for new stations is investigated;
- Opportunities for the potential development and expansion of the network are fully investigated;
- Rail fares become less complex, more transparent and keep in line with technological innovation and the availability of multi-modal ticketing is improved;
- Integration between rail and other modes of transport is improved; and
- The marketing of rail services is improved and is part of a wider, on-going programme of public transport promotion across the Tees Valley.

Powered Two-Wheelers

Powered two-wheel vehicles, including motorcycles, scooters, and mopeds, are an important mode of transport. They provide a lower cost alternative to the private car to locations that are not accessible by public transport, bicycle or foot, and make more efficient use of road space helping to reduce levels of congestion. The Tees Valley established a wheels 2 work scheme in April 2018 to assist those who would otherwise struggle to access employment at the required times or locations. Redcar and Cleveland Voluntary Development Agency were selected to manage the scheme which has been a great success, supporting numerous individuals. The scheme is currently being expanded to accommodate the growing demand.

Photo of wheels 2 work scheme

Suitable parking areas within town centres and other key locations are required to formalise parking arrangements where there is a concentration of users. Riders of powered two-wheelers are also more vulnerable and have higher casualty rates per mile travelled than other motorised vehicles, so there is a need to continue safety education and training initiatives.

Taxis and Private Hire Vehicles

Taxis and private hire vehicles offer a door to door service and are a flexible form of public transport that can play an important role in improving accessibility. They are used by all social groups and form an important element of the wider public transport offer.

The Tees Valley Local Authorities work closely with the taxi and licensed hire trade within their respective districts and boroughs, licensing both taxis and private hire vehicles and their drivers as well as providing taxi ranks. Each of the Tees Valley Local Authorities will continue to review their licensing policies to ensure they are up to date and reflect current legislation and market developments, such as the increasing use of smartphones to order and pay for services via apps and the availability of lower emission vehicles. The Tees Valley Local Authorities will also keep under review the possibility of developing a more coherent set of licensing standards so that there is more consistency in the level of service they can offer.

Benefits of the plan for:

Business	Drivers	Passengers	Communities	Visitors
<ul style="list-style-type: none"> • Reduced journey times • More reliable journey times • Connections to additional development sites 	<ul style="list-style-type: none"> • Reduced journey times • Fewer/shorter delays 	<ul style="list-style-type: none"> • Efficient, reliable, quality bus network • Improved affordable ticketing 	<ul style="list-style-type: none"> • Less through traffic on local roads • Improved air quality • Safer road crossings 	<ul style="list-style-type: none"> • Better, clearer connections between different parts of the Tees Valley

3.4 Unlocking Key Sites

As outlined in the Strategic Economic Plan, businesses across the Tees Valley need effective and reliable transport connections, wherever they are located.

In the Tees Valley there are currently a number of constraints on our existing transport networks, principally the road network, that act as a barrier to this growth and are also delaying the development and delivery of key employment and housing sites required to meet our economic growth aspirations.

As well as providing and maintaining a high quality strategic rail and road network as described previously, we want to:

- Address specific problems on the major and local transport networks to cater for future economic and housing growth across Tees Valley; and
- Ensure that people and goods can move around Tees Valley more easily so that the economy can grow effectively and sustainably.

The interventions that we feel are necessary to achieve this by 2026 are set out in the KRN Programme described within the **Tees Valley Roads Implementation Plan**, with the largest schemes described previously. Through the KRN Programme, we will continue to build a detailed database of all the future housing and employment developments across Tees Valley, which will inform detailed transport modelling analysis to pinpoint future congestion points on the transport network. This will help us to identify and prioritise transport projects which will overcome these barriers to growth and support the levels of development and economic and housing growth envisaged in the Strategic Economic Plan. This proactive approach will help us to make the most of national investment programmes identified in the Government's Investment Strategy (November 2017) such as the National Productivity Investment Fund that will continue to invest in transport schemes that target areas that can have the biggest impact on productivity.

In the short term, one Local Major Transport Scheme – Middlehaven Dock Bridge – has recently been completed, and others such as the Portrack Relief Road and A19, grade separated junction, Elwick bypass and Hartlepool Western Link are in advanced stages of development. Other schemes will be brought forward as necessary to support the growth of our major development sites. Well-targeted investment will drive economic development, particularly when implemented as part of a wider programme of interventions in line with the direction of regional and national industrial policy.

Given the nature of Tees Valley businesses, understanding the needs of freight as well as passengers will be crucial, particularly in the growing logistics sector. More detail on the interventions needed are included in the **Tees Valley Freight Implementation Plan**.

There will also be specific transport infrastructure and sustainable transport provision requirements (public transport, walking and cycling facilities) associated with individual large scale planning applications, such as those for significant housing developments at North Darlington, Wynyard, West Stockton, South Middlesbrough and in West Hartlepool. It is important that the provision of appropriate access or services for all transport users are fully addressed when housing and employment sites are being planned and developed. Local Plans for each of the Tees Valley Local Authorities, that set out local planning policies and identify how land is used, will reflect these requirements and identify in more detail local requirements in relation to transport.

South Tees Development Corporation

The South Tees Development Corporation (STDC), the first Mayoral Development Corporation outside Greater London, represents an international level opportunity to grow the economy of the Tees Valley and to significantly enhance its profile both as a UK region and a centre for industrial excellence.

The Vision for the South Tees regeneration programme is to see the area transformed into a hotbed of new industry and enterprise for the Tees Valley that makes a substantial contribution to the sustained economic growth and prosperity of the region and the communities it serves.

The strategy for regeneration of the South Tees Area has at its core a master plan that affords sufficient flexibility in uses, land allocations and phasing to cater for anticipated changing requirements across the proposed 25 year programme. The delivery strategy is captured across 20 broad principles of which 10 are core principles. Two of these core principles relate specifically to transport as follows:

- Use the regeneration opportunity to strengthen transport connections with Redcar town centre and other urban centres, to realise improved economic and community benefits; and
- Deliver efficient connectivity across the South Tees area through enhanced on-site transport infrastructure to realise optimal functionality.

The Tees Valley Combined Authority is working alongside STDC to ensure the transport requirements of the site are delivered.

Durham Tees Valley Airport

Durham Tees Valley Airport is a significant asset for the Tees Valley and its wider catchment area. It retains critical connections for local business and opportunities for visitors and tourists both inward and outward. The Combined Authority has taken the airport into public ownership and entered into a partnership with the Stobart Group.

The Combined Authority, working in partnership with the Stobart Group, has set the following targets for the airport:

- Attraction of 10 additional routes by 2022 of which:
 - 50% are chartered; and
 - 50% are scheduled;
- The attraction of a low cost carrier by 2022;
- The increase in freight tonnage up to 500 tonnes per annum by 2023;
- The tenfold increase in passenger numbers by 2023 of which:
 - 25% are business passengers; and
 - 75% are recreational passengers (of whom 25% are visitors to the region).

The developing masterplan for the airport is also seeking to:

- Accelerate delivery of the business sites on the North and South side of the airport;
- Establish an Enterprise Zone at the airport;
- Improve the site; including better access to the road network, improved signage, and better facilities for passengers;
- Establish a stronger partnership with the armed forces;
- Secure investment to enhance the use of the airport for freight, with good local facilities and stronger links into national logistics networks;
- Improve public transport links;
- Expand the airport's catchment area, through investment in Tees Valley's Key Route Network, and improvements to the Tees Valley's East-West road links to the A1(M); and
- Provide support for initiatives to enhance skills levels and contribute to the Tees Valley's skills and employment objectives, by developing high quality apprenticeships and training programmes in the aviation engineering sector and associated careers.

Photo of Durham Tees Valley Airport

Benefits of the plan for:

Business

- Reduced journey times
- More reliable journey times
- Connections to additional development sites
- Improved airport offering international access

Drivers

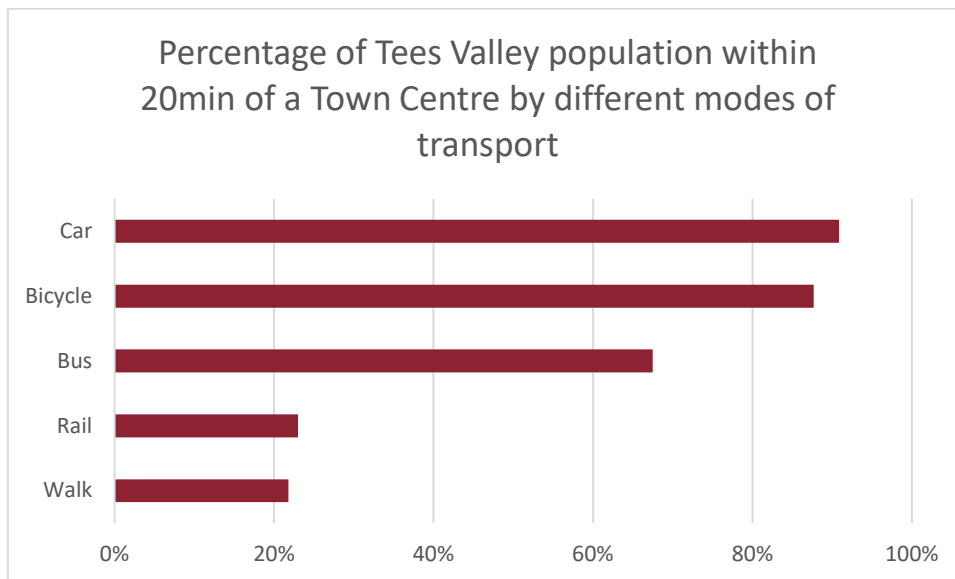
- Reduced journey times
- Fewer/shorter delays

Communities

- Improved airport offering greater travel/leisure opportunities.

3.5 Local Journeys

Walking, cycling and bus trips continue to make up a significant proportion of daily journeys across the Tees Valley. We therefore need to continue our work to date on improving walking, cycling and bus services that link housing to key destinations including rail stations, town centres, schools, colleges, employment sites, hospitals, shopping centres and culture and leisure sites.



We want to ensure that the needs of pedestrians, cyclists and bus users are fully considered so that all aspects of the journey experience from door to door are covered. Active travel options such as walking and cycling also offer major health and wellbeing benefits to residents and if more journeys are made by bus, on foot or by bike then we will have less congestion on our road network and lower levels of air pollution.

To make it more attractive to use sustainable transport options it will be important to make it as easy as possible to combine them for door to door journeys. This will mean making journeys by sustainable means as seamless and convenient as using private cars. Therefore we need to take action to improve the whole journey experience including how each part of it connects and integrates with one another in terms of infrastructure and supporting information.

This means continuing our work in four key areas:

- **Improving the provision of accurate, accessible and reliable information** – through journey planning, open data, support for app development and the www.connectteesvalley.com travel information portal.
- **Providing convenient and affordable tickets or payment options, for an entire journey** – through the Integrated and Smart Travel Programme of Transport for the North which will build on existing systems to develop smart ticketing, payment and information technologies and the North East Smart Ticketing Initiative (NESTI).
- **Providing regular and straightforward connections at all stages of a journey and between different modes of transport** – helping to ensure access for all users and improved co-ordination between operators.
- **Delivering safe, comfortable and highly functional transport facilities** – specifically interchanges, cycle hubs, bus stops/shelters and electric vehicle charging points.



The **Tees Valley Cycling & Walking Implementation Plan** looks to help residents and businesses enjoy the health, social and environmental benefits of active travel. Our specific aspirations are as follows:

- Support economic growth by providing and enhancing access to employment, education and training by cycle and foot;

- Create an integrated, good quality, accessible and well maintained cycling and walking network that connects people and places in the Tees Valley. Ensure that the needs of cyclists and pedestrians are reflected within new developments and the delivery of wider transport infrastructure improvements;
- Improve and maintain the quality of the Tees Valley cycling and walking networks. Ensure that walking and cycling are included within relevant highway maintenance policies and procedures, and consider opportunities to introduce provision for pedestrians and cyclists when undertaking routine maintenance;
- Improve safety and reduce the number of cyclists and pedestrians killed or seriously injured within the Tees Valley by providing new or improving existing infrastructure, and via the delivery of training and safety awareness initiatives. Continue to give children the skills to enable them to safely walk and cycle to school and the confidence to use sustainable modes through later life;
- Continue the promotion of walking and cycling alongside the other Tees Valley sustainable modes. Provide the information and support to allow people to confidently and safely cycle and walk. Deliver the positive message behind walking and cycling and the benefits they can bring to individuals and the area as a whole;
- Improve public access to bicycles across the Tees Valley, through innovative solutions with the private and third sectors;
- Reduce the environmental impact of road freight operations by further developing cycle logistics as a cleaner alternative for 'last mile' logistics and courier type services;
- Work to overcome inequalities that result in people feeling unable to partake in cycling and walking activities. Ensure that the needs of all users are taken into consideration when developing infrastructure;
- Improve links with public transport, making public transport hubs central to the development of cycling and walking networks and infrastructure, to provide a door-to-door solution; and
- Ensure that walking and cycling become attractive leisure activities, with supporting facilities and safe, well-defined routes.

Through the **Tees Valley Bus Implementation Plan**, we will work with Tees Valley bus operators to ensure the bus network provides the vital links from residential areas into our town centres and key local destinations. This includes the exploration of new solutions to provide services to more rural or isolated areas. We have four inter-dependant priorities for the bus network:

- Helping to ensure the long-term sustainability of the network;
- Responding to the changing demand for travel;
- Improving the competitive position of the bus; and
- Delivering a more integrated public transport system.

Behaviour Change Initiatives

To help promote active travel modes, we will provide residents with the information they need to make informed decisions on how they travel, including the promotion of increased levels of physical activity through walking and cycling.



Closely associated with improving door to door journeys is activity related to encouraging people to choose more sustainable transport options. Our behaviour change work is currently being progressed through our Let's Go Tees Valley project. This project includes:

- A comprehensive marketing programme under the Let's Go brand to encourage travel behaviour change;
- Tees Valley wide walking and cycling programmes;
- A comprehensive schools programme incorporating pedestrian and cycle training, a Junior Road Safety Officer Scheme and promotional activities to increase walking, scooting and cycling to school;
- A Personalised Travel Planning programme to support the significant investment in the Youth Employment Initiative to tackle high levels of unemployment particularly amongst younger people; and
- Working with employers and training providers to address issues around accessibility to training and employment through measures such as Wheels 2 Work.

We will continue to develop and extend these initiatives, learning lessons and developing best practice approaches, to ensure people's travel horizons are widened and more people across Tees Valley use sustainable transport to meet their needs.

Benefits of the plan for:

Business	Cyclists	Pedestrians	Communities	Visitors
<ul style="list-style-type: none"> • Improved accessibility to new and existing developments • A healthier workforce 	<ul style="list-style-type: none"> • Safer cycle routes • Fewer/shorter delays 	<ul style="list-style-type: none"> • Safer road crossings • Improved walking environment 	<ul style="list-style-type: none"> • Improved health • Improved air quality • Quality of place 	<ul style="list-style-type: none"> • A more attractive destination • More leisure opportunities

3.6 Delivering Social Equality and Protecting and Enhancing the Environment

This theme includes elements which cut across the other five themes with the aim of improving local air quality, minimising the emission of nitrous oxides and particulates; reducing carbon emissions; reducing noise from transport; protecting and enhancing the Tees Valley's built and natural environment; improving equality of opportunity; and enhancing health and wellbeing.

Social Equality

There are a wide range of options available to improve the opportunities for all residents within the Tees Valley. We are looking to develop improved, affordable access to employment, training, education, health provision, retail, culture and leisure. To meet the broad range of needs will require the continued development of infrastructure and services across all transport modes. All of the Implementation Plans reflect the need to enable accessible and affordable door-to-door journeys, particularly for those with physical disabilities, mental health conditions, learning difficulties or sensory impairment..

Community Safety and Security

Safety is integral to the development of the Tees Valley transport network and is a key element of the design and prioritisation of new schemes. Work is being undertaken to identify and develop walking and cycling networks and safer access to public transport hubs.

Training programmes are being funded to help children safely walk and cycle to school and programmes are in place to help adults who need assistance with beginning or getting back into cycling. Independent travel training is being provided to those who would otherwise have difficulty or lack confidence in using public transport.

As part of the Tees Valley behaviour change programme, a number of campaigns have been developed to promote the safer use of different transport modes such as driver training and Shining Example, a campaign to encourage improved visibility for cyclists riding in poor light conditions.



Health & Wellbeing

The potential for changing transport habits to improve health are well documented, from walking or cycling full trips, to the benefits of simply walking to or from the nearest public transport stop. We will continue to promote these benefits alongside providing the infrastructure, information and training to help people make healthier transport choices.

Transport is also a significant factor in helping to improve local air quality. The Implementation Plans encourage the use of less polluting transport modes and an increase in the use of Ultra Low Emission Vehicles.

Built Environment

Transport infrastructure and traffic can have a significant effect on the built environment and be detrimental to people's quality of life. New transport projects need to be sensitively designed to be sympathetic with existing character and quality and opportunities for improving built assets and their settings and public spaces should be examined. In addition, design for new transport projects needs to take into account the principles of Life Cycle Management and consider the prudent use of natural resources, minimising the production of waste and supporting re-use and recycling for all stages of the project from concept to decommissioning.

Natural Environment

New transport projects have the potential to impact on habitats and species and more generally on the Green Infrastructure network, through direct land take for infrastructure, construction and operational disturbance, and emissions/contamination. These issues will need to be managed carefully during the development of infrastructure schemes.

Opportunities to enhance biodiversity and green infrastructure exist, through designing in biodiversity into transport interventions. These opportunities include for example, the development of wildflower meadows along linear features such as roads and railway lines, which will look attractive and also provide opportunities for pollinators. Similarly, biodiversity can be enhanced by the planting of suitable / native species of trees and hedgerows.

Transport projects must make best use of areas that are already urbanised and provide an opportunity for regeneration / improvements to land quality, including remediation of contaminated areas. Where use of agricultural land is unavoidable, measures should be taken to avoid those areas of the highest quality.

Due to the nature of the plan area, many rivers and other water bodies, along with ground surface types have been modified from their natural condition. This has resulted in limitations to the carrying capacity of the drainage network and increased flood risk. Development of transport infrastructure can aggravate existing flood risk in a wide range of ways, for example by requiring land take from flood plains, or by changing the drainage regime. Expected climate change impacts include increased risk of extreme flooding and more extreme weather events from higher temperatures and increased wind and rain in winter months.

The Tees Valley contains a number of statutory and non-statutory designated sites that are protected for their importance for nature conservation. Prime amongst these sites are Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), which form the Natura 2000 European Union-wide network of core breeding and resting sites for rare and threatened species, along with some rare natural habitat types.

There are nationally important Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs), Local Nature Reserves (LNRs), County Wildlife Sites (CWS) and green spaces that support wildlife and enhance the wellbeing of the local population.

The Strategic Transport Plan recognises the importance of all these sites and the Combined Authority is committed to avoid/minimise any adverse impacts on important nature conservation sites as far as possible. Any potential impacts on these sites that may arise from new or upgraded transport interventions will be appropriately assessed, mitigated and/or compensated for, in-line with existing best practice and relevant legislation across the life span of the plan.

We will work with the DfT, Network Rail, train operating companies, Local Authorities and other stakeholders such as Highways England, Natural England, the Environment Agency and Historic England to enhance the transport system's contribution to the built and natural environment.

Sustainable Transport

We are committed to the development of integrated sustainable transport choices as outlined within the **Cycling & Walking Implementation Plan**. This will be supported by the 'Lets Go Tees Valley' Behaviour Change programme which encourages healthier more sustainable travel choices. As schemes are developed we will always seek to incorporate provision for sustainable transport modes wherever feasible.

Alternative Fuels

We will establish a co-ordinated approach to promoting the use of Ultra Low Emission Vehicles and the provision of Low Emission vehicle infrastructure in the Tees Valley.

The Tees Valley is in a strong position to engage with emerging hydrogen fuel technologies by taking advantage of our leading production capabilities with 50% of the UK's hydrogen produced here. The transport sector is likely to provide the largest opportunity for the area, particularly as it is also a UK leader in the automotive sector with a well-established, strong supply chain, especially in the field of low carbon vehicles. Early action on hydrogen vehicles and refuelling infrastructure will help to unlock significant long term transport inward investment opportunities.

Electric vehicles are another technological innovation and are becoming more common and they offer significant improvements over conventional engines in terms of fuel efficiency, local air quality, noise, and emissions. The world's first mass-produced family electric car, the Nissan Leaf, is being produced at Nissan's Sunderland plant, with many components produced in Stockton-on-Tees. As electric vehicles

become more common, additional charging points will be required to satisfy demand and these will need to be managed appropriately and provided in the right accessible locations.

Photo of Saltholme or other natural asset

Benefits of the plan for:

Communities

- Improved air quality
- Safer roads
- Affordable transport options
- Improved green infrastructure
- Improved built assets and public spaces
- Minimised impact of transport on the natural environment
- Reduced flood risk

Visitors

- A more attractive destination
- More leisure opportunities

4. How will the plan be Delivered?

This Strategic Transport Plan sets out the vision and related objectives, and signposts the actions and interventions that will guide investment in the Tees Valley transport network for the period up to 2026. Delivery of the Strategic Transport Plan will be managed by the Tees Valley Combined Authority alongside the five Tees Valley Local Authorities.

Further detail on how the Strategic Transport Plan will be delivered is outlined in this chapter.

4.1 Working with Partners

Some of the interventions will be delivered by the Tees Valley Combined Authority or the Tees Valley Local Authorities, and others will be delivered by, or in partnership with, other organisations. These are referred to as delivery partners, and include the following:

- Department for Transport - set the national policy direction for transport;
- Highways England - maintain and develop England's Strategic Road Network, including all motorways and some A-roads that have strategic importance. Funding for a programme of improvements to the Strategic Road Network is made available within five year funding cycles, called the Road Investment Strategy (RIS), the next one (RIS2) covers the period between 2020 and 2025. We will lobby and inform Highways England in order to ensure that the necessary improvements to the Strategic Road Network in Tees Valley are recognised in the programmes of Highways England priority schemes to be presented to the Department for Transport (DfT) for each RIS period;
- Network Rail - own and maintain the infrastructure of the rail network in England, Scotland and Wales. To determine necessary improvements to the rail network, the DfT produces a High Level Output Statement of the desired outcomes from improvements to the rail network. Priorities for investment are then identified on a five yearly cycle through Control Periods, the next one of which covers the period between 2019 and 2024. Network Rail then develops programmes of schemes that would achieve these outcomes for agreement with the DfT. We will work with Network Rail to ensure that our priority rail schemes are brought forward for investment;
- Transport for the North (TfN) - the first sub-national transport body in England and has produced the first pan-Northern Strategic Transport Plan. Through this, and an accompanying long term Investment Programme, the aim is to provide one agreed set of interventions across the North for each RIS and Control Period. We will work with TfN to ensure that schemes of pan-Northern significance in Tees Valley are included within its submissions to the RIS and Control Period processes. TfN also has a role in specifying current and future rail services across the North and we will seek to ensure that local rail services respond to changing demand and can take full advantage of the infrastructure improvements required on the national rail network;
- Public Transport Operators – Given that rail services are provided by franchisees and bus services by a number of private bus operators, we will need to work with all these bodies to develop the future public transport network for the Tees Valley;
- Neighbouring Transport Authorities - The Tees Valley Combined Authority has strong links with the neighbouring transport authorities of North Yorkshire County Council and the North East councils. These links encompass travel for commuting, leisure and business, supporting significant economic sectors and key businesses. We recognise the need to work closely with these neighbouring authorities, particularly in relation to cross-boundary issues and matters of regional and pan-Northern significance. We have therefore, through a process of careful consultation and discussion, worked with the appropriate neighbouring authorities to develop shared approaches to issues of joint interest in developing this Strategic Transport Plan; and
- Private sector developers - will deliver improvements to mitigate any negative impacts of their developments and potentially produce positive impacts by ensuring that residents, employees and

visitors of their developments can choose from a range of transport options, especially sustainable transport.

The Tees Valley Combined Authority will work with all of these delivery partners to implement the necessary interventions, track progress and identify areas for further work in support of the vision and objectives.

4.2 Policy Context

This plan forms one element of regional public policy and sits within a wider national, pan northern and local policy framework as explained below.

National

Industrial Strategy – The Government Industrial Strategy sets out a long term plan to boost productivity and earning power throughout the UK. One of the foundations of the plan is a major upgrade of the UK's infrastructure, with investment in the transport system.

Transport Investment Strategy – The Department for Transport published this strategy in July 2017. It sets out the priorities and approach for future transport investment decisions including the commitment to consult on a new Major Road Network. The strategy is a vital part of the Government's Industrial Strategy and plan for Britain.

Future of Mobility Urban Strategy – The Department for Transport published this strategy in March 2019. It outlines the government's approach to maximising the benefits from transport innovation in cities and towns and sets out the principles that will guide government's response to emerging transport technologies and business models.

Transport for the North's Strategic Transport Plan – TfN's Strategic Transport Plan for the North sets out the case for connectivity priorities for strategic transport infrastructure and investment through to 2050. The plan argues that an additional £21-27 billion is required for transformational strategic transport investment in the North.

Tees Valley

Tees Valley Strategic Economic Plan – Sets out the growth ambitions and priorities for the Tees Valley up to 2026. Includes priorities to improve, diversify and accelerate growth in the local economy to benefit businesses and residents.

Tees Valley Investment Plan – A 10-year plan (2019-29) structured to demonstrate how investment will deliver against the objectives of the Strategic Economic Plan. The plan includes the Tees Valley Integrated Transport Programme, which outlines the funding priorities for transport.

Tees Valley Local Industrial Strategy – Sets out the Tees Valley's ambitious plan to transform the economic performance of the area, that builds upon the distinctiveness of our local economy and responds to the opportunities and challenges that flow from this.

Tees Valley Education, Employment and Skills Strategy – A strategy to ensure a labour market which meets the needs of local business and supports the lifetime opportunities for all our residents.

South Tees Development Corporation – A Master Plan has been developed which presents the vision, strategy and ideas for the transformational regeneration of the South Tees Development Corporation area into a world class employment-generating zone and economic growth enabler for the Tees Valley.

4.3 Local Implementation Plans

The Tees Valley Local Authorities will play a critical role in achieving the outcomes of the Strategic Transport Plan and the Tees Valley Combined Authority recognises this through the Local Implementation Plan process. Following agreement of the overarching Strategic Transport Plan and its associated documents, each of the Tees Valley Local Authorities will produce a Local Implementation Plan. They will

set out how the Tees Valley Local Authorities will deliver the Strategic Transport Plan at a local level, will cover a period of five years and will include:

- Locally specific policy and background context;
- A statement of any local aims and objectives;
- Information on the local transport network and evidence of specific local challenges and opportunities;
- A summary of committed transport investment within the district/borough;
- Detail on the local schemes and projects to be delivered in support of the Strategic Transport Plan and local policies;
- A high level delivery programme reflecting the current known budgets and funding opportunities. The delivery programmes identified in the LIPs are not static, and will change over time to reflect shifting local priorities and the delivery of transport across Tees Valley; and
- Performance monitoring arrangements in support of the wider evaluation of the Strategic Transport Plan.

There are a number of statutory or advisory local transport plan requirements that are still in place. In many instances these will be dealt with at a local authority level with co-ordination across the Tees Valley where appropriate. These include:

- Local Plans – Set out local planning policies and identify how land is used, determining what will be built where;
- Network Management Duty – A statutory requirement that is the responsibility of the Traffic Managers at the individual local authorities. Further detail outlined within the Road Implementation Plan;
- Transport Asset Management Plan – Responsibility of the individual local authorities. Further detail outlined within the Roads Implementation Plan, including details of common agreement across the Tees Valley;
- Air Quality Action Plan – Not a statutory requirement within the Tees Valley as there are no designated Air Quality Management Areas. However, there is a continued commitment to air quality improvements across the Tees Valley and a need to address roadside Nitrogen Dioxide hotspots;
- Rights of Way Improvement Plan – A statutory requirement that is the responsibility of the individual local authorities. Explains how improvements made by a local authority to their public rights of way network will provide a better experience for a cross section of users. Further information in the Cycling & Walking Implementation Plan;
- Noise Action Plan – Not a statutory requirement, however there is a continued commitment to noise reduction improvements across the Tees Valley outlined within the environmental need chapter of this document;
- Bus Information Duty – A statutory requirement that is being co-ordinated across the Tees Valley, with further detail within the Bus Implementation Plan;
- Local Economic Assessment Duty – A requirement of the 2008 Local Transport Act. Assessment undertaken as part of the development of the Strategic Economic Plan;
- Sustainable Modes of Travel Strategy – A requirement of the 2006 Education and Inspections Act, which will be covered by the Cycling and Walking Implementation Plan. This includes the role of safer routes to school;

- National Park Management Plan – Part of North York Moors National Park crosses into the south eastern part of the Tees Valley. The National Park Authority will be involved during the consultation on the Strategic Transport Plan and further detail is contained with the Local Implementation Plans; and
- Provision for people with disabilities – A requirement of the 2010 Equality Act. The Integrated Sustainability Appraisal includes an Equality Impact Assessment that will test the Strategic Transport Plan's contribution to improving equality.

4.4 Integrated Sustainability Appraisal

An Integrated Sustainability Appraisal has been conducted alongside the preparation of the Strategic Transport Plan to ensure the early integration of sustainability considerations. It has involved an iterative assessment process as the Strategic Transport Plan has developed, to ensure potential significant effects arising from it are identified, assessed, mitigated and communicated. It has also been conducted so to ensure the Tees Valley Combined Authority meets its legislative requirements.

4.5 Funding Challenge

Achieving the vision of the Strategic Transport Plan will require funding from a number of sources. The most significant of these funding sources are described below, but it should be noted that there are other sources to fund specific interventions, which are described in the relevant Implementation Plan(s).

Integrated Transport Programme

A £256.7m transport programme was included within the Tees Valley Investment Plan 2019-29. This includes a number of different sources including the Transforming Cities Fund and devolution funds, matched with previously committed Local Growth Funding. The Tees Valley Assurance Framework will be used to safeguard accountable and transparent decision making, appraise projects and evaluate schemes to achieve value for money and ensure that funds are spent lawfully. This framework will be used in conjunction with other checks and balances and will cover the statutory responsibilities of the local authorities.

Transforming Cities Fund

In the autumn 2017 Budget the Government announced a £1.7bn fund to improve transport links between regional centres. Whilst half of the available funds will be allocated via competition, the remaining funds have been allocated on a per capita basis between those Combined Authorities with elected metro mayors. For the Tees Valley this equates to a guaranteed £75.5m to improve local transport connections.

Strategic priorities identified within our plan that fit with the objectives of the Transforming Cities Fund (TCF) include:

- Improvements at major rail gateways.
- Improvements at other key stations on the local rail network.
- Bus infrastructure improvements.
- Use of Intelligent Transport Systems and innovative technology.
- Cycling, walking & electric vehicle charging infrastructure.

Highways England Road Investment Strategy

The Road Investment Strategy (RIS2) will cover investment in England's motorways and major roads during the 2020 to 2025 period. RIS2 is currently being developed by Highways England and we will seek to influence this investment where appropriate.

Network Rail Control Period

Control Period 6 (CP6) will cover investment by Network Rail between 2019 and 2024, with funding for operations, maintenance and renewals. The Control Period process reduces Network Rail's flexibility to

respond to initiatives, but provides certainty of funding to allow work to be planned efficiently. The high level output specification (HLOS) for CP6 has been published (July 2017) and sets out what the Secretary of State for Transport wants to be achieved by railway activities during CP6 for the Office of Rail and Road (ORR) and for the rail industry. It includes an initial statement of funds available (SoFA), which outlines the government's initial view of how much funding it can provide to support these activities. We will seek to influence this investment where appropriate.

Integrated Transport Block

Provided by the DfT for small transport improvement schemes costing less than £5 million, such as small road projects, road safety schemes, bus priority schemes, walking and cycling schemes and transport information schemes. A formula is used to allocate the funding directly to the Tees Valley Local Authorities based on need and this funding will form the major resource to deliver the Local Implementation Plans for the Boroughs.

Transport for the North

The Government funded TfN to develop its pan-Northern Strategic Transport Plan and to bring forward the evidence in support of it. TfN has also developed programme-level business cases for each of its identified Strategic Development Corridors. Three of the corridors – Connecting the Energy Coasts (multi-modal), East Coast to Scotland (rail) and Yorkshire to Scotland (road) are of major importance to Tees Valley. The outputs of the development work have informed TfN's long term Investment Programme which will be considered by the Government.

South Tees Development Corporation

The Government announced in the 2017 Autumn Budget £123m of funding for the South Tees Development Corporation. This funding is for the remediation of the site and to pave the way for investment by private companies. The provision of the necessary transport improvements will form one element of the regeneration of the site.

Other Competitive Funding Sources

We will also seek funding from external agencies, predominantly DfT, to support improving the Tees Valley transport network. Many of these sources of funding will require us to prepare competitive bids, but this Strategic Transport Plan and the Implementation Plans provide a sound evidence base to support any future funding bids.

Transport Operators

Transport operators, primarily those providing bus and rail services, will continue to invest in rolling stock/vehicles and in customer service improvements, either through current and future rail franchise commitments, or as a result of new agreements that will deliver the vision outlined within the **Bus Implementation Plan**.

Private Sector Contributions

There is also the opportunity to seek private sector contributions in support of our transport objectives. For example, match funding or complementary investment will be sought from the private sector in support of investment in Tees Valley. This could include contributions to the cost of providing infrastructure and public transport services in support of large scale development sites.

The most likely mechanism for achieving this will be through legal agreements as part of the planning approval process, which will be between the developer and the relevant Tees Valley Local Authority.

4.6 Future Changes

We are aware that there are a number of factors that could potentially impact on the transport system in the future and need to be on the front foot to respond to the challenges and opportunities these could present.

Some examples of the factors that could influence Tees Valley and its transport network in the future include:

- Social - growing and ageing populations, changing household structures and lifestyles;
- Technological - electric and hydrogen powered vehicles, driverless vehicles and changing energy sources;
- Economic – changing job market and flexible working practices;
- Environment - climate change, more stringent environmental regulations, energy and resource constraints; and
- Political – Brexit and further devolution.

Some of the more significant changes in the future could include:

Technology: Connected and Autonomous Vehicles

As identified in the DfT's Transport Investment Strategy (July 2017) the Government is committed to investing in the future of connected and autonomous vehicles (vehicles which are capable of moving with little or no human input) and to developing the best regulatory environment to encourage further investment and take-up of these solutions. In Tees Valley we will continue to monitor the progress being made in developing autonomous vehicles due to their potential to deliver significant benefits to the travelling public and to the network as a whole, by making journeys safer, increasing capacity, improving traffic flow and journey reliability, and reducing emissions.

Economic: Sharing Economy and Mobility as a Service

"Mobility as a Service" (MaaS) providers seek to offer their customers any type of travel experience using any type of transport service (public or private) through a digital interface. Whilst these MaaS platforms are still in their infancy they are growing and evolving quickly. The Tees Valley Combined Authority and the Tees Valley Local Authorities must continue to keep abreast of these changes in the transport market place and seek to maximise future opportunities.

Political: Further devolution

There is the potential in the future for further powers to be transferred to the Mayor or the Tees Valley Combined Authority and the Strategic Transport Plan needs to be flexible enough to account for any further devolution of powers and funding.

In addition to this, the Tees Valley Combined Authority continues to be part of Transport for the North (TfN), which advises Ministers on investment priorities and on strategic transport schemes to boost growth. The Strategic Transport Plan will need to continue to contribute to and support the investment plans of TfN in a way that is complementary and coherent.

4.7 Spatial Planning

It is important that transport planning is integrated with land use planning so that transport facilities can be developed to meet the future needs of the community. The Strategic Transport Plan can be used by the Tees Valley Local Authorities to help ensure that there is complementary, supportive infrastructure to facilitate their ambitions and those of the Tees Valley Combined Authority. This is being developed through the Key Road Network Programme, which is described in further detail within the **Road Implementation Plan**.

4.8 Monitoring and Review Process

The Tees Valley Combined Authority recognises the importance of a robust monitoring regime to provide evidence that the actions set out in this Strategic Transport Plan are proving to be beneficial. There will be

an annual Transport Monitoring Report to track progress being made towards the achievement of the vision and related objectives.

It is proposed that the Strategic Transport Plan, once adopted in 2020, is reviewed every four years to ensure that the Tees Valley Combined Authority has a robust and up to date plan that makes the case for continued investment. It will also support the Tees Valley Combined Authority in liaising with TfN and key delivery partners as they develop their own investment plans and will support bids for future funding.

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TEES VALLEY
COMBINED
AUTHORITY

TEES VALLEY MAYOR

Tees Valley Combined Authority

Tel: 01642 524400 info@teesvalley-ca.gov.uk

www.teesvalley-ca.gov.uk



Cycling & Walking



Bus



Rail



Road



Freight



Air



TeesValleyCA



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TEES VALLEY
COMBINED
AUTHORITY

TEES VALLEY MAYOR

STRATEGIC TRANSPORT PLAN



WHAT IS IT?

Tees Valley Combined Authority is the local transport authority for the Tees Valley. This is the first Strategic Transport Plan for the region, for the period up to 2029. It has been developed by the Combined Authority in collaboration with our five constituent Local Authorities, Darlington, Hartlepool, Middlesbrough, Redcar & Cleveland and Stockton-on-Tees.

The Combined Authority has ambitious plans to grow the region's economy and our Strategic Economic Plan aims to create 25,000 new jobs and deliver an additional £2.8billion into Tees Valley by 2026. We are also developing a Local Industrial Strategy, an agreement between us and the Government on how we will improve our economy over the next ten years and how this will feed into the Government's overall UK strategy.

In order to ensure that everyone in Tees Valley is able to work, study, enjoy and fully participate in these ambitious plans for the future, we need a world-class transport system that also encourages inward investment. Transport is about connecting people and businesses in Tees Valley and beyond. Delivering a world-class transport system that is fit for the future is a critical enabler for the success of the area.

Our vision for Tees

Valley is: To provide a high quality, clean, quick, affordable, reliable and safe transport network for people and freight to move within, to and from Tees Valley.

What will it actually mean for you?

Our ambition is that:

- You will be able to access the new jobs we are creating across Tees Valley
 - The quality and reliability of your daily commute will be improved, giving you confidence that you will get to where you need to be, when you need to be there
 - You will be able to rely on the latest technology, making travel as easy as possible
 - The air you breathe will be cleaner, thanks to reduced carbon emissions
 - More reliable, affordable public transport, walking and cycling options will be created so you can
- ▶ get to work
 - ▶ get to study at a nearby school, college or university
 - ▶ get to a hospital or a doctor's appointment
 - ▶ go shopping, visit friends and family, or enjoy one of our local attractions
- Additional routes and improved access to our international airport, via public transport, will allow you to travel around the world for business or pleasure
 - Business productivity will be improved thanks to enhanced freight connectivity

What will the plan do?

The focus of this plan is on improving the transport system for local people and businesses. A total of £256.7million has been earmarked to transform transport across Tees Valley and the plan will direct this investment.

It has long been recognised that transport is a means to an end, not an end in itself. In recognition of this we have developed the Strategic Transport Plan to deliver three broad objectives:

- **Social Opportunity** - Helping people access employment, education, healthcare, culture, leisure and retail locations and improving public health and wellbeing
- **Economic Growth** - Delivering the Strategic Economic Plan and the economic growth plans of Tees Valley's Local Authorities, helping businesses to grow and flourish
- **Environmental Protection & Enhancement** - Addressing the impact of the transport network on the environment and supporting the legislative requirements to reduce carbon emissions and air and noise pollution

Transport is about moving people and goods and it is vital that we consider transport as a complete system, ensuring integration between different modes.



HOW WILL WE DO THIS?

There is a package of transport improvements that we are developing to transform Tees Valley's transport system. Below is a list of our current investment priorities, grouped by theme:

	Required Outcomes (“Why?”)	Actions & Interventions (“What?”)
National Rail	<ul style="list-style-type: none"> ▶ Improve rail links between Tees Valley and the rest of the country ▶ Improve rail station infrastructure – ready for major projects such as High Speed Rail and Northern Powerhouse Rail ▶ Ensure that existing rail networks are able to cater for future growth in both freight and passenger demands across the North 	<ul style="list-style-type: none"> ▶ Delivery of Darlington Station Masterplan improvements ▶ Delivery of Middlesbrough Station Masterplan improvements ▶ Delivery of improved national rail services ▶ Influence key rail franchises which serve Tees Valley ▶ Delivery of infrastructure that will enable large containers to be transported by rail to / from Tees Valley
Major Roads	<ul style="list-style-type: none"> ▶ Deliver and maintain a safe, resilient and reliable Key Route Network for Tees Valley and a Major Road Network for the Transport for the North area – facilitating future economic and housing growth across the North 	<ul style="list-style-type: none"> ▶ Additional major road crossing of the River Tees ▶ Improved east-west road connectivity along the A66 corridor from the A1(M) to the international gateway at Teesport
Connecting Centres	<ul style="list-style-type: none"> ▶ Deliver and maintain a frequent, high quality, reliable and integrated public transport network ▶ Develop and improve transport interchanges, ticketing options and information – providing a seamless integrated experience for the travelling public 	<ul style="list-style-type: none"> ▶ Improvements to local rail services, including increased frequency, newer trains and potentially new stations ▶ Tees Valley bus network improvements ▶ Improved ticketing ▶ Local road network improvements
Unlocking Key Sites	<ul style="list-style-type: none"> ▶ Address specific problems on the major and local transport networks – providing a transport system that facilitates future economic and housing growth across Tees Valley ▶ Develop and maintain a transport network that is fit for purpose for freight by road, rail, sea and air – enabling the economy to grow effectively and sustainably 	<ul style="list-style-type: none"> ▶ Delivery of the airport masterplan ▶ Delivery of the South Tees Development Corporation masterplan ▶ Delivery of transport infrastructure required to unlock growth – linked to large-scale planning applications ▶ Improve traffic management and live route information ▶ Road and rail networks with appropriate capacity and capability for freight movement
Local Journeys	<ul style="list-style-type: none"> ▶ Deliver and maintain safe walking and cycling routes and local bus services that link housing sites to key destinations and transport interchanges for onward journeys 	<ul style="list-style-type: none"> ▶ Improvements to the Tees Valley cycling and walking networks targeted at corridors identified within the Local Cycling and Walking Infrastructure Plan ▶ Improvements to key corridors on the Tees Valley bus network to improve reliability and journey times ▶ Integration of sustainable transport improvements within larger infrastructure schemes ▶ Develop a partnership agreement with bus operators ▶ Investigate whether Demand Responsive Transport and community-based initiatives could be a solution to the problem of accessibility in rural areas ▶ Extension of existing Community Rail Partnership concept ▶ Identify opportunities to develop Tees Valley's leisure and tourism offer ▶ Local road network maintenance and improvements ▶ Increase road safety for all road users
Delivering Social Equity and Protecting and Enhancing the Environment	<ul style="list-style-type: none"> ▶ Improve access for those with physical disabilities, mental health conditions, learning difficulties and those with sensory impairment ▶ Deliver measures to improve local air quality, minimising the emission of nitrogen oxide, nitrogen dioxide and particulates; and reducing carbon emissions and the contribution of transport to global carbon levels ▶ Reduce noise and vibration from transport ▶ Protect and enhance Tees Valley's built and natural environment ▶ Improve equality of opportunity for more remote and deprived communities and enhance health and wellbeing 	<ul style="list-style-type: none"> ▶ Development of integrated sustainable transport choices ▶ Deliver Wheels 2 Work project to support access to work ▶ Incorporate provision for all potential users within wider scheme development ▶ Let's Go Tees Valley behaviour change programmes, encouraging healthier more sustainable travel choices ▶ Establish a coordinated approach to the provision of Low Emission Vehicle Infrastructure in Tees Valley ▶ Seek alternatives to diesel as the main fuel source for local rail services in Tees Valley

NEXT STEPS?



We have already secured £256.7million to deliver these projects, but some will require additional national funding to deliver them. We are therefore working closely with partners including Network Rail, Highways England, Transport for the North and the Department for Transport to ensure that additional funds are secured to rightly deliver these projects.

Next steps?

This is an exciting time for transport in Tees Valley, but also a pivotal one if we are to develop the transport system that we need to support our ambitions.

We will be looking to publish the final Strategic Transport Plan early in 2020 following the feedback on this consultation draft, so it is important for you be involved in the development of the plan at this stage.

The main Strategic Transport Plan document and its supporting documents can be found on the Tees Valley Combined Authority Website: www.teesvalley-ca.gov.uk/transport/strategic-transport-plans

Feedback

We would welcome your feedback on the draft document. Please complete our questionnaire, which is available online at the website above. We will also be holding a number of consultation events across Tees Valley, where you can meet us and discuss any questions, comments or concerns over transport in Tees Valley. Staff will be on hand to help you complete the questionnaire. Further details on the events can be found on the website.

AGENDA ITEM 9**REPORT TO THE TEES VALLEY
COMBINED AUTHORITY
CABINET****26 JULY 2019****REPORT OF THE
HEAD OF TRANSPORT****PORTFOLIO: TRANSPORT****BUS NETWORK DELIVERY OPTIONS****SUMMARY**

The Combined Authority has been considering options to deliver a new bus service offer in isolated rural communities where the current absence of a service can make it difficult for residents to access essential services and employment opportunities. It is therefore proposed that a new demand responsive model is piloted to provide better access for some of the rural communities in Darlington, Hartlepool and Redcar and Cleveland.

The Combined Authority has also been exploring bus network delivery options in light of the Bus Services Act 2017 (the 2017 Act). The 2017 Act strengthens arrangements for partnership working between bus operators and local authorities, through new Advanced Quality and Enhanced Partnership schemes, and introduces bus franchising powers. This report provides a summary of these new options and an update on developments within the Mayoral Combined Authorities in England. At this stage it is proposed that the Combined Authority explores further a new partnership agreement with bus operators, whilst continuing to monitor franchising developments across the country. A Technical Note with further detail is included as **Appendix 1**.

RECOMMENDATIONS

It is recommended that the Combined Authority Cabinet:

- i. Notes the proposal to pilot a new demand responsive model to provide better access for some of the rural communities in Darlington, Hartlepool and Redcar and Cleveland.
- ii. Notes the proposal to explore further a new partnership agreement with bus operators.

DETAIL**Demand responsive model**

1. The Strategic Transport Plan recognises the importance of buses and includes an implementation plan that sets out the key improvements that will be pursued (see

separate Strategic Transport Plan report on the agenda). One of the key challenges is providing coverage in rural areas and one of the ways in which other parts of the country have responded to this challenge is through the provision of demand responsive transport.

2. A demand responsive model is one where vehicles alter their routes based on transport demand rather than following a fixed route or timetable.
3. Services operate in response to pre-booked requests and passengers generally book their transport in advance of travel either on-line via a website or smartphone app, or over the telephone.
4. The model is typically served by small vehicles providing a shared taxi ride type of experience. Where effective, the service works by co-ordinating bookings to try and ensure a sufficient volume of passengers for each journey.
5. The proposal is to pilot a demand responsive model to provide better access for some of the rural communities in Darlington, Hartlepool and Redcar and Cleveland. The proposed geographic areas have been chosen on the basis that they are not well served by commercial services. These geographic areas have been discussed at the Transport Advisory Group and with officers in the respective local authorities (Darlington, Hartlepool and Redcar & Cleveland). It should be noted that the proposed geographic areas are indicative at this stage and will be confirmed following the procurement.
6. The principle, which will be tested through the procurement, is that passengers can be collected from any location (closest corner to requested pick-up point) within the defined geographic area for travel to a primary destination within the defined area, a secondary destination outside the defined area, or a hospital. Passengers can then undertake the return journey and be picked up at a primary destination, a secondary destination or a hospital and taken to any point in the defined area (closest corner to requested drop off point).
7. The primary destinations are predominantly villages/towns, whilst the secondary destinations are predominantly transport hubs therefore facilitating onward travel by bus/rail/coach.
8. A service specification has been developed and a procurement is being undertaken. The anticipated timeframe, which will be confirmed through the procurement, is for the new model to be operational by the end of 2019.
9. The challenge is that in rural areas demand responsive transport services often rely on public subsidy, the level of which is determined by a range of factors including geographical coverage, frequency, fares etc. This presents a challenge in terms of ensuring the long-term sustainability of such a model. As part of the procurement process the Combined Authority is emphasising that whilst it anticipates the service will initially require financial support, the expectation is that bidders outline how they intend to grow patronage and commercialise the service over time. The market response to this requirement will become clear during the procurement.

10. An initial funding allocation of £150K for 2019/20 has been included in the Integrated Transport Programme (see separate Strategic Transport Plan report on the agenda which is seeking approval for this 2019/20 spend).
11. The evaluation of the pilot will be critical in informing future provision and there is the potential in the future to extend the demand responsive model into other rural and possibly urban areas, where there is an evidence base to support intervention.

Partnership working

12. The previous Tees Valley Bus Quality Partnership Agreement lapsed in 2015 on completion of the Tees Valley Bus Network Improvement major scheme and has not been replaced.
13. The 2017 Act strengthens arrangements for partnership working between bus operators and a Local Transport Authority (LTA) through a new Advanced Quality Partnership (AQP) and Enhanced Partnership (EP) scheme.
14. New EP and AQP powers provide the framework for a LTA to work side by side with bus operators to set a shared vision for bus services in their area. Under both of these partnerships services continue to be operated by commercial bus operators, but new standards are set which some or all of the bus operators in the area are required to meet.
15. There is also the opportunity to establish a more informal partnership arrangement with bus operators that does not rely on the powers within the 2017 Act.
16. The success of any bus partnership arrangement depends on good working relationships between the LTA and bus operators. There needs to be consensus on what needs to be done and a degree of trust that everyone will deliver 'their part of the bargain'.
17. Within this context, the LTA commits to take steps to support local bus services, for example the provision of improved bus passenger waiting facilities, integrated travel information and ticketing, highway network improvements and measures to encourage an increase in bus patronage. In exchange the bus operators are required to meet specific local standards, for example minimum service frequency, maximum fares, better buses etc.
18. There are differences in the range of outcomes that can be achieved through the two different types of formal partnership. An EP can deliver a broader range of outcomes than an AQP and usually covers a larger geographic area.
19. For both types of formal partnership there is a statutory process to follow in terms of publishing draft proposals, undertaking consultation and seeking agreement from the operators. There are provisions that effectively mean scheme requirements cannot be imposed on bus operators by the LTA. An informal partnership arrangement does not involve a statutory process.
20. There has been early dialogue with the operators on the opportunities a new partnership arrangement could offer and it is proposed that this continues to be explored to determine what type of partnership arrangement is most appropriate. The

Integrated Transport Programme includes a project to improve bus corridors which could form part of the LTA's commitment to a new partnership agreement (see separate Strategic Transport Plan report on the agenda).

Franchising

21. The 2017 Act also provides Mayoral Combined Authorities with the powers to implement bus franchising in their area, similar to the system operated by Transport for London. Under a franchising scheme, bus services would continue to be operated by private bus operators, however, they would do so under the direction of the Combined Authority.
22. The implementation of a bus franchising scheme would represent a major overhaul of the way bus services are delivered and would be on a scale not seen since buses were deregulated in 1986. A bus franchising scheme would be a unique project, having many attributes of a major transport scheme, but also requiring the Combined Authority to intervene and regulate an industry.
23. Although a Mayoral Combined Authority has access to franchising powers under the 2017 Act, it cannot just invoke them. There is a clear and formal process that needs to be followed to take up franchising powers.
24. Given the complexity of this process, it is estimated that it would take around two and a half to three years from inception to delivery of a franchised bus operation, assuming there were minimal delays.
25. All of the major public transport operators within the Tees Valley (and across the North) are involved in Transport for the North's (TfN) Integrated and Smart Ticketing programme. Therefore, a truly integrated and fairer ticketing system (one of the most likely benefits of franchising) should be in place anyway before the implementation of any franchising scheme.
26. There would also be the challenge of demonstrating value for money should a franchising option extend into rural areas. HM Treasury and Department for Transport guidance is often biased towards areas where there are large numbers of existing users as opposed to assessing the benefits of growing a market or addressing market failure, which means that making the case for wider services in rural areas is more challenging in practice.
27. The total estimated cost of implementing a bus franchise scheme in the Tees Valley could be around £4 million.
28. Therefore the Combined Authority proposes to:
 - a) Continue dialogue with bus operators around a new partnership agreement; and
 - b) Continue to monitor the progress made by other Mayoral Combined Authorities in response to the 2017 Act.

FINANCIAL IMPLICATIONS

29. Preparing the Technical Note has involved the use of external resources, and the Combined Authority has used its delegated funding for this purpose. Development of a new partnership agreement will use internal Combined Authority and Local Authority Partner resources, with the potential for external support as necessary. The Integrated Transport Programme includes an allocation for Demand Responsive Transport in 2019/20.

LEGAL IMPLICATIONS

30. The procurement of the demand responsive model shall be conducted in compliance with the applicable procurement regulations and shall be subject to appropriate contractual terms.

RISK ASSESSMENT

31. This item is categorised as low to medium risk at present. Existing management systems and daily routine activities are sufficient to control and reduce risk.
32. Given the demand responsive model is new there is uncertainty around how well the services will be used. The pilot approach will enable the Combined Authority to better understand the market and tailor any future services accordingly.

CONSULTATION & COMMUNICATION

33. There has been discussion at the Transport Advisory Group, Chief Executives Group and the Transport Committee.

EQUALITY & DIVERSITY

34. The demand responsive model should have a positive impact in terms of improving accessibility for residents in rural areas that are not well served by commercial bus services.
35. The specification for the contract stipulates that all vehicles used must be wheelchair accessible.

LOCAL ENTERPRISE PARTNERSHIP

36. This item has been considered at the LEP meeting in advance of it coming forward to Cabinet.

Name of Contact Officer: Tom Bryant

Post Title: Head of Transport

Telephone No. 01642 524463

Email Address: tom.bryant@teesvalley-ca.gov.uk

Appendix 1 – Bus Service Delivery Options – Technical Note

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Technical Note: Bus Service Delivery Options

1 Introduction

Fore Consulting Ltd (Fore) was appointed by the Tees Valley Combined Authority (TVCA) to undertake a brief review of the options in light of the Bus Services Act 2017 (the 2017 Act). The 2017 Act strengthened arrangements for partnership working between bus operators and local authorities, introducing new Advanced Quality and Enhanced Partnership schemes, and introduced bus franchising powers.

2 Advanced Quality Partnerships

Under a bus partnership scheme services continue to be operated by commercial bus operators, but new standards are set which some or all of the bus operators in the area are required to meet.

An Advanced Quality Partnership (AQP) is an agreement between a Local Transport Authority (LTA) and bus operators. The LTA commits to take steps to support local bus services and in exchange the bus operators are required to meet specific local standards. These standards usually apply to a specific route or corridor. Any operator who does not meet the required standards is unable to use infrastructure provided by the local authority and specified in the scheme.

An AQP extends the measures local authorities can offer as part of a partnership from purely infrastructure facilities such as bus lanes, to service-based initiatives such as parking restrictions and traffic management policies. It also broadens the requirements that can be placed on operators to include the marketing of services, tickets and fares.

The LTA must give notice of its intention to prepare an AQP, publish and consult on proposals including with affected operators, before implementing the scheme. Some of the standards which can be set, such as service frequency and maximum fares, can only be implemented if there are no outstanding objections from operators who would be affected by the scheme. This gives every affected operator a clear say in the proposals, but - as a result - can be a time consuming process.

3 Enhanced Partnerships

An Enhanced Partnership (EP) is an agreement between a LTA and the majority of their local bus operators to work together to improve local bus services. An EP scheme may not be made unless it would improve the quality or effectiveness of services or reduce or limit traffic congestion, noise or air pollution.

An EP enables partnership working to go further than under an AQP scheme and requires collaboration between the LTA and operators. At the core of the process is the collaborative development of an EP plan and scheme:

- An EP plan may cover all, or parts of, the area of an LTA. It should analyse performance of the local bus market; set bus improvements objectives; the geographical area or areas of application; and explain how long the proposal would last.
- An EP scheme should set out the detailed actions to be taken by the LTA and bus operators. It would set out the route requirements for services in the area, which could include frequency and timetables. It would also set out operational requirements, which could include branding, payment methods, ticketing structure and real-time information. However, the LTA would not be able to set fares.

EPs expand the types of standards that partnership schemes can cover, provide for more joined-up network planning and allow local implementation and enforcement of the scheme's requirements. The Government's intention is that an EP should allow LTAs and operators to deliver some of the outcomes that would otherwise only be possible under a franchising model.

EPs are intended to be easier to apply to a wide geographic area than other forms of partnership working. They allow for operators to object to a proposed scheme at several key stages though, in practice, Government expects them to be developed collaboratively between LTAs and operators.

Local bus operators have to be given an opportunity to participate in the development of an EP and have a formal say on the process at several key stages. At these points the EP cannot proceed unless formal agreement from a defined proportion of operators is obtained. Meanwhile the LTA - as the body responsible for formally making the EP - also has to be content with what is proposed.

No EP plan or scheme can be made unless the requirements as to preparation, notice and consultation are met. These provisions effectively mean that scheme requirements cannot be imposed on bus operators by the LTA, but have to have the support of 'sufficient operators' in the scheme area.

4 Bus Franchising

The 2017 Act also provides Mayoral Combined Authorities with the powers to implement bus franchising in their area - akin to the system operated by Transport for London. Under a franchising scheme, bus services would continue to be operated by private bus operators, however they would do so under the direction of the TVCA. The TVCA would specify all aspects of the bus network including routes, fares and vehicle quality and would put this network out to tender. All bus companies would then be able to bid for the right to run the

specified service, while the TVCA would assume the revenue risk of running local bus services.

The implementation of a bus franchising scheme in a particular area would represent a major overhaul of the way bus services are delivered and would be on a scale not seen since buses were deregulated in 1986. A bus franchising scheme would be a unique project, having many attributes of a major transport scheme, but also requiring the TVCA to intervene and regulate an industry. A franchising scheme would therefore have far reaching commercial and legal implications affecting bus companies and their employees. Once a franchising scheme is implemented it would be very difficult to return to the deregulated system, even at the end of the first franchise period.

It should also be noted that although the franchising arrangements were part of the 2017 Act, this actually amends the Transport Act 2000, which sets out a comprehensive process that any authority or authorities must follow before it can introduce bus franchising in its area. This means that although a Mayoral Combined Authority has access to franchising powers under the 2017 Act, it cannot just invoke them - there is a clear process that needs to be followed to take up franchising powers.

The key steps in developing a bus franchising scheme are as follows:

- Formal notification to local bus operators that the authority is considering a scheme. Local bus operators are aware that the TVCA is considering all options for delivery models as set out in the Bus Services Act.
- Formal request to operators for the information required to develop a franchise scheme. One of the benefits of the 2017 Act is the legal requirement for bus operators to provide the detailed financial information that is essential to the development of a robust business case by TVCA - this has been a flaw in previous attempts to introduce similar arrangements in the North East. However, it should be noted that taking the step of making the formal request to operators for this information is highly likely to affect the relationship between operators and the TVCA and the local authorities since it will, in the operators' view, signify that the TVCA is embarking on a robust assessment of the merits of franchising.
- Conduct an assessment of the proposed franchising scheme. An authority cannot implement franchising until this assessment has been completed and the other legislative requirements complied with, such as the need to consult. Any assessment of a proposed franchising scheme must describe the likely effects of the scheme and compare making the proposed scheme to one or more other courses of action. The assessment should also consider:
 - Whether the proposed scheme would contribute to the implementation of the authority's local transport plan policies;

- The impact on bus services in neighbouring authorities' areas;
- Whether the authority would be able to afford to make and operate the scheme; and
- Whether the proposed scheme would represent value for money.

The factors that the 2017 Act requires authorities to consider reflect broadly the HM Treasury five case business case model, particularly in relation to the latter point above around value for money. Through this process, the authority should clearly set out its conclusions having completed the detailed assessment of options, drawing clear distinctions between the performance of the different options with respect to achieving the objectives of the authority, and their impacts on different groups in society. The authority should then identify its preferred option, clearly setting out the rationale for this decision.

- **Independent audit of the business case.** The business case, once completed, must then be submitted to an independent auditor who assesses the robustness of the business case, but is not expected to pass judgement on whether or not the scheme should proceed. The ultimate decision would rest with the TVCA, and the 2017 Act states that franchising authorities should ensure that the assessment of the proposed scheme contains sufficient detail to enable an informed decision to be taken. It is possible of course that the business case and auditor's report suggest that a bus franchise scheme does not represent the best way forward.
- **Consultation on detailed business case.** Once the authority has developed a business case and has satisfied itself that the scheme is viable, it must consult widely and deeply with everyone impacted by the scheme; this includes local people, bus passengers, bus operators, local businesses and neighbouring authorities. The consultation exercise should cover full details of the proposed scheme (fares, routes etc.), and make public the business case and the auditor's report.
- **Decision to formally make the scheme.** Once the results of the consultation exercise have been assessed, the authority must take the final decision as to whether to:
 - Proceed with the scheme as consulted;
 - Amend the scheme in response to the consultation and then proceed; or
 - Not to proceed with the scheme.

If the authority chooses to proceed with the scheme either in its original form, or as amended by the consultation, it must formally 'make' the scheme. This decision should include a timeline detailing when the scheme comes into force. The decision to 'make' the scheme also triggers the transitory protection elements of the 2017 Act that are

designed to ease the transition from deregulated to franchised operations (e.g. amendments to bus service registration requirements).

- **Procurement of the scheme and transition period.** The procurement of the scheme takes place once the authority has formally ‘made’ the scheme. The procurement process will carry with it a cost which should have been considered as part of the business case for the scheme. In tandem with the procurement, the authority needs to ensure other preparations required by the transition from deregulated to franchised operation are made. This includes aspects such as:
 - Ensuring any infrastructure (e.g. depots) is available for the start of the franchise period;
 - Ensuring arrangements for any cross boundary services are in place (service permit scheme); and
 - Ensuring continuity of service for passengers (in the event of large scale service de-registrations).
- **Franchised network in operation.** Once the successful bidder has been chosen and all aspects of the scheme are in place, then the winner of the franchise(s) begins operating services under the new franchise arrangements.

This process is prescribed by the regulations and it needs to be followed exactly, in case there is the possibility of legal challenge. By way of example, even in its very early stages of examining bus network delivery models, Liverpool City Region has engaged legal advisors to minimise the risk of any future legal challenge.

Given the complexity of the process, it is difficult to put an exact timeframe on how long it would take to proceed through all the steps, but based on the development of business cases for major transport schemes taking around 18 months, the mandatory 12 week consultation period, the minimum six month implementation period set out in the 2017 Act and the need for a procurement process, it is estimated that it would take around two and a half to three years from inception to delivery of a franchised bus operation, assuming there were minimal delays.

5 Franchising in Practice

As part of this review, it was considered useful to set out for the TVCA what a franchising scheme may mean in practice in the Tees Valley.

How franchising would work in practice would to a great extent depend upon the final design of the scheme. There are many different models that would need to be assessed,

for example, gross cost, net cost, prescriptive, outcome based etc., which would affect how a franchise would operate.

Under a franchising scenario the decisions around bus services would be taken in a radically different way. The exact division of responsibilities between the various agencies concerned would depend on the ultimate structure of the franchises, for example, marketing, information and customer services could be made the responsibility of the franchised bus operators (although that would potentially divide responsibility for those elements among numerous franchised operators).

It is likely that the TVCA, acting in close consultation with the local authorities, would assume responsibility for the main strategic decisions such as:

- Annual fares review;
- Setting the annual bus revenue budget;
- Setting strategic objectives for the bus network in line with its wider strategic aims;
- Approving funding for capital projects;
- Consulting with residents to ensure policies meet local needs;
- Approving annual network review.

The TVCA would require a bus network management team who would oversee the implementation of its bus strategy and be responsible for overseeing the operations of the bus network and would be responsible for:

- Procuring bus services;
- Designing the network in accordance with the budget set by the TVCA and its policies;
- Performance monitoring and managing bus contracts;
- Managing the revenue risk of the bus network;
- Customer services;
- Marketing and Information;
- Identifying requirements for capital investment;
- Maintenance of capital assets; and

- **Managing the annual bus budget in accordance with TVCA policies.**

Bus operators would then be responsible for delivering bus services in line with their contractual obligations. In order to be compliant with legislation, it is unlikely that there would be one single franchised bus operator for Tees Valley. The network would probably be delivered by a number of different providers (as in London) under contract to the TVCA. However, since the TVCA is specifying the service, it would be a fully integrated and unified network.

There is no doubt that franchising offers a number of significant benefits; the degree to which any benefits are realised depends to a great degree on the scheme the authority decides to adopt. The main benefits are:

- **Full control of the network.** Unlike the deregulated system, where buses are operated on a basis of commercial gain, under a franchised scheme the TVCA would be able to tailor and specify the bus network to best meet its overarching policy objectives. This would include:
 - **Control over bus fares** - the deregulated environment only offers limited scope for the TVCA to set fares, usually through concessionary fare schemes, whereas under a franchising scheme the TVCA would be able to set all fares charged, providing the opportunity to deliver a fully integrated ticketing offer which could also include local rail services;
 - **Control over routes and frequencies** - the TVCA has full control over when and where buses run;
 - **Full control of all bus revenue** - this allows for the cross-subsidising of less profitable routes with income generated by more profitable routes, whereas under the deregulated system, this activity is precluded by competition law; and
 - **Full control over the quality of the bus fleet** - this would be specified in the contract, for example the TVCA could specify low emission vehicles, on-board Wi-Fi, audio announcements etc.
- **Ability to develop an integrated transport policy.** There is the opportunity to embed buses more firmly within the Tees Valley's long term transport plans, for example to pursue a policy of low fares to encourage mode shift and improve air quality in urban centres.
- **Stronger links between service provision and infrastructure.** The benefits/cost ratio of planned highway investments would change, since the financial benefits of investing in bus priority infrastructure would accrue to the TVCA and the local authorities, since

the resultant lower costs of bus operation could be passed onto the TVCA in the form of lower contract costs.

In the Tees Valley, there have historically been two key drivers towards the consideration of a franchising scheme that appear in the general list above - integrated ticketing and the need to retain (and potentially) grow the network into the more rural areas, possibly using the cross-subsidy approach.

The recent advent of the Integrated and Smart Ticketing programme being rolled out by Transport for the North (TfN) may well provide a solution to the first of these aspirations. The current two phases will see the roll out of smart ticketing across all rail travel in the North and the provision of integrated customer information, disruption messaging and fare information to make journey planning quicker and easier, by the end of 2019.

The third phase of the programme, by 2022, will deliver an account-based back office travel solution that allows passengers to travel using contactless bank cards for payment and enjoy a fair price promise on multimodal, multi-operator journeys across the North. People will be able to travel with confidence in the price they are being charged and operators will have confidence in accurate reimbursement.

All of the major public transport operators within the Tees Valley (and across the North) are involved in this programme, and so a truly integrated and fairer ticketing system should be implemented in any event before the implementation of any franchising scheme would take place.

On the issue of rural networks, the process requires the authority to assess the value for money of any franchising scheme. So the Economic Case section of the franchising scheme business case will need to compare the predicted future benefits and costs of the 'do minimum' option (the minimum intervention required to deliver core objectives, which excludes any additional features that may also be possible and bring additional benefits) alongside the franchising proposal as a benchmark.

As only Redcar and Cleveland Borough Council (RCBC) currently provides bus subsidies, any funding on top of RCBC's subsidies through the franchising scheme for a rural network is likely to be classed as additional expenditure over the 'do minimum' through the HM Treasury guidance and could affect the value for money assessment of the franchising option. The value for money assessment in rural areas would therefore need to be looked at carefully. HM Treasury and Department for Transport guidance is often biased towards areas where there are large numbers of existing users as opposed to assessing the benefits of growing a market or addressing market failure, which means that making the case for wider services in rural areas is more challenging in practice.

6 Franchising in Other Mayoral Combined Authorities

The status of current franchising arrangements in the other Mayoral Combined Authorities has also been reviewed to provide the TVCA with some comparator information.

Greater Manchester is the only Mayoral Combined Authority that has announced that it is actively considering franchising at present. In September 2017, the GM Combined Authority agreed to prepare an assessment of a proposed franchising scheme under the 2017 Act and has so far committed £11.5 million to this work, with Transport for Greater Manchester (TfGM) preparing an assessment of a proposed franchising scheme for the whole of Greater Manchester.

In Spring 2018, a wide-ranging market engagement was undertaken with bus operators, businesses and public transport users and in July 2018, the GM Combined Authority instructed TfGM to secure the conditional availability and preliminary briefing of an independent auditor, so that it can be ready to prepare a report on the franchising assessment, as required by the legislation, as well as to prepare for the public consultation exercise.

An assessment into the future of the city-region's bus market has now been completed and recommended franchising as its preferred option. The assessment will be considered by the Greater Manchester Combined Authority (GMCA) on 28 June 2019.

The Liverpool City Region has an existing Bus Alliance with operators Arriva and Stagecoach which includes a termination notice of three years, although Merseytravel has ruled out serving notice without a replacement operating model being in place.

In April 2018, the LCR Combined Authority agreed to proceed to the next stage of its preliminary review of bus network delivery options, that being an examination of three options - retaining the existing bus alliance, enhanced partnerships and franchising.

As part of this work, the Mayor launched a 'Big Bus Debate' in October 2018 which involved online surveys aimed at finding out what perceptions both bus users and non-users have about the bus system and what changes they would like to see. Current work includes more detailed interviews and focus groups. The outcomes of the research are yet to be published.

In the Sheffield City Region, the Mayor has just announced a review of the delivery options for an improved bus network which is expected to report towards the end of 2019..

In the West Midlands, again there is an existing enhanced bus partnership arrangement, and the WM Combined Authority set out in 2017 the conditions under which pursuing a bus franchising model would be justified, principally if the commercial bus market is generally unresponsive to local policy and failing to invest. However, the WM Combined Authority was clear that there was no case for pursuing a franchising scheme at that time, and no announcement has been made since to contradict this position.

In June 2017, the West of England Combined Authority outlined that it would keep the option of franchising available but noted that it was not actively looking at franchising at that time based on the fact that bus patronage in the area was increasing following a recently signed partnership agreement. The Mayor re-affirmed this position in evidence given to the Transport Committee in November 2018, although there has been a recent petition led by a member of the public to require the WE Combined Authority to consider franchising.

Finally, in November 2017, the Cambridgeshire and Peterborough Combined Authority announced an intention to agree funding of £150,000 for a strategic review of commercial, subsidised and community services, which would explore franchising. Part 1 of this work was a strategic review of bus service provision within the area, intended to help explore opportunities for transformational change as well as for improving the service in the short term.

This review reported in January 2019 and concludes that both partnership and franchising models offer the opportunity to deliver the outcomes required. The review has subsequently led to the formation of a cross-organisational bus reform group that will work and negotiate with bus operators to implement the improvements highlighted in the bus review in the short term, whilst overseeing more work on delivery model options.

The review does indicate a minimum implementation period for a franchising scheme of two and a half years, with a minimum cost of £3 million to the C&P Combined Authority, based on a pro-rata calculation of the outlay in Greater Manchester.

Based on this examination of the other Mayoral Combined Authorities, the previous conclusion about the process being lengthy and costly is re-inforced. Those areas with strong existing partnerships (Liverpool City Region, West Midlands and West of England) are not dismissing franchising as an option at this stage, but are focusing on how they can build on their existing arrangements.

7 Costs and Risks

As noted in the Cambridgeshire and Peterborough work, it is difficult to estimate exactly how much a full franchising scheme process would cost, especially given the potential for legal challenge at key points in the process.

However, previous work undertaken by the TVCA concluded that the total estimated cost of implementing a bus franchising scheme could be around £4 million. The two largest parts of this cost are anticipated to be the cost of completing and auditing a full business case (£1.5 million) and the costs of managing the process of procuring the actual scheme (estimates from other Urban Transport Group areas suggest a procurement exercise could cost £1 million).

A franchising scheme would be expensive to implement in comparison to a new partnership agreement. Whilst the 2017 Act makes the implementation of bus franchising a more realistic proposition, the process of delivering a bus franchise scheme carries substantial costs with no guarantee of a successful outcome.

Indeed, the Cambridgeshire and Peterborough review notes that *“It is highly unlikely that a franchising proposal could be sustained against a legal challenge if it hadn’t been adequately tested against an Enhanced Partnership alternative, so there is every incentive to start discussion of an Enhanced Partnership plan and schemes as soon as possible”*. Therefore, pursuing a franchising scheme without also carrying out enhanced partnership discussions carries inherent legal risks under the 2017 Act.

In terms of operational risk once a franchise is implemented, there are four key risks to the TVCA, all of which include some element of financial risk. These are:

- The current system operates with a near zero level of public subsidy. A franchised bus system would need to be underwritten by the TVCA. Any shortfall in fares income would need to be paid for either with taxpayer subsidy, a reduction in services or an increase in fares. Effective management of the revenue risk associated with franchising would potentially mean the TVCA having to take unpopular decisions, or re-allocate funds from other interventions.
- For bus franchising to be effective, there needs to be vigorous competition for service contracts. The current model of delivery favours incumbent operators who already have the necessary infrastructure in place to deliver bus services. In order to ‘level the playing field’, the TVCA would need to invest in infrastructure such as depots (and possibly vehicles) that could be used by any new entrant into the market. This potential investment would need to be considered as part of the detailed business case.
- The transition from a deregulated to a franchised bus operation is without precedent in the UK. The likely response of operators in this scenario has never been tested, but some operators have stated that they would not be co-operative should an area decide to proceed with franchising.
- For local bus operators, franchising would represent a major intervention in the running of their businesses, as franchising could potentially deprive operators of their right to continue to operate in the Tees Valley. This also has implications for bus company employees, some of whom might need to transfer to any new operator(s) under TUPE regulations, so great care would need to be taken with planning for effective staff and Union consultations.

8 Next Steps for the Tees Valley

This Technical Note has provided a summary of the options in light of the 2017 Act.

The previous Tees Valley Bus Quality Partnership Agreement lapsed in 2015 on completion of the Tees Valley Bus Network Improvement major scheme and has not been replaced.

However, during the period of the Quality Contracts review in the North East, the three main bus operators came together as the Tees Valley Bus Operators Association (TVBOA) and suggested an enhanced partnership be developed - this was principally to head off the threat of Quality Contracts and potentially to undermine the case being heard in the North East. This proposal was based on the Liverpool Bus Alliance given that it involved the same two principal operators.

Regular meetings are still held with the TVBOA, and so there is the possibility to revisit the TVBOA in the short term and work with them to develop a new partnership agreement that would provide greater focus on bus issues across the Tees Valley.

To help give the revised bus partnership some momentum, the TCF allocation within the newly agreed Tees Valley Investment Plan could be used in two ways to help develop the next pipeline of bus improvement measures:

- First, to bring forward an upgrade of the existing Urban Traffic Management and Control system, followed by a separate piece of work to scope out how the new system can be used to better manage the Tees Valley's Key Route Network and improve punctuality and reliability on the core bus network. This work would not only involve the bus operators, but also the emergency services and key business representatives who rely on the reliability of the Key Route Network;
- Second, to develop proposals for a small number of core bus corridors on the Key Route Network as a trial of this new approach, to understand how to improve punctuality and reliability that will deliver real benefits for passengers and bus operators, and to provide detailed information around costs and benefits against which to benchmark future programmes.

It would also seem sensible to continue to monitor what is happening in other Combined Authorities.

AGENDA ITEM 10**REPORT TO THE TEES VALLEY
COMBINED AUTHORITY CABINET****26 JULY 2019****REPORT OF THE STRATEGY DIRECTOR****TEES VALLEY LOCAL INDUSTRIAL STRATEGY****SUMMARY**

In July 2018, Tees Valley was identified by government as a wave 2 area to develop a Local Industrial Strategy (LIS). LISs are jointly agreed strategies between local areas and government. They are required to identify local strengths and challenges, future opportunities and the action needed to drive productivity.

This report outlines the draft Tees Valley LIS for Cabinet consideration, prior to formal submission to government for final discussions and publication of the co-produced strategy.

The Tees Valley LIS is founded on an open and robust evidence base, which has been tested and discussed with stakeholders to identify a distinctive set of policy priorities that can drive an increase in productivity across the area. A copy of the evidence document underpinning the LIS is attached at Appendix 1.

Development of the LIS has identified the following overarching ambition: *Tees Valley will be a global leader in clean energy, low carbon and hydrogen. The area will achieve a net zero carbon industrial cluster by 2040, providing good jobs with long term prospects that local people can access.*

Priorities for intervention have been organised around five interlinked themes:

- i. Lead the way as an exemplar region for clean energy, low carbon and hydrogen
- ii. Develop pioneering capabilities in industrial digitalisation and ensure implementation of digital applications at scale
- iii. Leverage the full potential of our innovation ecosystem in support of building innovation capability, R&D capability, commercialisation, business creation and growth
- iv. Grow and widen the pipeline of talent to support our competitive advantages and help more people into jobs with good long-term prospects
- v. Attract investment and establish a global reputation for Tees Valley as a vibrant and thriving place to be, with world leading opportunities in clean energy, low carbon and hydrogen.

Further detail is provided throughout the report, and a copy of the draft Tees Valley LIS is attached at appendix 2.

RECOMMENDATIONS

It is recommended that the Combined Authority Cabinet:

- i. Agree the draft Tees Valley LIS subject to further discussion and agreement with government, and to delegate to the Mayor and Combined Authority Chief Executive, the agreement of any further amends in discussion with government, where they are consistent with the overall direction and principles of the emerging strategy.

DETAIL

1. The government's Industrial Strategy White Paper identified a requirement for all areas to have a Local Industrial Strategy (LIS) in place, co-produced and agreed with government by March 2020. The draft attached at appendix 2, has emerged through significant local engagement and on-going discussions with government throughout the process to develop the LIS. The final, designed document will be published by government, including local images and case studies.
2. LISs are required to identify local strengths and challenges, future opportunities and the action needed to drive productivity. They will set out a collective and shared course for the long-term, developed from a robust and transparent evidence base, and reinforced by local intelligence. The strategies will be developed and owned locally, and also involve close working with government. The LIS will identify specific interventions that can deliver a step change in the local economy, whilst also making a significant contribution to increase productivity at a national level.
3. Tees Valley was identified in July 2018 as being in 'Wave 2' for the development of a LIS, meaning that the area was one of the first to work with government to identify priorities and set a new framework for delivering an increase in productivity, based around the distinctiveness of the Tees Valley economy.

DEVELOPING THE LOCAL INDUSTRIAL STRATEGY

4. Development of the Tees Valley LIS has included robust data analysis, to create a thorough and open evidence base. There has also been extensive stakeholder engagement to test our understanding of the Tees Valley economy, and to identify and refine policy priorities.

Evidence base

5. A copy of the Evidence Document underpinning the LIS is attached at Appendix 1. This sets out the relative strengths and weaknesses of the local economy, opportunities for the future, and local barriers to productivity. In developing the evidence base, the Combined Authority has analysed new economic data. We have also harnessed the expertise of universities, independent experts and other stakeholders to develop a granular understanding of the local economy and the market failures that need to be addressed at the local level.
6. The evidence report, informed by business survey responses and specialist research, includes data analysis in relation to key areas that contribute towards growth in our economy, including:

- i. Economy and Productivity (economic conditions, the business base and key sectors)
- ii. Skills and Labour Market (attainment, employment and future demand)
- iii. Growth Enablers (connectivity, education, place and culture)
- iv. Analysis of firm level productivity across key sectors in Tees Valley. This considered 'Total Factor Productivity', including labour productivity (GVA per worker); R&D and innovation; adoption of technologies and ownership; and absorptive capacity
- v. Analysis of digital activity (business environment and skills / talent)
- vi. An assessment of the bio-economy in Tees Valley, and future opportunities for biosciences
- vii. Baseline review of culture and tourism assets.

Stakeholder engagement

7. There has been a three-stage approach of engagement to inform the development of the LIS including:
 - i. Sector Challenge sessions – initial sessions with public and private sector representatives to test the existing evidence base
 - ii. Policy Prioritisation workshops – 5 sessions were held based around the foundations of productivity, and a session relating to Inclusive Growth. Discussion focused on key messages from the evidence gathering and emerging policy priorities
 - iii. Policy Choices – detailed discussions with key stakeholders (including Local Authorities and LEP members, sector leads, innovation leads and business representation groups).

Tees Valley Local Industrial Strategy

8. The draft Tees Valley LIS (Appendix 2) sets out an ambitious plan to transform the economic performance of the area. It builds on the distinctiveness of the local economy and responds to the opportunities and challenges that flow from this. It centres around our niche offer in relation to clean energy, low carbon and hydrogen.
9. Our platform for growth focuses on Tees Valley strengths and challenges in relation to the 'foundations of productivity' identified in the government's Industrial Strategy White Paper: ideas; people; business environment; infrastructure; and place. These are positioned alongside the role and economic contribution of our priority sectors for growth: Chemicals & Process; Advanced Manufacturing; Bioscience; Clean Energy, Low Carbon & Hydrogen; Digital; Culture & Tourism; Business & Professional Services; Logistics; and Construction.
10. Development of the LIS has identified an overarching ambition: *Tees Valley will be a global leader in clean energy, low carbon and hydrogen. The area will achieve a net zero carbon industrial cluster by 2040, providing good jobs with long term prospects that local people can access.* This sits at the heart of our framework for growth.

Platform for growth

11. Tees Valley is a £13.1bn economy, with £206m trade in goods surplus. Although the region is relatively small, we have economic assets of national significance: we are home to the UK's largest chemical complex, the UK's largest port for outward

tonnage and one of the UK's leading higher education institutions for working with business (Teesside University). We have globally recognised strengths in the process, chemicals and advanced manufacturing sectors. In many respects, the scale of our economic impact and influence is disproportionately large.

12. Our established industrial strengths are supported by:
 - i. Internationally excellent industrial research institutions
 - ii. A well-established geographically-concentrated and highly integrated industrial ecosystem
 - iii. South Tees Development Corporation area - one of the UK's greatest development opportunities
 - iv. A strong export-facing transport infrastructure, including the Port of Tees & Hartlepool; and Durham Tees Valley Airport.

13. Whilst the Tees Valley economy provides a strong platform for growth, a number of economic challenges exist. It is critical that these are addressed to realise our ambitions for success, and also to retain the competitiveness of our key sectors in the future.
 - i. Without solutions to decarbonise the high CO2 emitting industries (our globally significant sectors) they will not be able to remain competitive and be sustainable in the UK
 - ii. The Tees Valley business base is under developed relative to the size of the population and scale-up performance is weak
 - iii. Despite the presence of leading innovation and research organisations, and high levels of Innovate UK funding awards, levels of R&D activity among the local business base remains low
 - iv. Low levels of participation in the labour market and underperformance in relation to education and skills continue to impact on economic performance
 - v. External perceptions of the area are influenced by our industrial past, and do not reflect realities of life in many parts of Tees Valley.

Core proposition – delivering Clean Growth in Tees Valley, through clean energy, low carbon and hydrogen

14. A 'core proposition' focused on delivering Clean Growth and Industrial Decarbonisation has been developed to achieve our ambitions for the Tees Valley economy. This centres around our unique offer in relation to clean energy, low carbon and hydrogen. Our core proposition also responds to the government's aim to have one large UK industrial cluster fully decarbonised by 2040. Our ambitions are underpinned by a breadth and depth of assets in Tees Valley, which mean that the area is uniquely well-placed to pilot and demonstrate the benefits of clean growth on productivity and supply chain integration.

15. Our industrial legacy, infrastructure and geology means that the main sources of low or zero carbon energy available in the UK are already in use or can be deployed at scale in Tees Valley. A well-established, geographically concentrated and highly integrated cluster is also supported by the proximity to offshore wind; decommissioning growth potential; the opportunity to access to carbon capture and storage; hydrogen infrastructure and expertise; and innovation specialisms.

16. Successful implementation of our core proposition will provide a renewed platform for growth, driven by inward investment, reshoring and a vibrant business base. In

addition, our ambition provides an opportunity for Tees Valley to make a significant contribution to carbon emissions reductions at the national level. It is estimated that the areas has the potential to deliver reductions of 80MtCO₂ over the period to 2050.

Inclusive Growth

17. The successful implementation of our core proposition will be defined not just by increasing productivity, but by ensuring that the growth of our economy is inclusive. Delivering inclusive growth will mean providing more good quality jobs with long term prospects – jobs that local people can access. This is central to the overarching ambition for the area and will be underpinned by a series of interventions designed to create more good jobs and support more people to access good jobs.

Delivering the ambition

18. Interventions to deliver our ambition have been organised around five interlinked themes:
- i. Lead the way as an exemplar region for clean energy, low carbon and hydrogen
 - ii. Develop pioneering capabilities in industrial digitalisation and ensure implementation of digital applications at scale
 - iii. Leverage the full potential of our innovation ecosystem in support of building innovation capability, R&D capability, commercialisation business creation and growth
 - iv. Grow and widen the pipeline of talent to support our competitive advantages and help more people into jobs with good long-term prospects
 - v. Attract investment and establish a global reputation for Tees Valley as a vibrant and thriving place to be, with world leading opportunities in clean energy, low carbon and hydrogen.
19. Further detail on the interventions is set out below.

Lead the way as an exemplar region for industrial decarbonisation and clean growth

20. This theme focuses on developing the technology, infrastructure and supply chain linkages needed to maximise the impact of industrial decarbonisation within Tees Valley. It seeks to ensure that the regulatory framework is fit for purpose and to strengthen relationships and synergies with key national and international clusters. Priorities include:

Position Tees Valley as the UK's Hydrogen Capital

- i. Establishing a nationally recognised Research and Development Centre for Hydrogen in Tees Valley. This will build on the skills, infrastructure, and existing innovation infrastructure to develop, demonstrate, and deploy new hydrogen applications
- ii. Supporting partner bids and activity that could see the region play a critical role in delivering the first fleet of hydrogen-powered passenger trains and hydrogen fuelled vehicles

Establishing Tees Valley as the pioneer region for CCUS and clean growth technologies

- i. Working with government to pilot a CCUS financing mechanism and business models
- ii. Pursuing an ambition to be designated as the UK's first net-zero 2040 cluster
- iii. Seeking government support for the OGCI Clean Gas project to achieve financial close
- iv. Maximising the potential allocation of Industrial Energy Transformation Fund and Industrial Strategy Challenge Funding streams to support decarbonising clusters
- v. Developing skills and education provision for CCUS, hydrogen, and other clean technologies, and working with wind, biogas and nuclear sectors to develop local capability
- vi. Building on commitments set out in the Offshore Wind Sector Deal, supporting the further development of the existing cluster that exists in the area, with supply chain links extending into the wider North East region
- vii. Harness the strengths of our world leading chemical sector to build and enhance our role in the Electric Vehicle supply chain through the production of component parts for vehicle batteries
- viii. Prioritising Hartlepool Power Station as a preferred location for the development and deployment of new commercial scale nuclear technologies.
- ix. Hosting a series of Industrial (and Open to the World) Show Cases of the demo / pilots developed for CCUS and clean growth technologies in Tees Valley, to further cement our position as pioneer region for CCUS and clean growth technologies.

Working with government to establish the region as a Centre for Excellence in Decommissioning

Tees Valley's position as an exemplar region for industrial decarbonisation and clean growth will be cemented by a broader approach to develop the infrastructure and regulatory environment, and by undertaking place promotion to ensure the region's holistic offer presents a compelling and cohesive case to investors. Priorities include:

- i. Working with government to evolve the regulatory framework in support of standalone energy projects that can meet the needs of key industrial sectors such as chemical process and advanced manufacturing
- ii. Continuing to make the case to establish a Free Trade Zone
- iii. Working with DIT to develop an aligned and targeted approach to attract Foreign Direct Investment.

Develop pioneering capabilities in industrial digitalisation and ensure implementation of digital applications at scale

21. This theme is focused on creating the necessary conditions to accelerate the innovation and diffusion of Industrial Digitalisation technologies, including the development of test-bed projects and a co-ordinated package of advocacy, support, advice and funding. Activity will support achievement of our Clean Growth ambitions, whilst simultaneously supporting the growth and development of a thriving Digital sector in the region.

- i. We will develop a Made Smarter Pilot – supporting businesses to increase productivity through the adoption of 'Made Smarter' principles and

- technologies, as well as through the up-skilling and retraining of the workforce to operate in an Industry 4.0 enabled economy
- ii. We will develop proposals for a sectoral 5G Testbed and Trials Programme, with a focus on technology testing for businesses in priority industry sectors for the Tees Valley economy
 - iii. Future Mobility Zone – develop proposals for a new data driven approach which will utilise live data to develop new system approaches to manage traffic flows, enhancing regional connectivity and the role of the logistics sector in Tees Valley
 - iv. A confirmed a commitment to longer term support for the Growth Hub Programme. This will simplify the business support environment in Tees Valley and provide a targeted approach for businesses of different sizes, including a focus around digitalisation, building digital capacity and individual business productivity.

Leverage the full potential of our innovation ecosystem in support of building innovation capability, R&D capability, commercialisation, business creation and growth

22. This theme will ensure that Tees Valley accelerates growth and builds R&D capacity to deliver tangible economic and societal impacts. Interventions harness the potential of the region’s national innovation assets, alongside a local business base that demonstrates specialisms in Clean Growth, Industrial Digitalisation and Bioscience (including biologics and bio-processing).

Tees Valley Combined Authority will lead a cross-sector, whole system approach to R&D and innovation.

- i. An Industrial Collaboration Board will broker more effective partnership working between business, higher education and research institutes. The Board will have a remit to ensure that local strategy, programme and project development actively encourages and creates opportunities that stimulate R&D and innovation activity, and also that that more national innovation resource is directed towards opportunities in Tees Valley
- ii. A Collaborative Networks Programme will focus on supply chain support and programme consortia development - supporting groups of businesses and organisations to jointly deliver pilot / demonstration projects related to Industrial Digitalisation and Circular Economy solutions
- iii. A Memorandum of Understanding between the Combined Authority and UKRI will ensure that national innovation resources are aligned with programmes and opportunities in Tees Valley
- iv. The Combined Authority will commission bespoke research to better understand the successes, barriers and opportunities for firms innovating in Tees Valley, and particularly experiences in accessing innovation funding
- v. We will pursue the ambition for Teesside University to be recognised as a University Enterprise Zone – supporting sustainable business growth through innovation and scale-up activity
- vi. We will seek to increase post-study work visas for international students, helping to address short-term skills shortage vacancies in key sectors
- vii. Tees Valley, together with government will confirm a commitment to longer term support for the Growth Hub Programme, with activity focused around: start up support, growth and innovation, skills support and access to finance.

Grow and widen the pipeline of talent to support our competitive advantages and help more people into jobs with good long-term prospects

23. Develop an education and skills system for business growth

- i. Work with government to enhance the role of a Skills Advisory Panel in Tees Valley
- ii. Work with government to co-design and pilot technical education routeways from age 14, and an appropriate 'Transition Offer' for young people in Tees Valley not immediately able to progress to a T Level at age 16.

Overcome business workforce planning challenges in relation to current and future skills gaps and skills needs

- i. Produce Tees Valley Sector Skills Action Plans to include detailed analysis of the current and future skills needs for identified sectors
- ii. Build on the success of the devolved Adult Education Budget and the DWP Innovation Pilot, including ring fencing the overall size of the AEB budget at the level of the 2019/20 Academic Year budget or 2021/22 Academic Year budget, whichever is the greatest.
- iii. Develop and pilot a number of tailored Tees Valley retraining programmes, including comprehensive packages of personalised 'in-work' support
- iv. Any 'unutilised' apprenticeship levy in Tees Valley be devolved to the Combined Authority
- v. Work with Tees Valley employers and providers to consider the approach to the Industrial Placement requirements of T-Levels, creating practical and meaningful experiences in key sectors and providing opportunities that would not be available otherwise.

Careers education - Government to devolve the Tees Valley element of both the National Careers Service and Careers and Enterprise Company budgets to Tees Valley in order that we can develop an all-age place-based programme

Ensure access to learning and work through an effective and affordable transport system.

Attract investment and establish a global reputation for Tees Valley as a vibrant and thriving place to be, with world leading opportunities in clean energy, low carbon and hydrogen

24. This theme is fundamental to achieving our overall priorities set out in the LIS. It is focused on a set of interlinked priorities, based around enhancing the infrastructure, perceptions and working environment of Tees Valley as a place to locate, invest, learn, visit and grow. Interventions include:

- i. Maximising the potential of the STDC site, with a focus on clean energy, the circular economy and environmentally sustainable industrialisation. Alongside

- public sector commitments, a business plan will aim to secure substantial private sector investment
- ii. Continuing to make the case for establishing a test-bed for Free Trade Zone status at the South Tees Development Corporation site
 - iii. Working collaboratively with DIT to attract Inward Investment - developing and promoting global sales pitches in key sectors where the area has a globally competitive edge, and with a focus on Tees Valley as the UK's leading location for Clean Growth
 - iv. Implementing plans to increase the role and impact of Durham Tees Valley Airport
 - v. Pursuing a Future Mobility Zone, with a data driven approach to manage traffic flows, particularly freight consignments, and enhance regional connectivity
 - vi. Delivering priority transport schemes for the area, as set out in the Tees Valley Strategic Transport Plan and also identified as priorities by Transport for the North: Improvements at Darlington Station and Middlesbrough Station; a New Tees Crossing; Darlington Northern Link Road; and Northallerton to Teesport Rail Gauge Enhancement
 - vii. Ensuring that Tees Valley businesses in flood risk areas are protected, and that natural infrastructure defences are in place to maximise productivity potential – working with the Environment Agency, Northumbrian Water and Local Authorities in the North East to support a fully integrated approach to flood risk management
 - viii. Building capacity, ambition and creative talent through investment to promote a thriving cultural offer within Tees Valley that supports a highly productive economy and increases attractiveness for business. This includes co-investment with the Arts Council to maximise the potential of cultural development and cultural opportunity for all people in Tees Valley
 - ix. Establishing Tees Valley as an exemplar region for providing good employment with long term prospects and delivering Social Value in procurement.

NEXT STEPS

25. Subject to Cabinet agreement, the draft Tees Valley LIS will be formally submitted to government for further discussion leading to the publication of a co-produced strategy, potentially after the summer recess. It is anticipated that Tees Valley Combined Authority and government will publish a jointly agreed LIS after summer recess.

FINANCIAL IMPLICATIONS

26. There are no financial implications arising from this report. The LIS will provide a framework to mobilise and direct future funding streams at local and national levels, to deliver agreed priorities and commitments.

LEGAL IMPLICATIONS

27. There are no legal implications arising from this report. The draft LIS sets out the Combined Authority's framework to deliver an increase in productivity.

RISK ASSESSMENT

28. This LIS report is categorised as low to medium risk. Existing management systems and daily routine activities are sufficient to control and reduce risk.

CONSULTATION & COMMUNICATION

29. Extensive consultation has taken place to develop the draft LIS. Further detail is set out at section 7.

EQUALITY & DIVERSITY

30. A core focus of the LIS is to ensure that we deliver Inclusive Growth. This will ensure that all residents benefit from the opportunities for growth that are created as a result of proposals in this report.

LOCAL ENTERPRISE PARTNERSHIP

31. LEP members have played an integral role in developing the LIS. This has included a 'check and challenge' of the evidence base, as well as influencing and informing policy priorities.

Name of Contact Officer: Geraldine Brown
Post Title: Strategy Policy and Intelligence Manager
Telephone Number: 01642 524432
Email Address: geraldine.brown@teesvalley-ca.gov.uk

The background image shows several large offshore wind turbines in the sea. The sky is filled with soft, golden light from a low sun, creating a hazy, atmospheric effect. In the distance, the silhouette of an industrial facility, likely a steel mill, is visible against the horizon. The overall mood is one of clean energy and industrial progress.

**TEES VALLEY
LOCAL INDUSTRIAL
STRATEGY** JULY 2019
EVIDENCE BASE REPORT



TEES VALLEY
COMBINED
AUTHORITY

TEES VALLEY MAYOR

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Executive Summary



Overview of the Tees Valley Economy



Key Economic Headlines



£13.1bn

Gross Value Added generated (2017)



£206m

Trade in goods surplus (2017)



1st

Home to the UK's largest chemical complex



17.4m tonnes

Port of Tees and Hartlepool accounts for England's greatest volume of commodities transported by sea to other ports globally



27%

Growth of business base has exceeded UK average of 24% (2012-2018)

Key Opportunities



50%

Over 50% of UK's hydrogen is produced in Tees Valley



4,500 acres

The UK's largest single development site at South Tees Development Corporation



£40bn

Potential economic dividend from industrial decarbonisation (to 2050)



£1,020

Innovate UK funding per worker - four times the LEP network average (2019)



£45m

Committed funding for rail capacity improvements (Darlington and Middlesbrough)

Key Threats



68%

Low proportion of working age residents in employment (2018)



27%

Skills shortage vacancies are more prevalent than at the national level (2017)



9,500

Additional Tees Valley businesses required to close the 'enterprise gap' to the UK (2018)



1.4% p.a.

Low growth in scale-up businesses (2014-2017)



28%

Tees Valley has real strength in terms of innovation and research organisations attracting funding, but less than a third of projects were delivered in partnership with local businesses (2017/18)



192%

Tees Valley's CO₂ emissions per capita is almost double the national rate (2017)

1.0 Introduction

- 1.1 This report provides a summary of the evidence base, developed by the Tees Valley Combined Authority (TVCA), to inform the development of the area's Local Industrial Strategy (LIS). The report draws upon a range of primary and secondary research and data sources focused around the key foundations of productivity and their role in driving local economic growth.

Background

- 1.2 In November 2017, government published the *Industrial Strategy White Paper*, with the aim of transforming productivity at the national level. The Strategy identified five foundations of productivity as being the core, underlying fundamentals of improved productivity performance. In addition, Britain's ability to respond to key emerging societal/macro-economic headwinds (referred to as the four 'Grand Challenges') was also highlighted as being critical to the successful implementation of the Strategy.
- 1.3 The five foundations of productivity are outlined below:
- 1 **Ideas:** establishing the UK as the world's most innovative economy;
 - 2 **People:** supporting the availability of good jobs and greater earning power for all;
 - 3 **Infrastructure:** delivering a major upgrade to the UK's infrastructure;
 - 4 **Business Environment:** establishing the UK as the best place to start and grow a business; and
 - 5 **Places:** creating prosperous communities across the UK.
- 1.4 The four 'Grand Challenges' comprise:
- a **AI and Data Economy:** placing the UK at the forefront of the artificial intelligence and data revolution;
 - b **Future of Mobility:** establishing the UK as a world leader in the way people, goods and services move;
 - c **Clean Growth:** maximising the advantages for UK industry from the global shift to clean growth; and
 - d **Ageing Society:** harnessing the power of innovation to help meet the needs of an ageing society.
- 1.5 Guidance regarding the production of Local Industrial Strategies is set out in the *Local Industrial Strategies: Policy Prospectus*ⁱⁱ published by government. This is also supplemented by a *Local Industrial Strategy Evidence Pack* published by the Department for Business, Energy and Industrial Strategy (BEIS). The Evidence Pack advises on the key metrics/indicators that should be considered within a LIS, as well as available data sources.
- 1.6 Taken together, the Policy Prospectus and Evidence Pack point towards a requirement for Local Industrial Strategies to:

- Take a **long-term** view addressing issues related to local productivity, with a suggested time horizon to 2030;
- Set out locally distinctive strengths, weaknesses, opportunities and challenges, whilst **aligning with relevant Grand Challenges and foundations of productivity identified at the national level**; and
- Draw upon a **robust and transparent** evidence base, which provides a clear line of sight from existing opportunities/challenges to identified priorities.

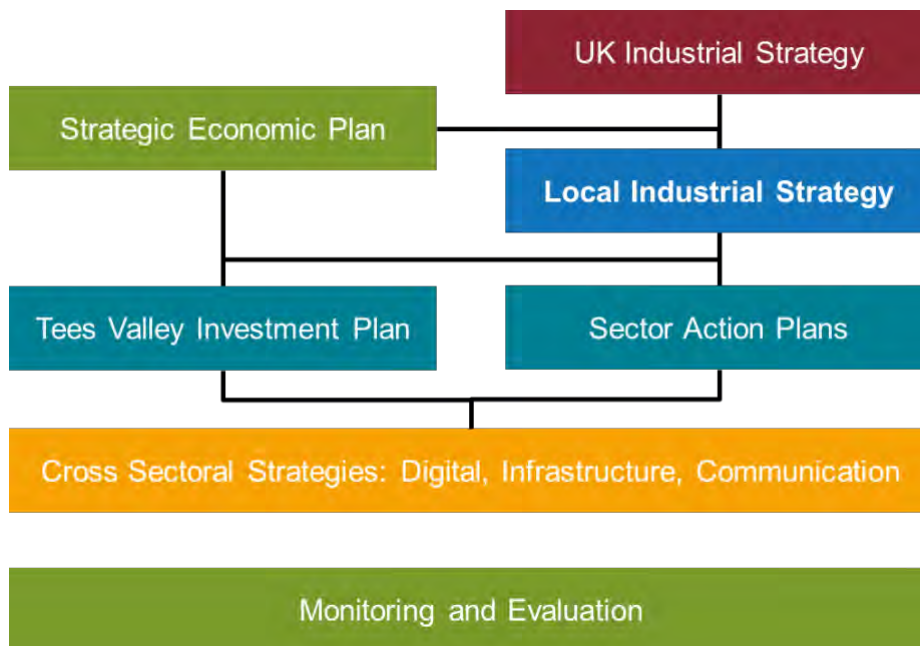
Purpose of the document

- 1.7 This report sets out the baseline position in Tees Valley. It provides an evidential platform, which has informed the development and prioritisation of a series of policy interventions in the Local Industrial Strategy.
- 1.8 The report has been co-developed with BEIS and represents an evidence base that reflects the information requirements and methodological approach set out in the *Local Industrial Strategies: Policy Prospectus* and *Local Industrial Strategy Evidence Pack*. It assesses the local distinctiveness of the Tees Valley economy, with a particular focus on the foundations of productivity.
- 1.9 In producing this report, TVCA has drawn upon an existing suite of evidence-based documents including:
- *The Tees Valley Economic Assessment* (2018);
 - *The Tees Valley Business Survey* (2018);
 - *The Tees Valley Higher Education* report (2019);
 - *The Tees Valley Job Vacancies* report (2019);
 - Productivity Papers and Sector Action Plans produced by TVCA in relation to a number of Tees Valley's key sectors;
 - *Tees Valley Combined Authority: Low carbon industrial cluster sector research*, KPMG (2018);
 - *A proposal for a national Free Zone policy*, Tees Valley Mayor (2019);
 - *Tees Valley Combined Authority: Specialist data requirements to inform the Local Industrial Strategy*, Durham University Business School (2019);
 - *Tees Valley Combined Authority Culture and Visitor Sector Analysis and Baseline Insights*, Amion Consulting (2019)
 - *Opportunities for the Tees Valley Bioscience Sector*, Teesside University (2019);
 - *Research into the Digital Sector in Tees Valley*, Geek Talent and DMS (2019);
 - *Northern Powerhouse: Chemical and Process Sector Science and Innovation Audit*, HM Government (2018); and
 - *Tees Valley: Opportunity Unlimited*, The Rt Hon the Lord Heseltine of Thenford CH (2016).

Relationship with existing policy and strategy documents

- 1.10 The evidence base for the LIS complements the wider suite of economic policy and strategy documents in Tees Valley. It works with the grain of these, with a particular emphasis on considering economic growth through the lens of productivity improvements.
- 1.11 The overall hierarchy of policy/strategy documents, and the relative positioning of the LIS within this context, is summarised in Figure 1.1.

FIGURE 1.1 WIDER TEES VALLEY POLICY/STRATEGY ARCHITECTURE



Structure of the document

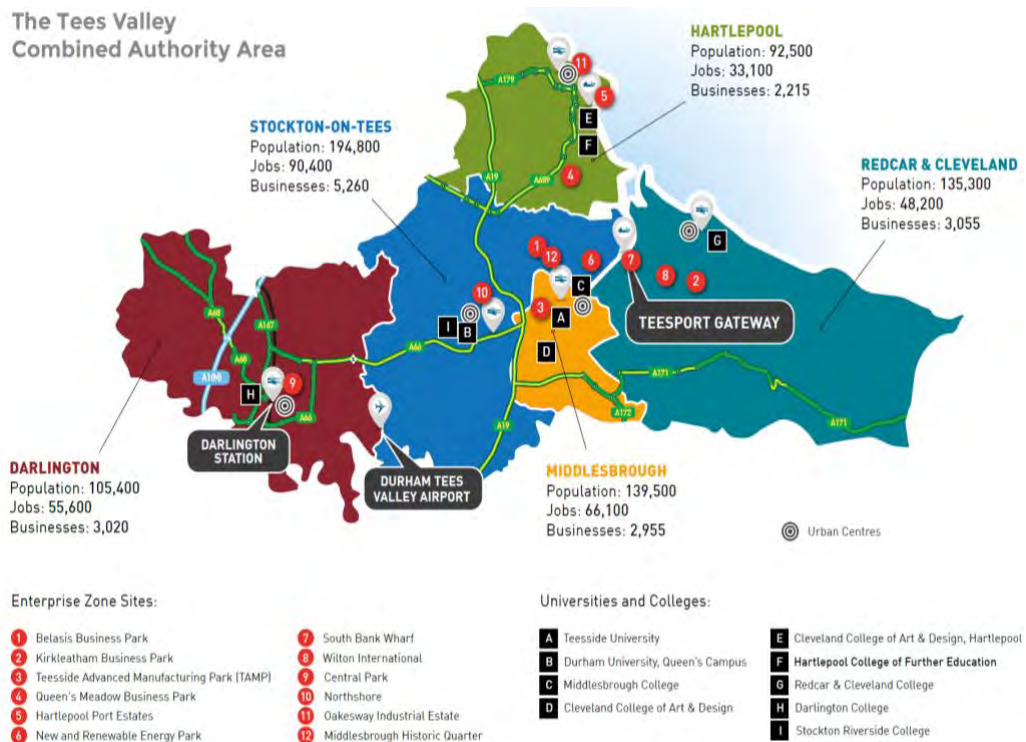
- 1.12 The report is structured as follows:
- **Section 2.0** provides an overview of the current position of Tees Valley and the particular productivity challenges facing the area;
 - **Section 3.0** focuses on Ideas and the performance of Tees Valley with respect to issues related to innovation and research and development;
 - **Section 4.0** considers the performance of Tees Valley with respect to People, with an emphasis on issues related to employment, education and skills;
 - **Section 5.0** outlines the local position in relation to Business Environment, including an assessment of the relative importance of TVCA's key priority sectors;
 - **Section 6.0** focuses on Infrastructure and the provision of transport and digital infrastructure;

- **Section 7.0** assesses the performance of Tees Valley in relation to Place. This includes a consideration of labour and housing markets and the existing commercial property, retail, culture and leisure offer of the area; and
- **Section 8.0** presents some of the key policy choices facing Tees Valley that must be taken into account in developing the LIS.

2.0 Current Position of Tees Valley

- 2.1 Tees Valley is a polycentric City Region covering an area of almost 80,000 hectares and with a population of approximately 670,000 people. It comprises of five local authorities (Darlington, Hartlepool, Middlesbrough, Redcar and Cleveland and Stockton-on-Tees) with major employment and economic centres located in each. With 90% of the population living in urban areas, Tees Valley is highly urbanised.

FIGURE 2.1 TVCA GEOGRAPHICAL CONTEXT



Source: Tees Valley Strategic Economic Plan 2016-2026ⁱⁱⁱ

Economic output and productivity

Economic output

- 2.2 The latest data published by the Office for National Statistics (ONS) indicates that the aggregate economic output of Tees Valley (measured on the basis of Gross Value Added (GVA)) stood at £13.1bn in 2017. This corresponds to 0.8% of England's total and 0.7% of the UK's.

- 2.3 An analysis of real terms GVA performance (i.e. adjusted for inflation) shows that local growth has lagged national trends for more than 10 years. It can be seen from Figure 2.2 that real terms GVA at the Tees Valley level has remained largely stagnant since 2004/05, despite growing at a faster rate than the UK economy from the late 1990's to the mid 2000's.

FIGURE 2.2 REAL TERMS GVA INDEX, TEES VALLEY AND UK (1998 = 1)

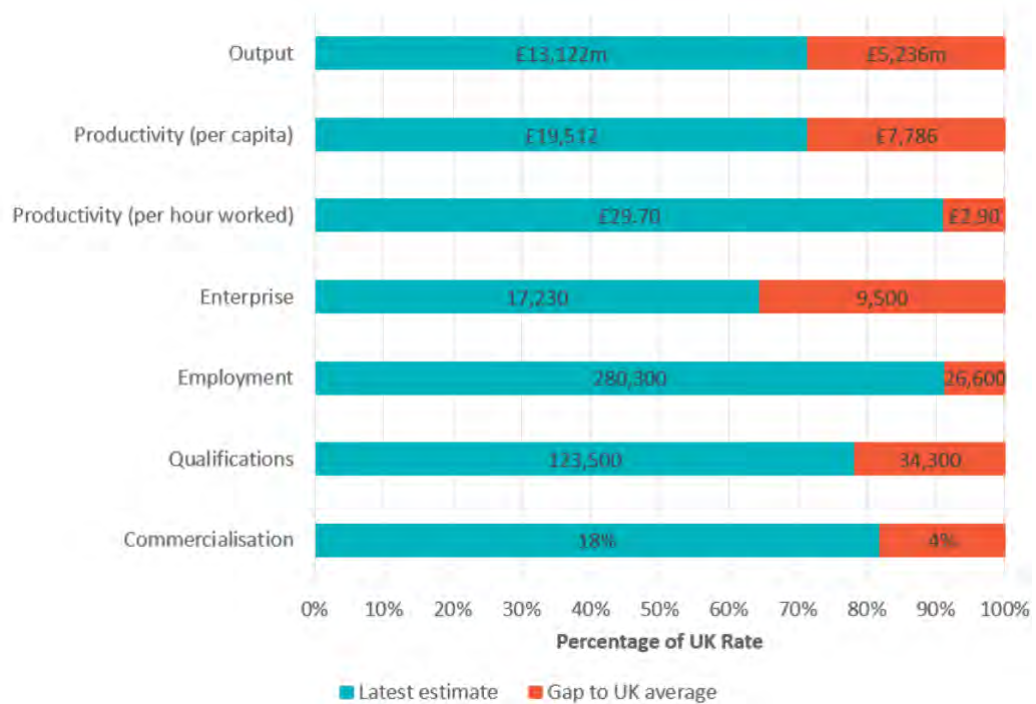


Source: ONS/TVCA analysis

Productivity performance

- 2.4 For the purposes of the LIS, it is important to understand the performance of productivity, rather than economic output. A basic measure of productivity can be derived by dividing economic output (GVA) by the population of an area.
- 2.5 Within Tees Valley, GVA per capita was estimated to stand at approximately £19,500 in 2017. This corresponds to approximately 71.5% of the UK rate and has declined from 79.9% of the UK rate in 2009. The latest data translates to an output gap in Tees Valley equivalent to £5.2bn. Expressed another way, the area would need to generate an additional £5.2bn of economic output per annum to match UK performance with respect to GVA per capita.
- 2.6 The above measure of productivity does not take account of commuting patterns. In addition, by including all of the resident population, it does not allow for differences in unemployment, economic activity etc. between areas.
- 2.7 In reality, the productivity performance of a locality is more nuanced, with a variety of factors interacting to influence the overall picture. The productivity scorecard presented at Figure 2.3 benchmarks Tees Valley performance against that of the UK with respect to some of the key determinants.

FIGURE 2.3 TEES VALLEY PRODUCTIVITY SCORECARD



Source: TVCA analysis

- 2.8 The figure shows that Tees Valley performance lags the UK average against each of the metrics considered, although the scale of underperformance is not uniform.
- 2.9 Those metrics where the gap between the performance of Tees Valley and the UK average is greatest are arguably those which currently make the largest contribution to the productivity gap. It can be seen from the chart that key components of the productivity gap include:
- **Low rates of enterprise:** there are 17,230 businesses registered within Tees Valley. When benchmarked against the resident working age population, this stands at 64.5% of the UK average. It is clear, therefore, that the local business base is under-developed relative to the national position, which has implications in relation to the overall availability of employment opportunities – particularly in the private sector;
 - **Skills deficit:** there is a clear and well-established correlation between the skills of the workforce and the overall productivity of a locality^{iv}. Within Tees Valley there are 123,500 residents qualified to NVQ Level 4 and above, which represents 30.0% of the working age population. The corresponding figure at the national level is 38.6%. In addition to a 22% gap to national performance in terms of high-level skills (shown in Figure 2.3), Tees Valley also lags the UK with respect to low level skills. 12.0% of the area's working age residents have no formal qualifications, in comparison with 7.7% across the UK; and
 - **Low levels of commercialisation:** the proportion of Tees Valley businesses introducing either new or significantly improved products or services (a proxy

measure of innovation) in recent years is estimated to stand at 18%. This represents 81.8% of the national average.

- 2.10 Additionally, it can be seen from Figure 2.3 that whilst productivity per capita stands at 71.5% of the national average, the gap in relation to productivity per hour worked is much smaller. Productivity per hour worked in Tees Valley, at £29.70 corresponds to 91.1% of the UK average. The difference between the two measures (which both take the overall economic output of Tees Valley as their starting point) demonstrates that issues related to labour market participation, unemployment and the demographic profile of Tees Valley are also undermining local productivity performance. Analysis of changes in the productivity gap over time, presented within the *Tees Valley Economic Assessment* concludes that the recent poor performance of the local economy is largely attributable to labour market issues:

“Underlying Tees Valley productivity in terms of both GVA per hour worked and GVA per job are broadly unchanged in relation to the UK over the past decade so while these underlying structural challenges remain, it is the relative deterioration in the local labour market that has been the main factor constraining the Tees Valley economy in recent years. Issues negatively affecting the Tees Valley labour market include...persistently high rates of economic inactivity, poor health and well-being, benefit dependency and a shrinking workforce combined with a rapidly ageing population and a relatively high old age dependency ratio.”

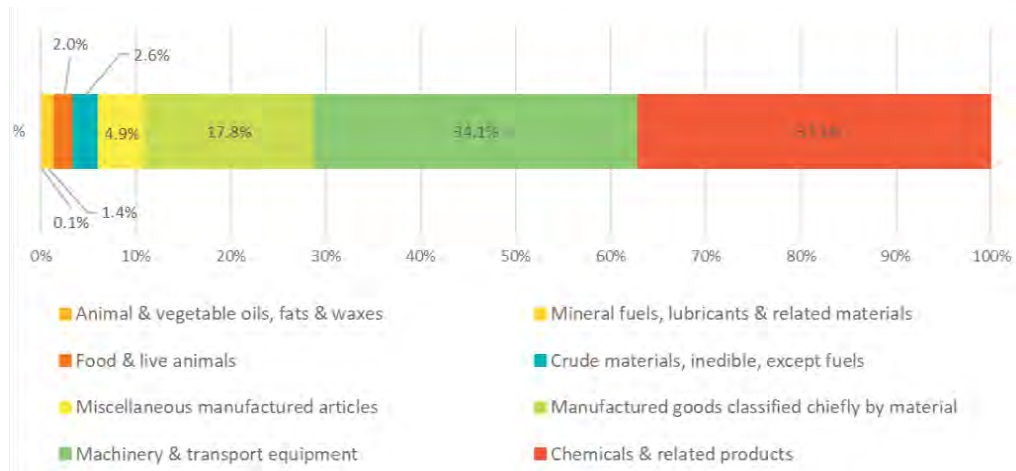
Structural characteristics

- 2.11 The scorecard presented at Figure 2.3 summarises the current performance and relative positioning of Tees Valley with respect to productivity and some of its key underlying determinants. Whilst this represents a point in time, it is important to acknowledge that, in many respects, it reflects a number of distinctive and longstanding structural characteristics of the area. Further details relating to the structural characteristics of the Tees valley economy are set out below.

Export

Tees Valley has a rich exporting heritage and is one of the few areas of the UK which continues to run a trade in goods surplus. Goods exports from the area correspond to 24% of Tees Valley GVA – significantly higher than the equivalent figures for the North of England (17%) and the UK (18%) – underpinned by strengths in chemicals and manufacturing.

FIGURE 2.4 TEES VALLEY AND COUNTY DURHAM GOODS EXPORTS BY SECTOR, % OF TOTAL



Source: HMRC Regional Trade Statistics

Entrepreneurial Activity

Tees Valley's traditional sector strengths created a reliance upon a small number of large employers. This has historically dampened down entrepreneurial activity⁴, resulting in an under-developed business base, although this is beginning to change with strong recent start-up performance.

FIGURE 2.5 BUSINESS BIRTH AND DEATH RATES (2012-17)

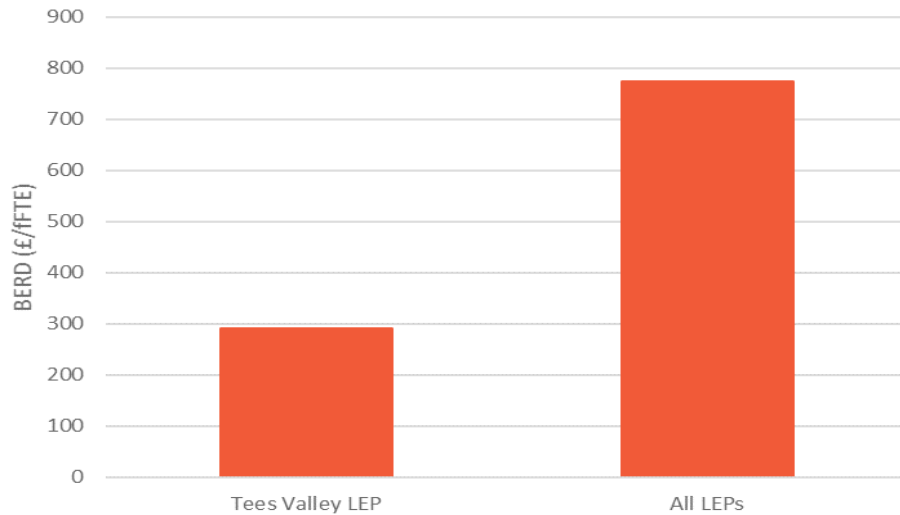


Source: ONS Business Demography

Research & Development

The local economy has traditionally been characterised by a number of large, foreign-owned, branch plant operations in key sectors^{vi}. This has impacted on levels of private sector R&D activity.

FIGURE 2.6 BUSINESS EXPENDITURE ON R&D

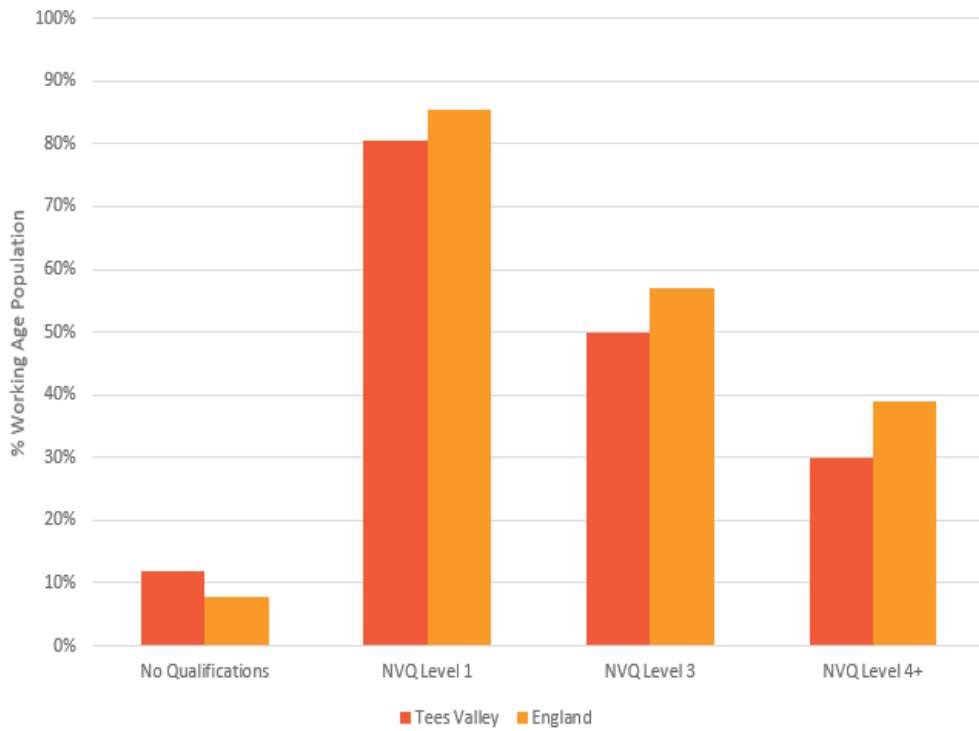


Source: Smart Specialisation Hub

Education and Skills

Underperformance in relation to education and skills has constrained the economic potential of the area. *Tees Valley: Opportunity Unlimited*^{vii} recognised that “*problems with education and skills are really the thorn in Tees Valley’s side.*” Interventions are in place to address this, through the devolution of the Adult Education Budget and the launch of a new Education, Employability and Skills Strategy, but the impacts will not be felt in the immediate term.

FIGURE 2.7 TEES VALLEY QUALIFICATIONS DATA



Source: ONS Annual Population Survey (NB: data is not intended to sum to 100%)

Labour market participation

Low levels of participation in the labour market (including economic activity, unemployment and youth unemployment) amongst the resident population have also impacted upon productivity performance.

TABLE 2.1 PERFORMANCE AGAINST KEY DEMOGRAPHIC/LABOUR MARKET INDICATORS

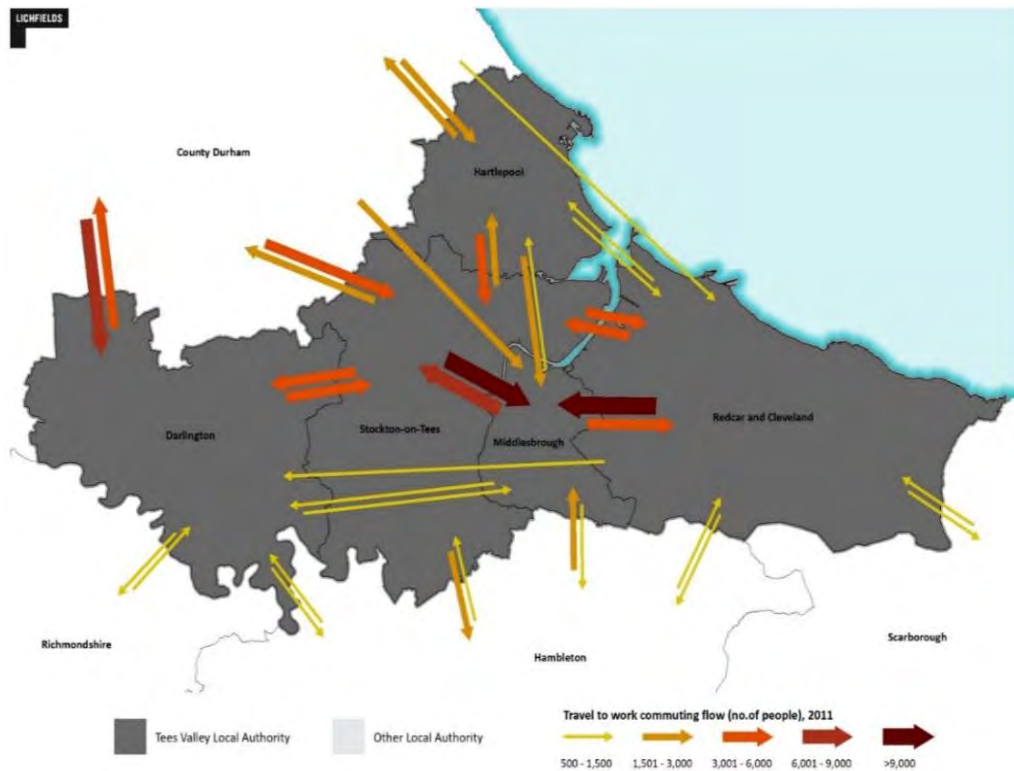
	Tees Valley	England
Working Age Population (16-64)	61.8%	62.8%
Economic Activity Rate	73.0%	79.0%
Employment Rate	68.4%	75.2%
NEETs	3.8%	2.7%

Source: ONS/Tees Valley Economic Assessment

Self-containment

A polycentric settlement pattern and high levels of self-containment (87% of Tees Valley residents work in the area) highlight the importance of effective internal transport infrastructure in order to connect the population with learning, employment and leisure opportunities.

FIGURE 2.8 TRAVEL TO WORK COMMUTING FLOWS, 2011



Source: ONS

Key Sectors

Key sectors such as manufacturing and the chemicals and process industries have a strong heritage of adapting to shifts in demand and global competition^{viii}. This ability to adapt will be critical in future, as Tees Valley looks to build upon new sector strengths whilst maintaining its position as a global leader in energy intensive industries against a backdrop of: heightened international competition; high UK energy costs; and the climate change agenda.

Current sector strengths

2.12

The Tees Valley economy has well established strengths in the globally competitive Chemical & Process and Advanced Manufacturing sectors. In addition, the area has existing and developing strengths across the Clean Energy, Low Carbon & Hydrogen, Digital and Bioscience sectors. All of these sectors are underpinned by strong support sectors such as Logistics, Construction and Business & Professional Services. These priority sectors are supported by a number of key assets in the region, including:

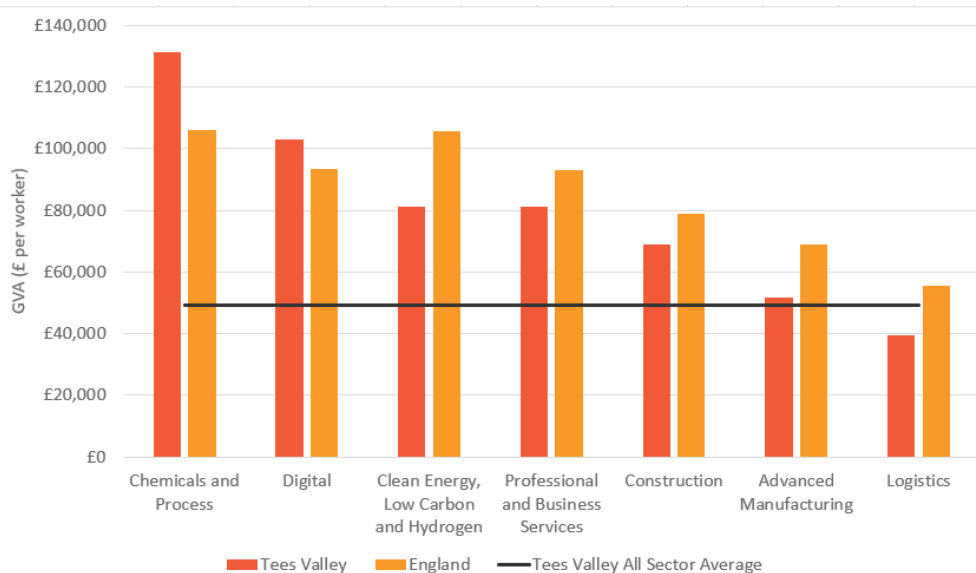
- Cost effective sites and premises, with significant opportunities for development at the 4,500 acre South Tees Development Corporation (Development Corporation) site, and further potential at the region's seven Enterprise Zones;

- Teesside University – described as one of the UK’s leading higher education institutions for working with business^{ix};
- National centres of excellence including the Materials Processing Institute, Centre for Process Innovation and National Horizons Centre (specialising in training for UK bioscience);
- A major East Coast rail hub at Darlington providing fast north-south connections across the country; and
- Port of Tees and Hartlepool – accounts for England’s greatest volume of commodities transported to other ports globally^x, providing a critical gateway to world markets for the Tees Valley industrial platform.

2.13 In understanding how to deliver improved productivity outcomes within Tees Valley moving forwards, it is helpful to identify the current productivity of individual sectors. This is presented in Figure 2.9. The analysis focuses on a series of key priority sectors that were identified by TVCA in the *Strategic Economic Plan*.

2.14 Figure 2.9 highlights that the following sectors are more productive than the Tees Valley economy as a whole: chemicals and process; digital; clean energy, low carbon and hydrogen; construction; and advanced manufacturing. Of these sectors, two – chemicals and process and digital – are more productive locally than at the national level.

FIGURE 2.9 TEES VALLEY PRODUCTIVITY BY SECTOR

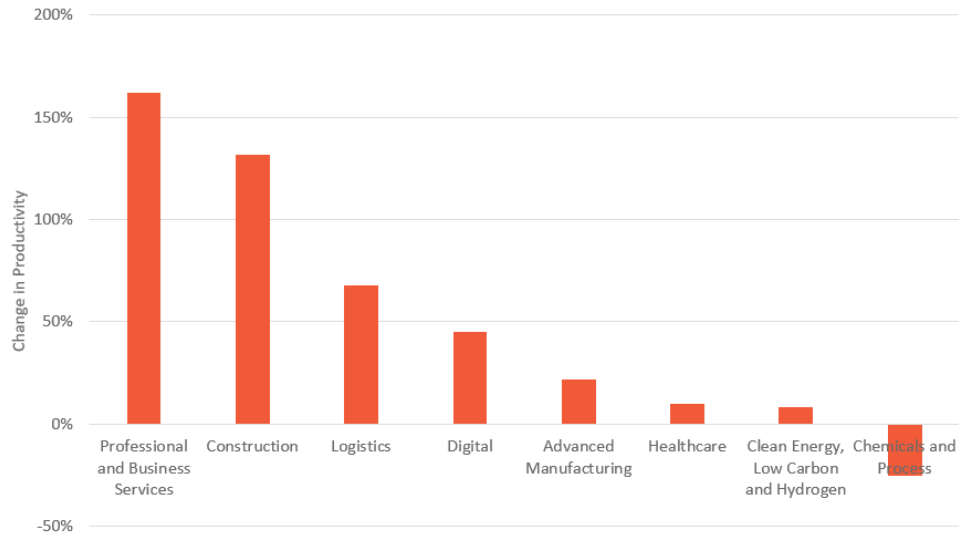


Source: ONS and EMSI (BRES)

2.15 The LIS is intended to set out a road map for productivity growth to 2030. During this period, significant technical, economic and societal changes can be anticipated. As a result, existing sectors will evolve and new sectors may emerge, with the potential to significantly improve Tees Valley’s economic performance in productivity terms. This is particularly relevant for Tees Valley in relation to clean energy, low carbon and hydrogen.

2.16 Figure 2.10 provides a summary of productivity growth by sector in recent years. This highlights that the greatest productivity gains have been observed in relation to: professional and business services; construction; and logistics. Whilst Chemicals and Process productivity declined somewhat between 2010 and 2016, the rate of decrease was lower in Tees Valley than in both the North of England and Great Britain.

FIGURE 2.10 CHANGE IN PRODUCTIVITY BY SECTOR (2010-16)

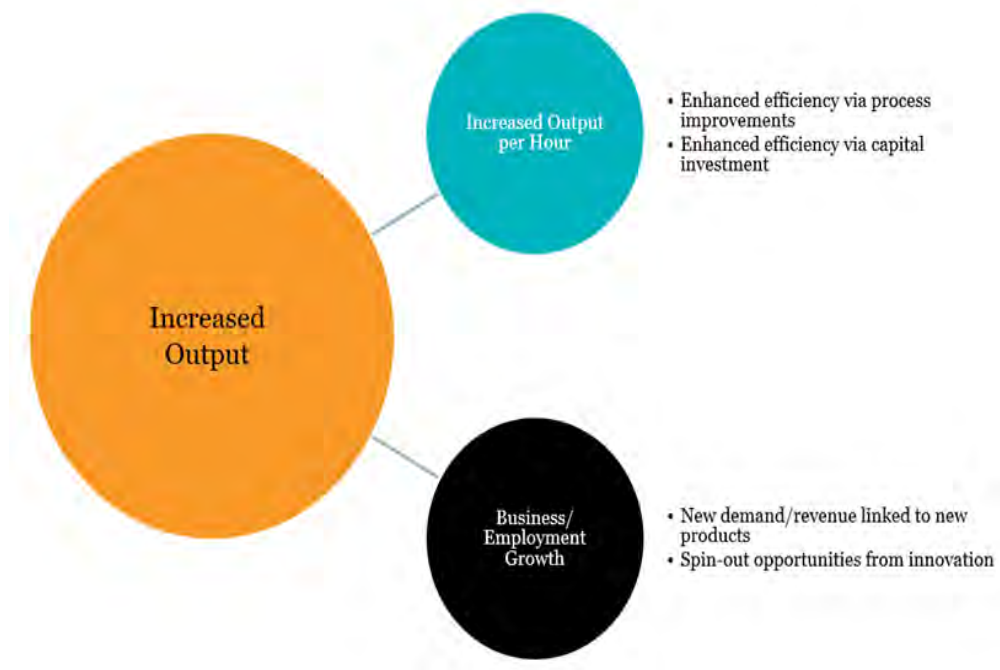


Source: Durham University

3.0 Ideas

- 3.1 Research and Development (R&D) and innovation play a critical role in productive economies^{xi}. Innovation offers the potential to commercialise ideas to develop products or services which can: make production more efficient through process improvements/investment in new plant; and create new market opportunities which stimulate business and employment growth.
- 3.2 Figure 3.1 provides a summary of the mechanisms through which innovation activity drives increased economic output.

FIGURE 3.1 DELIVERING INCREASED OUTPUT THROUGH R&D AND INNOVATION



Tees Valley 'Ideas' Scorecard

- 3.3 The scorecard at Figure 3.2 provides a summary of Tees Valley's performance relative to that of other English Local Enterprise Partnerships (LEPs). From the analysis, it can be seen that the area performs strongly against a number of key innovation metrics:
- Innovate UK funding awarded to projects in Tees Valley (2007 to date) corresponds to £1,020 for every job in the area^{xii} – driven by the presence of key innovation assets such as the Centre for Process Innovation and the Materials Processing Institute. The level of Innovate UK funding per job recorded within Tees Valley is more than four times the LEP network average of £252 per job, with the area ranked third nationally – behind Oxfordshire LEP (£1,045) and Coventry and Warwickshire LEP (£1,025);
 - Graduate start-ups in Tees Valley are high – reflecting Teesside University's strong commitment to enterprise. 2015/16 data identified 163 active start-up enterprises (that had survived for 3 years) founded by graduates who studied

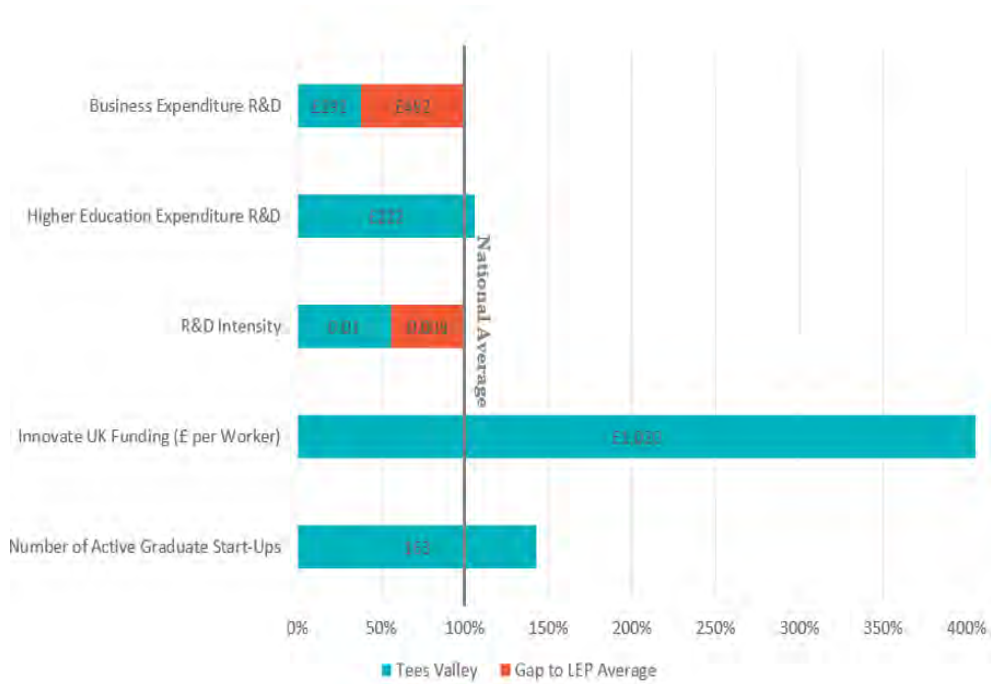
in Tees Valley^{xiii}. This exceeds the LEP network average of 114 by more than 40%; and

- Higher Education Expenditure on Research and Development (HERD) in the area corresponds to £222 per Full-Time Equivalent (FTE) job. This is 6% higher than the LEP network average^{xiv}.

3.4 However, the data also highlights that Tees Valley lags the LEP network average in relation to business-led innovation activity:

- Business Expenditure on Research and Development (BERD) in the area translates to £292 for every FTE job. This is approximately 40% of the LEP network average of £774^{xv}; and
- The R&D intensity of the local business base – the ratio of R&D stocks to sales – is in the order of 55% of the LEP network average^{xvi}.

FIGURE 3.2 'IDEAS' PRODUCTIVITY SCORECARD



Innovation Landscape

BERD and R&D Intensity

3.5 As outlined above, business-led innovation within Tees Valley is low, with BERD standing at 40% of the LEP network average and the R&D intensity of the local business base approximately 55% of the LEP average.

3.6 Table 3.1 provides a summary of the R&D intensity of Tees Valley's priority sectors, as well as change over time. Data for some sectors has been excluded due to issues relating to sample size and data reliability.

3.7 The table shows that R&D intensity in the area is highest in the advanced manufacturing, chemicals and process and digital sectors. Examining the

intensity of each sector relative to that of the wider LEP network, the business and professional services sector stands as Tees Valley’s strongest performer with a ranking of 18 – making it the only sector positioned within the top half of LEPs nationally. This clearly highlights that issues related to low levels of business-led innovation affect all sectors of the local economy for which data is available.

TABLE 3.1 R&D INTENSITY BY SECTOR

Sector	R&D Intensity ^{xvii}	LEP Network R&D Intensity Ranking	Change in R&D Intensity (2010-16)
Advanced Manufacturing	0.050	28 th	-17.0%
Chemicals and Process	0.005	33 rd	-42.0%
Digital	0.005	38 th	144.9%
Business and Professional Services	0.004	18 th	70.7%
Logistics	0.000	37 th	11.5%
Construction	0.000	35 th	10.3%

Source: Durham University by Sector

- 3.8 The R&D intensity of the digital sector increased faster in Tees Valley than in any other LEP over the period 2010 to 2016, with the D2N2 LEP ranked second with growth of 99.4%. This suggests a significant shift towards more innovation focussed, value added activity locally – albeit from a low base – which will need to continue in order to support the growth of this emerging sector.
- 3.9 In contrast, the R&D intensity within two of area’s established sector strengths – advanced manufacturing and chemicals and process – contracted over the same period. Business investment in R&D has been modest in Tees Valley for both sectors in recent years. In part this reflects:
- The ‘branch plant’ dynamic of the area’s economy (the Northern Powerhouse Chemical and Process Sector Science and Innovation Audit highlighted that large companies in the industry are “*mostly ‘branch plants’ of international concerns with overseas headquarter and research functions*”);
 - This can result in a locational disconnect between R&D and production facilities within the chemicals and process sector (the Northern Powerhouse Chemical and Process Sector Science and Innovation Audit states that “*analysis of Business R&D spend within the sector has shown that there is evidence of disconnect between where the products are manufactured within the SIA area and company research, where a significant proportion is outside of the NPH*”); and
 - Low levels of R&D investment amongst mid-tier, domestically owned companies, as well as a need to address the absorptive incapacity of micro and small enterprises in the chemicals and process sector – particularly in plastics, polymers and materials^{xviii}.

- 3.10 Despite the decline seen in R&D in advanced manufacturing and chemical process, it is important to recognise that Tees Valley has a number of innovation strengths focussed specifically on these sectors – reflecting the area’s industrial heritage. Looking to the future, Tees Valley should look at how best to leverage these strengths in order to encourage greater levels of business innovation locally. This will help to maintain competitive advantage and support higher levels of added value in these sectors, whilst also helping to better embed firms within the local area.

Centre for Process Innovation (CPI)

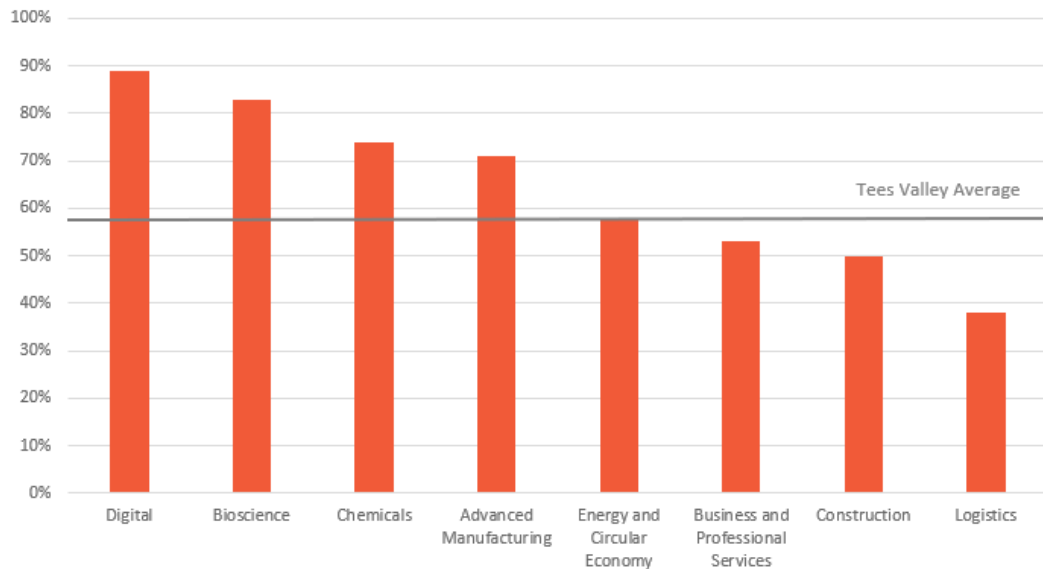
CPI is an internationally significant open access technology centre with facilities in Redcar and Darlington. Established in 2003, CPI was awarded ‘Catapult’ status as part of the High Value Manufacturing (HVM) Catapult programme launched in 2011, reflecting the quality of its support and outputs. It was created to stimulate and drive innovation across a number of sectors including healthcare, electronics, energy, aerospace and chemical processing. It assists companies to develop, prove, prototype and commercialise next generation products and processes.



Sectoral Variation

- 3.11 The Tees Valley Business Survey (2018) found that 58% of respondent businesses had undertaken some form of innovation activity in the previous 12 months. Figure 3.3 provides a summary of responses disaggregated by sector^{xix}. This would appear to suggest that business engagement in innovation within the local economy is particularly strong amongst digital businesses (89%) as well as the health and bioscience (83%), chemicals and process (74%) and advanced manufacturing (71%) sectors.
- 3.12 Taken together with the evidence presented in Table 3.1, this suggests that innovation amongst the local business community is being driven by the established sector strengths of advanced manufacturing and chemicals, as well as the emerging sector strengths of digital and bioscience. This would appear to align well with core areas of focus of Tees Valley’s innovation ecosystem (discussed below).

FIGURE 3.3 PROPORTION OF FIRMS UNDERTAKING INNOVATION ACTIVITY IN THE LAST 12 MONTHS



Source: TVCA Business Survey 2018

HERD and Graduate Start-Ups

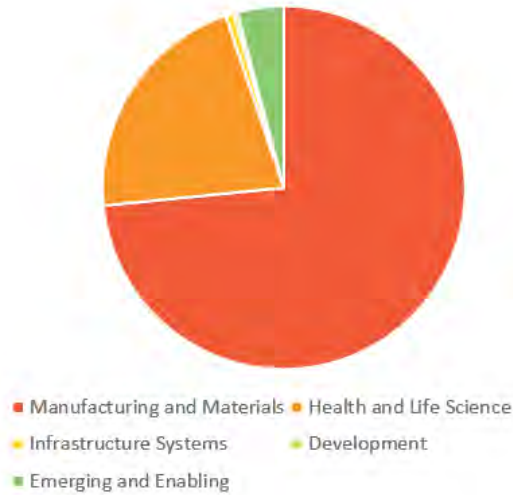
- 3.13 The Higher Education sector plays an important role in helping to facilitate R&D and innovation activity within the local economy. HERD – providing a broad measure of innovative research activity led by universities – estimated to be in the order of £222 per FTE job in Tees Valley. This is 6% higher than the LEP network average.
- 3.14 In addition, graduate start-ups – typically a result of graduates linking university research specialisms or innovation with a potential business opportunity – are strong in Tees Valley. Data for 2015/16 data suggests that there were 163 active start-up enterprises founded by graduates who studied in Tees Valley^{xx}. This exceeds the LEP network average of 114 by more than 40%. 2017/18 data from the Higher Education Business and Community Interaction Survey indicates that Teesside University ranks as follows in relation to graduate start-ups:
- 11th (out of 164 Higher Education Institutes) for turnover;
 - 9th (out of 164) for investment; and
 - 19th (out of 164) for employment.
- 3.15 Teesside University also performs well in relation to the survival of graduate start-ups, ranking 11th out of 164 Higher Education Institutes for the percentage of start-ups achieving 3 year survival (in 2017/18).
- 3.16 This success is underpinned by Teesside University's approach to start-ups. Nurturing and supporting graduate start-ups has been a key part of the organisation's mission for more than 15 years and a strong focus is placed on supporting graduate-level companies with high value potential and on developing sustainable businesses. There are two key programmes of activity, which both benefit from strong private sector input:

- Launchpad: provides a vibrant campus environment for pre-starts and new companies. Alongside incubation units and creative spaces to start-up, experiment and collaborate, it offers: an inclusive community of entrepreneurs; mentoring, coaching and workshops from partners; grant funding and access to finance; and
- DigitalCity: has worked to develop a strong digital cluster in Tees Valley and puts specific focus on supporting digital start-ups through a longstanding Fellowship programme providing participants with technical and business mentoring as graduates develop their tech business ideas and launch their companies. DigitalCity companies also have the option of taking incubation space in Launchpad.

Innovate UK Data

- 3.17 Data obtained in March 2019 indicates that Innovate UK has supported 293 projects in Tees Valley, through funding awards totalling £299m. Benchmarking this against total jobs^{xxi} this translates to funding equivalent to £1,020 per worker. This is more than four times the national average and results in the area being ranked third nationally in relation to Innovate UK funding relative to the size of the workforce, behind Oxfordshire LEP (£1,045) and Coventry and Warwickshire LEP (£1,025).
- 3.18 More than 95% of the Innovate UK funding awarded to Tees Valley relates to projects undertaken by the Centre for Process Innovation, the Materials Processing Institute and Teesside University. This demonstrates the critically important role played by the wider innovation asset base in driving R&D activity – particularly in the context of the relatively weak performance of the local business base.
- 3.19 Figure 3.4 below provides a breakdown of Innovate UK funding in Tees Valley across the five main strands of activity. This clearly identifies the strength of the area's innovation ecosystem in relation to:
- Manufacturing and Materials, which accounts for 73% of funding; and
 - Health and Life Sciences (including biosciences), which accounts for 21% of funding.

FIGURE 3.4 INNOVATE UK FUNDING IN TEES VALLEY (BY CORE ACTIVITY)

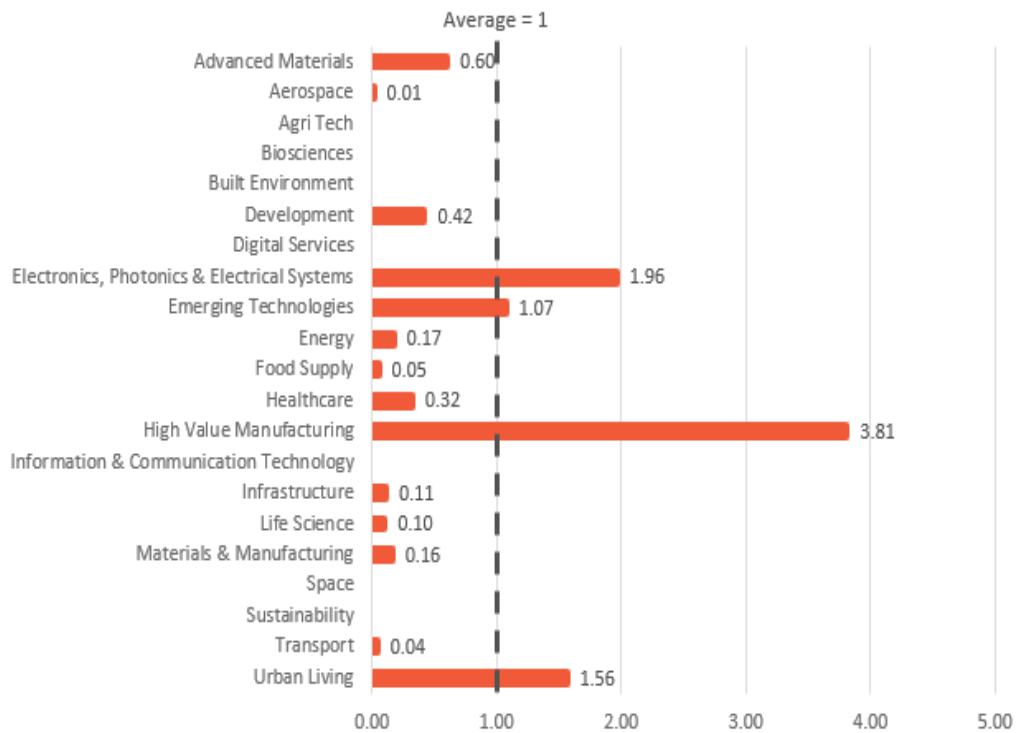


Source: Innovate UK

3.20

An analysis of Innovate UK grants awarded within Tees Valley, disaggregated by sector, published by the Smart Specialisation Hub provides a more granular understanding of the relative strengths of the area from an R&D and innovation perspective. For each sector, funding awards are indexed against the LEP network average (shown as a value of 1.0). The data, which covers the period March 2014 to March 2018, demonstrates high levels of activity with respect to advanced manufacturing and materials – most notably: High Value Manufacturing (3.81 times the LEP average); Electronics, Photonics and Electrical Systems (1.96 times the LEP average); and Emerging Technologies (1.07 times the LEP average).

FIGURE 3.5 GRANTS OFFERED BY INNOVATE UK (AS OF MARCH 2018)



Source: Smart Specialisation Hub: Tees Valley LEP Profile

3.21

Interestingly, Figure 3.5 indicates that the level of Innovate UK funding directed towards health and life sciences projects in Tees Valley is low within the national context, despite the sector accounting for more than 20% of all funding awarded locally. It is important to note, however, that the innovation infrastructure serving the bioscience sector in Tees Valley has benefitted from significant recent investment. As such, focussing on past trends in isolation risks understating the scale of opportunity in the area moving forwards.

Bioscience

Tees Valley is home to the UK's National Biologics Manufacturing Centre (NBMC), combining state of the art facilities and technical expertise to support the growth and development of the bioscience industry and supply chain. It is also home to the National Horizons Centre (NHC). Opened in May 2019, the centre will provide specialist education, training and professional development for the current and future workforce.

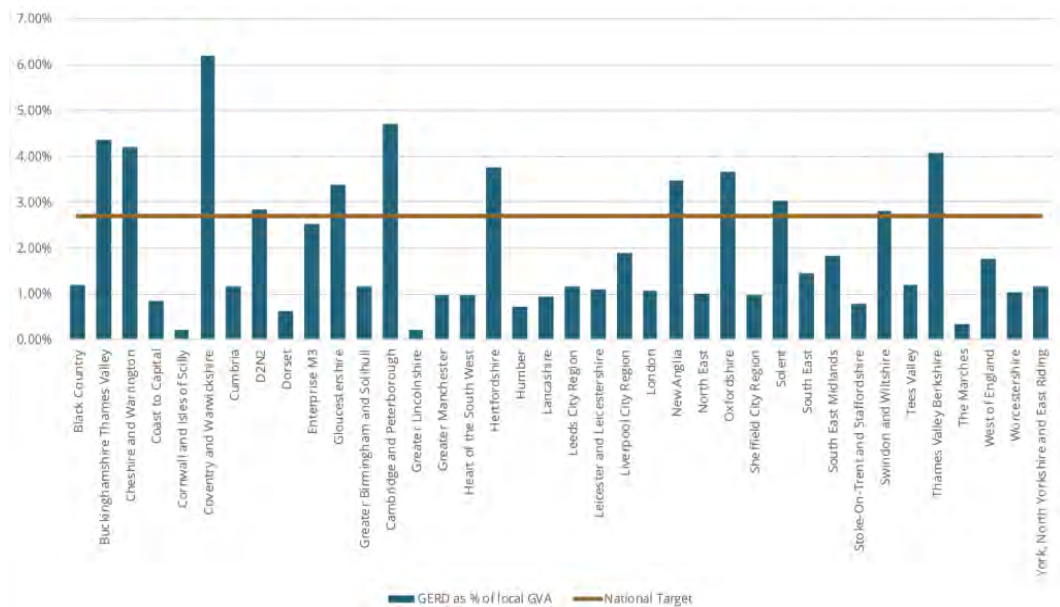


It will also provide industry focused innovation and research to bioscience businesses with the aim of developing an internationally competitive R&D capability. NBMC and NHC are both located at Central Park, Darlington, and are pitched at distinct but complementary technology readiness levels. The intention is for firms to screen ideas at NHC before exploring scale-ups and commercialisation at NBMC. Recent investment into development of the Fujifilm BioCampus in Billingham provides an example of how Tees Valley is attracting growth in high value sectors and providing further opportunities for growth in high value employment and in applying digital technologies to improve performance and productivity.

R&D Intensity

- 3.22 The UK government has set out a target to increase overall expenditure in R&D to 2.4% of national economic output by 2027^{xxii}. It can be seen from Figure 3.6 that current levels of expenditure in Tees Valley are in the order of 1.2% of GVA. This demonstrates that significant improvement is required if the area is to achieve – at the local level – the government's target of 2.4%. The chart also highlights that a number of LEPs are already exceeding this target. R&D expenditure in Coventry and Warwickshire LEP, for instance, currently stands at more than 6% of GVA.

FIGURE 3.6 LOCAL R&D EXPENDITURE AS % OF LOCAL GVA



Source: Smart Specialisation Hub (2019)

Impact of Local Innovation Assets

3.23

Tees Valley has a strong innovation ecosystem founded on a cluster of assets that underpin the area's traditional strengths in manufacturing and the chemical and process industries. A number of these assets are recognised as being of national or international significance and 'export' their expertise by providing testing, prototyping and scale-up support to clients from outside the UK. The area also benefits from a number of key assets focussed on delivering innovation in Tees Valley's emerging strengths related to the digital and bioscience sectors:

Chemical and Process Industries

- Materials Processing Institute: development of materials and commercialisation of technologies for industrial processes, to improve efficiency, productivity and yield. The Institute has particular expertise in the processing of materials and is currently focussed on four key areas of activity: advanced materials; low carbon energy; circular economy; and industrial digitalisation;
- Centre for Process Innovation (CPI): R&D and proving facilities in anaerobic digestion, chemistry, and thermal technologies; and
- Innovation Accelerator at the Wilton Centre: dedicated to nurturing innovative businesses within the science, technology and life sciences sectors. The Centre offers pilot plant and specialist laboratories, enabling businesses to develop new products and processes.

Advanced Manufacturing

- Centre for Process Innovation (CPI): High Value Manufacturing Catapult centre which provided R&D and proving facilities across a range of industries, including thermal technologies, industrial biotechnology and printable electronics;

- TWI: global leader in materials research, with strengths in fabrication, welding and coating technologies; and
Teesside University's Technology Futures Institute: with research focussed on issues including: advanced processing; engineering and technology management; and sustainability (including carbon management and industrial symbiosis).

Digital Industries

- Teesside University: courses delivered by the University in digital media and technology, including animation and computer game design, have a long-standing international reputation.^{xxiii} This technical expertise, alongside Teesside University's connections with global industry experts (it hosts two major industry conferences, Animex and the Showcase Digital Conference) is used to drive local innovation, most notably through Digital City; and
- DigitalCity: recognised as an exemplar initiative^{xxiv} DigitalCity provides grant funding and bespoke innovation support to digital companies who want to develop or utilise innovative technology in a different way or for a new market – as well as non-digital businesses looking to adopt digital technology in order to improve their systems and processes. Support includes workshops and one-to-one mentoring with academics and consultants.

Bioscience

- National Biologics Manufacturing Centre (NBMC): led by CPI, the NBMC combines state of the art facilities and technical expertise to support the growth and development of the UK bioscience industry and supply chain, with a particular focus on the commercialisation of emerging technologies;
- National Horizons Centre (NHC): a state-of-the-art education, training, research and innovation facility opened in May 2019. Led by Teesside University (in partnership with CPI and FUJIFILM Diosynth Biotechnologies) the NHC has been established to: create a pipeline of graduate talent that matches industry need; design and deliver industry-informed programmes to address technical, leadership and digital skills issues; develop an internationally competitive applied R&D capability; and
- FUJIFILM Diosynth Biotechnology BioCampus: TVCA funding approved to deliver Phase 1 of the BioCampus, with two further phases planned to follow. The site will be anchored by FUJIFILM Diosynth Biotechnology, supporting the firm's continued growth (have increased from 90 employees to 700 over a period of 20 years).

3.24 As demonstrated in the preceding paragraphs, Tees Valley has real strengths in terms of locally-based research organisations and in attracting funding from national organisations such as Innovate UK. Further progress is required, however, to maximise the impact of these assets on the local business base.

3.25 Centre for Process Innovation and Materials Processing Institute

Data provided by CPI indicates that the Centre was involved in 185 research and innovation projects during 2017/18, of which 17 were with businesses based in Tees Valley. Similarly, data from the Materials Processing Institute indicates that the Institute was involved in approximately 300 projects in 2017/18, with an estimated 120 with businesses based in Tees Valley.

- 3.26 Taken together, therefore, the two organisations were involved in approximately 485 research and innovation projects in 2017/18. An estimated 137 of these (28%) were with Tees Valley businesses.

Materials Processing Institute

Located in South Bank, Redcar, the Materials Processing Institute is a globally recognised centre for industrial research with a commercialisation focus. Particular specialisms include: advanced materials, low carbon energy and the circular economy. The Materials Processing Institute is exploring opportunities and challenges involved with applying industrial digitalisation at the Normanton Steel plant, acting as a 'digital demonstrator' for the Steel and Process Industries.



Approach to Innovation

- 3.27 Research published by the Enterprise and Research Centre (ERC) benchmarks the innovation performance of all LEP areas against nine different measures of innovation. The performance of Tees Valley (relative to other LEPs) is shown to be strongest in terms of:
- Marketing innovation;
 - Collaboration;
 - Sales of innovative products/services; and
 - Process innovation.
- 3.28 The ERC work states that the 'Outcomes/Success of Innovation' strand of the analysis is arguably the most important. This is because it reflects the success and commercialisation of innovation activity. It can be seen from table 3.2 that Tees Valley performs well in this strand – exceeding the median LEP score with respect to two of the three identified metrics. This reflects the fact that many of the area's innovation assets, such as the CPI and MPI above, are focussed specifically on activities related to commercialisation (including prototyping and scale of products and processes).

TABLE 3.2 TEES VALLEY INNOVATION PERFORMANCE

	Lowest LEP score	Median LEP score	Highest LEP score	Tees Valley score
Organisational and Marketing Innovation				
New business practices	17%	28%	38%	23%
New methods of work organisation	11%	21%	28%	21%
Marketing innovation	11%	17%	27%	20%
Structure and Approach to Innovation				
Engaged in R&D	12%	19%	31%	17%
Design investment	8%	13%	20%	11%
Collaboration	17%	25%	39%	29%
Outcomes/Success of Innovation				
Product and service innovation	14%	22%	34%	18%
Sales of innovative products/services	9%	31%	45%	32%
Process innovation	8%	16%	26%	17%

Source: Enterprise and Research Centre 2017/TVCA

Barriers to Innovation

- 3.29 As outlined in the preceding paragraphs, the low R&D intensity of the Tees Valley business base acts as a drag on the overall innovation performance of the area. In order to identify appropriate policy mechanisms to address this, it is helpful to understand the issues that are constraining business expenditure on R&D at present.
- 3.30 The Tees Valley Business Survey (2018) asked respondents to outline those issues that they believed had discouraged or prevented them from accessing innovation funding during the preceding 12 months, with the results summarised in Figure 3.7. Drawing this together with the stakeholder engagement undertaken as part of the LIS process it is clear that the key barriers to greater business investment in innovation are:
- Lack of awareness of the innovation funding landscape, with businesses unclear as to what is available and how/where it can be accessed;
 - Perceptions amongst both large and small businesses that they were unlikely to be eligible for funding by virtue of their size; and
 - Issues relating to the complexity of the bidding process and the time/cost impacts of this to the business, which were felt to be disproportionate relative to the level of funding available in some instances.

FIGURE 3.7 BARRIERS TO FIRMS ACCESSING FUNDING TO SUPPORT INNOVATION IN THE LAST 12 MONTHS



Source: TVCA Business Survey 2018

Funding Landscape

3.31

Tees Valley businesses are able to access innovation funding from a variety of sources. Some of the key mechanisms include:

- **British Business Bank:** the Northern Powerhouse Investment Fund (administered by the British Business Bank, working closely with the Combined Authority) also provides support to businesses in Tees Valley. Support is comprised of loan and equity investment from £50,000. In the period March 2017 to December 2018, the funds invested £6.9 million in the Tees Valley;
- **Business Compass:** Tees Valley Combined Authority currently provides funding to businesses through Business Compass – a £24 million ERDF project^{xxv}. Business Compass provides an information, diagnostic and brokerage service to SME businesses looking to grow. This includes four grant pots – including innovation vouchers;
- **DigitalCity:** a programme of support for innovation in the digital sector (as well as digitalisation across the economy more broadly). DigitalCity is ERDF funded and provides a range of innovation services including consultancy assistance, an accelerator programme and market research/information; and
- **Partner Programmes:** beyond Business Compass, the majority of innovation activity in Tees Valley is delivered by external organisations, working closely in partnership with the Combined Authority. A key lever for innovation support has previously been Innovate Tees Valley (a joint ERDF programme delivered by Teesside University, DigitalCity, NEPIC and the Materials Processing Institute). At the time of publication, the programme is

no longer active and a replacement programme is subject to an ongoing ERDF funding application.

- 3.32 Further innovation support available through European Funding in Tees Valley includes:
- Innovation – a mix of capital and revenue activity. Projects funded to date include the National Horizons Centre, Innovate Tees Valley and other projects providing specialist support to SMEs;
 - ICT – Tees Valley Broadband vouchers;
 - SME competitiveness – Tees Valley Business Compass Growth Hub and Flexible Fund together with Business Compass start-up activity is funded via this theme;
 - Low carbon – Energy Efficiency Vouchers (via Business Compass), demonstration and testing facilities with coaching and mentoring support and funding for low carbon activity via the Northern Powerhouse Investment Fund.
- 3.33 Table 3.3 provides a summary of the relative allocation and apportionment of current ERDF by theme. This shows that that the largest allocation has been directed towards measures focused on improving the competitiveness of SMEs.

TABLE 3.3 FUNDING ALLOCATIONS BY THEME

Priority	Total Allocation
Innovation	£24.7m
ICT	£2.8m
SME Competitiveness	£65.7m
Low Carbon	£18.2m
Total	£111.4m

Source: Tees Valley Combined Authority

Summary

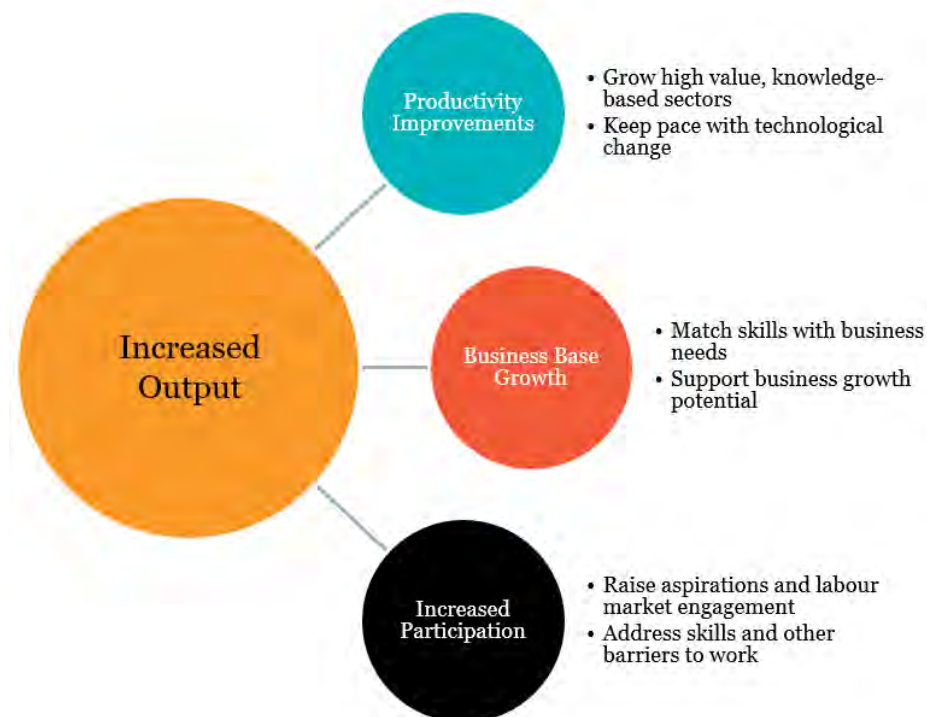
- 3.34 Key issues highlighted within the preceding paragraphs are summarised below:
- 1 Despite high levels of innovation funding coming into Tees Valley, R&D intensity and business expenditure on R&D is generally low relative to national levels. Local R&D performance reflects – to some extent – the branch plant dynamic observed in parts of the Tees Valley economy, a view also expressed by stakeholders;
 - 2 R&D intensity in the local chemicals and process and advanced manufacturing sectors – key strengths and sector specialism within the Tees Valley economy – has declined in recent years;

- 3 Key barriers to innovation at the local level are understood to include: awareness/knowledge of the funding landscape; the cost/time implications of the application process; and issues relating to perceived ineligibility;
- 4 The area benefits from a number of key innovation assets that are of national/international significance and align to Tees Valley's key sector strengths. Opportunities to encourage the local business base to better leverage these should be pursued; and
- 5 Tees Valley's innovation assets (and the area's approach to innovation generally) are positioned towards the commercialisation end of the innovation spectrum. This provides the opportunity to capture a greater number of spin-out businesses with a more co-ordinated and focused approach.

4.0 People

- 4.1 People and skills are critically important to supporting productivity growth. The Smart Specialisation Hub^{xxvi} identified a clear correlation between the qualifications of the resident population and an area's overall level of productivity. Businesses cannot grow and fulfil their potential without the availability of a pool of talent with the necessary skills. This is true of all sectors – but particularly in high productivity, knowledge-based sectors where the skills and knowledge of the workforce are fundamental to creating value.
- 4.2 Whilst the creation of jobs in high value sectors generates the greatest productivity dividend on an individual basis, the importance of matching the skills of the local workforce with those of existing businesses at all points on the productivity spectrum must be recognised. This is particularly true in locations such as Tees Valley, where levels of labour market participation are low. Supporting more residents into employment across all sectors offers an opportunity to raise economic output and productivity per head of the population.
- 4.3 Figure 4.1 provides a summary of the mechanisms through which people and skills can contribute towards delivering higher levels of economic output.

FIGURE 4.1 DELIVERING INCREASED OUTPUT THROUGH PEOPLE AND SKILLS

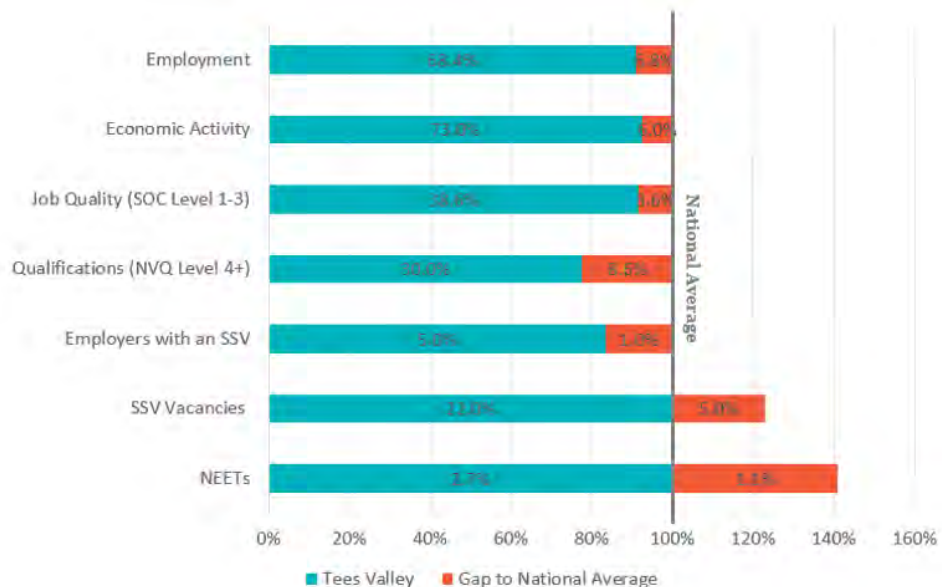


Tees Valley 'People' Scorecard

- 4.4 The scorecard at Figure 4.2 provides a summary of Tees Valley's performance on issues related to people and skills, benchmarked against the national average. From the analysis, it can be seen that a number of factors currently act as a barrier to higher levels of local productivity, including:

- Participation levels in Tees Valley are low. 73.0% of the area's working age population are economically active and 68.4% are in employment. Both figures are lower than the national averages (79.0% and 75.2% respectively)^{xxvii}. A key challenge for Tees Valley – and one which could significantly increase overall levels of economic output – is to encourage more people to enter the labour market, through the provision of the necessary opportunities and support;
- 3.8% of 16-17 year olds in Tees Valley are Not in Education, Employment or Training (NEET). This is higher than the national average of 2.7%^{xxviii};
- The skills base of the area lags national performance, with 30.0% of working age residents qualified to NVQ Level 4 or above locally. Whilst Figure 4.2 focusses on higher level skills, Tees Valley also underperforms relative to the national level with respect to lower level skills. This is reflected in the occupational profile of Tees Valley, with a lower proportion of jobs at SOC Levels 1-3 (Managers, Directors and Senior Officials, Professional Occupations and Associate Professional and Technical)^{xxix}; and
- Skills issues within Tees Valley are having a clear impact on the ability of the local business base to recruit and grow. 27.0% of all job vacancies in the area are categorised as Skills Shortage Vacancies (SSVs)^{xxx} – markedly higher than the national average of 22.0%. Taken together with the low levels of participation, this would suggest the need to better align the skills of the local population with the needs of the business community. It should be noted, however, that the proportion of businesses reporting an SSV is lower at the local level (5.0% compared to 6.0% nationally).

FIGURE 4.2 PEOPLE/SKILLS PRODUCTIVITY SCORECARD

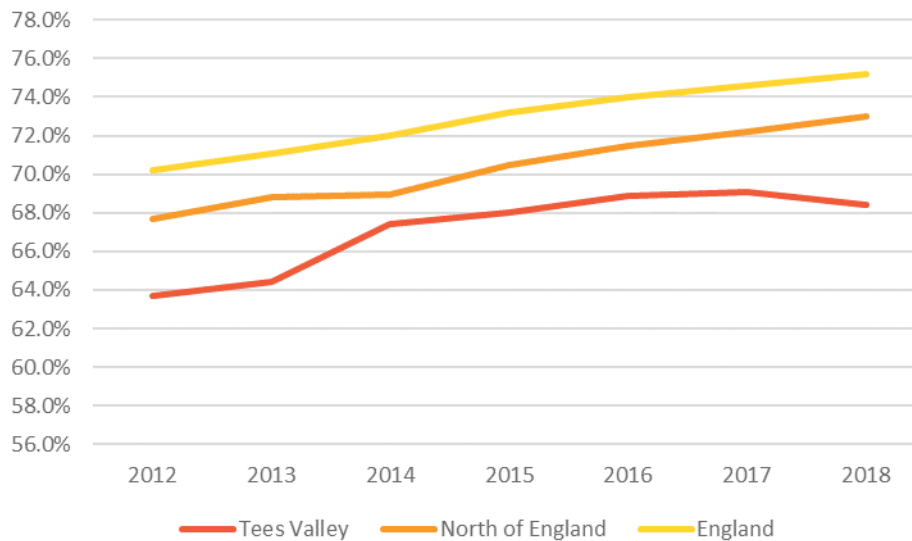


Source: Various

Employment

- 4.5 The employment rate in Tees Valley currently stands at 68.4% of the working age population. Local levels of employment have lagged national performance for a prolonged period, with the gap increasing in 2018 due to a fall of 0.7 percentage points in Tees Valley, coupled with a national increase of 0.6 percentage points (Figure 4.3).

FIGURE 4.3 TEES VALLEY EMPLOYMENT RATE



Source: ONS Annual Population Survey

- 4.6 The above data is based upon the Annual Population Survey, which is subject to sampling variability – particularly for smaller geographical areas. In recognition of this, it is helpful also to consider Alternative Claimant Count Data, as published by the Department for Work and Pensions. The Alternative Claimant Count Data indicates that 5.3% of the working age population in Tees Valley were claiming unemployment benefits in February 2019. This represents an increase of 0.1% on the previous quarter and a 0.1% reduction on the previous year. The current figure at the local level (5.3%) is significantly higher than the national average (3.1%).
- 4.7 With respect to youth unemployment, the Alternative Claimant Count Data indicates that 5.6% of 16-24 year olds in Tees Valley are claiming unemployment benefits – double the national figure of 2.8%.
- 4.8 In addition, the proportion of Tees Valley's working age population classified as being economically inactive (27%) is significantly higher than the national average (21%). Furthermore, local levels have risen over the last 2 years, against a backdrop of falling rates nationally^{xxxi}.
- 4.9 Low levels of employment, coupled with high rates of economic inactivity (and compounded by a small local working age population relative to national levels) means that the proportion of the Tees Valley population that is in employment and contributing towards the creation of economic output is low in comparison

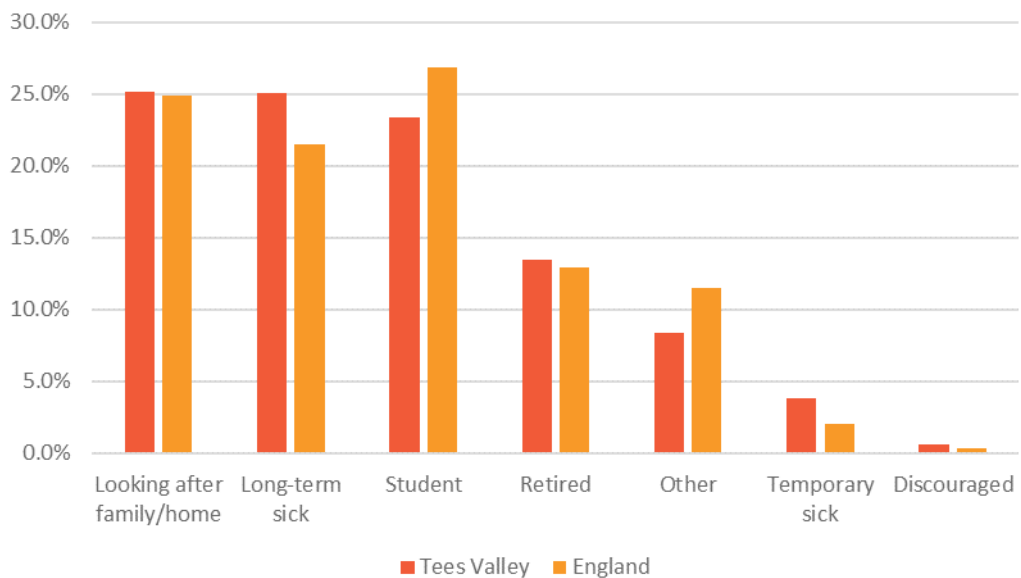
with the national rate. This is a key factor underpinning the area’s £5.2bn productivity gap.

4.10 Issues relating to unemployment are complex and reflect inter-relationships between the strength of the economy and skills base, as well as social issues related to health, low aspiration and inter-generational benefit dependency. It can be seen from Figure 4.4 that the higher rates of economic inactivity within Tees Valley are being driven primarily by the high proportion of residents categorised as:

- Long-term sick (25% compared to 22% nationally); and
- Temporary sick (4% compared to 2% nationally).

4.11 In addition, the proportion of economically inactive residents in Tees Valley who **do not** want a job stands at 84%. This is noticeably higher than the 78% observed at the national level^{xxxii}.

FIGURE 4.4 TEES VALLEY ECONOMIC INACTIVITY BY TYPE



Source: ONS Annual Population Survey

4.12 Rates of economic inactivity in Tees Valley exceed the national level across all age cohorts (Figure 4.5). However, stakeholder engagement as part of the LIS has identified particular concerns regarding current levels of youth unemployment and the high proportion of young people Not in Education, Employment or Training (see paragraph 4.17). 2018 data suggests that 62% of 16-19 year olds in Tees Valley are economically inactive – higher than the national figure of 56% – although it should be noted that this category includes students.

FIGURE 4.5 TEES VALLEY ECONOMIC INACTIVITY BY AGE BAND



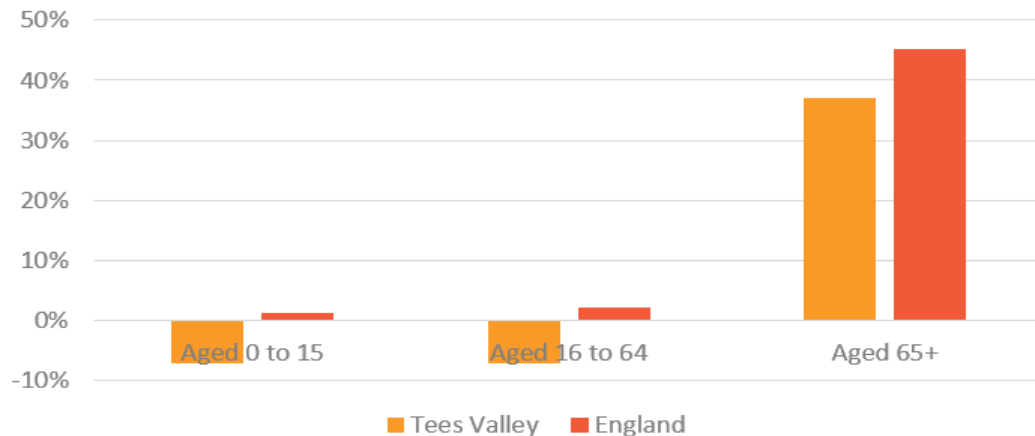
Source: ONS Annual Population Survey

Working Age Population

4.13

The proportion of working age residents in Tees Valley currently stands at 61.8% of the population. This is marginally lower than the national average of 62.8%. Looking to the future, however, forecasts suggest that this gap is set to widen unless positive steps are taken to address the issue. It can be seen from Figure 4.6 that that the proportion of working age residents (16-64 years) is projected to decline by 7% locally over the period 2017 to 2037. This is in contrast with a modest growth of 2% at the national level. In addition, the proportion of residents aged 0-15 years is also projected to decline by 7% locally, whilst growing by 1% nationally.

FIGURE 4.6 PROJECTED POPULATION CHANGE (2017-2037)



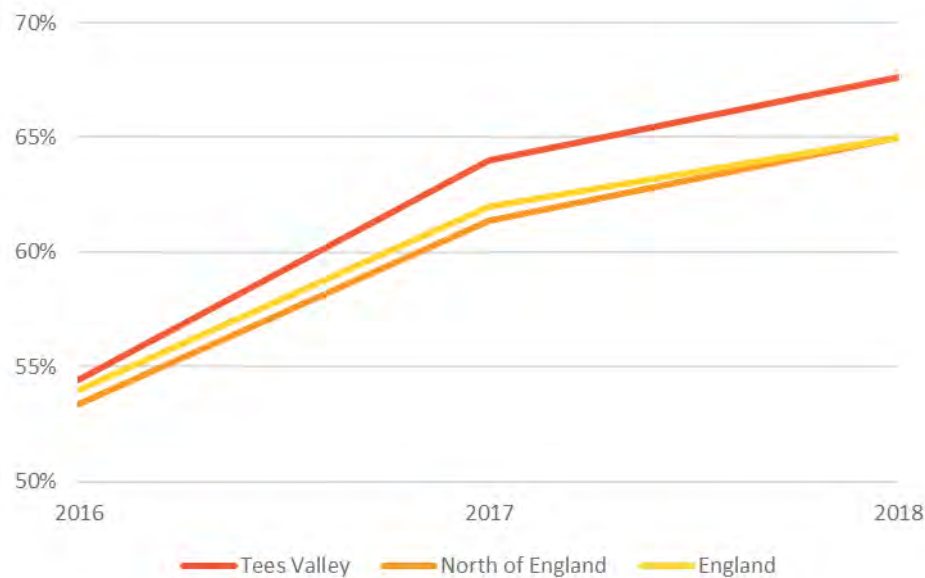
Source: ONS 2016 - Based Population Projections

Education

Primary Education

- 4.14 88% of Tees Valley primary schools are rated as ‘good’ or ‘outstanding’ by Ofsted. Whilst this is marginally higher than the national level (87%) it is down from 91% in 2016^{xxxiii}. The performance of local primary schools is also strong. 68% of Tees Valley pupils achieved the expected standard (or above) for reading, writing and maths in 2018. This was above the national average of 65%. Furthermore, it can be seen (from Figure 4.7) that performance has improved at a faster rate locally in recent years, increasing the extent to which the area outperforms England as a whole.

FIGURE 4.7 PERCENTAGE REACHING EXPECTED STANDARD IN KEY STAGE 2 FOR READING, WRITING AND MATHS

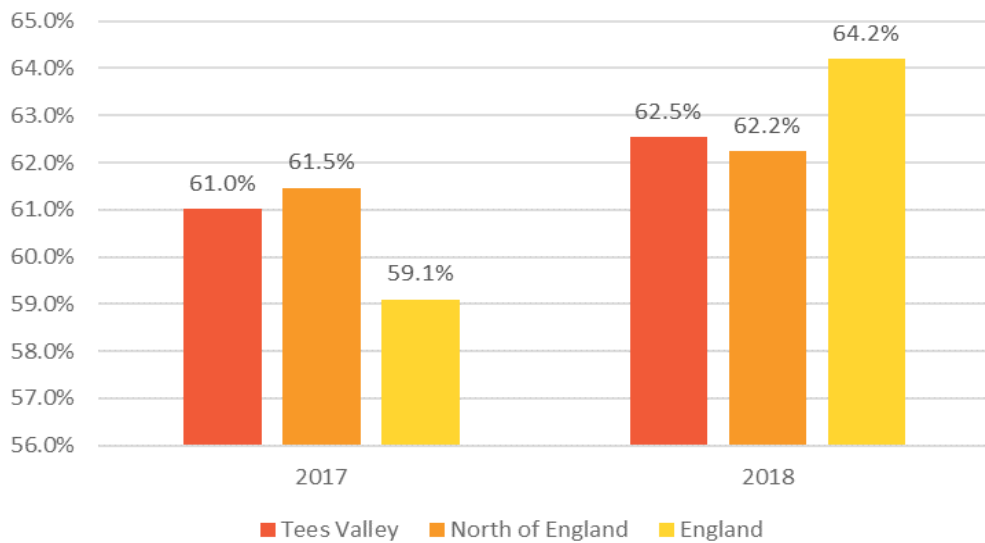


Source: Department for Education

Secondary Education

- 4.15 The performance of Tees Valley’s secondary schools is, however, more mixed. Just 52% of local schools are rated as ‘good’ or ‘outstanding’ by Ofsted (compared to 75% nationally) and the average Attainment 8 score for pupils, at 44.0%, was below the national level (46.5%) in 2018^{xxxiv}.
- 4.16 Additionally, 62.5% of secondary pupils in Tees Valley achieved a 9-4 pass in English and Maths in 2018, compared to 64.2% nationally. It can be seen from Figure 4.8 that, whilst performance across Tees Valley improved between 2017 and 2018 a far greater increase was observed nationally. As a result, Tees Valley lagged the national average in 2018, having outperformed it the previous year.

FIGURE 4.8 PERCENTAGE ACHIEVING 9-4 PASS IN GCSE ENGLISH AND MATHS

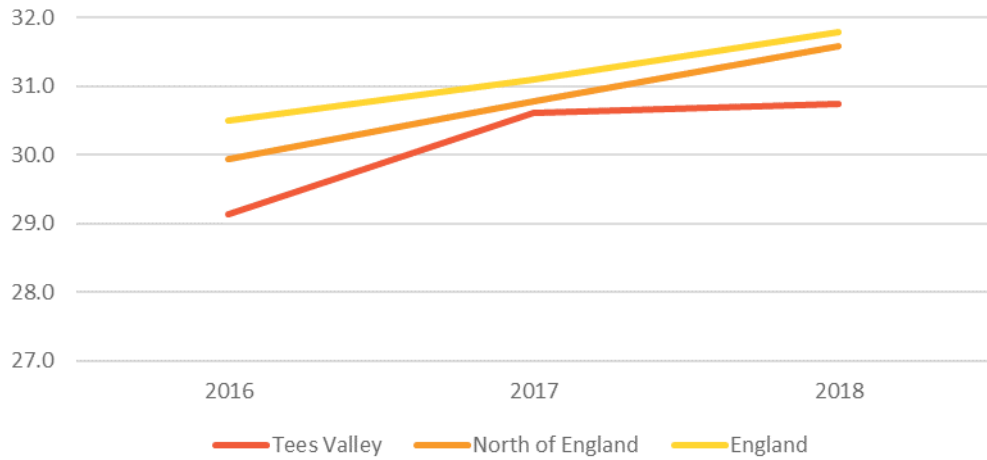


Source: Department for Education

Further Education

- 4.17 Tees Valley has six Further Education (FE) colleges offering a range of education and training courses (including apprenticeships): Darlington; Hartlepool; Middlesbrough; Redcar & Cleveland; Stockton Riverside; The Northern School of Art. In addition, the area has four sixth form colleges and a number of schools with sixth form provision.
- 4.18 The quality of FE provision in the area is high. 88% of FE and skills provision in Tees Valley is rated as 'good' or outstanding' by Ofsted. This exceeds the national average of 82%^{xxxv}.
- 4.19 FE participation rates are marginally higher than the national average – despite the high level of NEETs in Tees Valley. 92% of 16-17 year olds in Tees Valley were in Education or Training in 2016 compared to 91% nationally^{xxxvi}. Levels of attainment, however, are low locally, with an average point-score per A-level entry of 30.8 compared to 31.8 nationally (although the gap has narrowed slightly in recent years)^{xxxvii}.

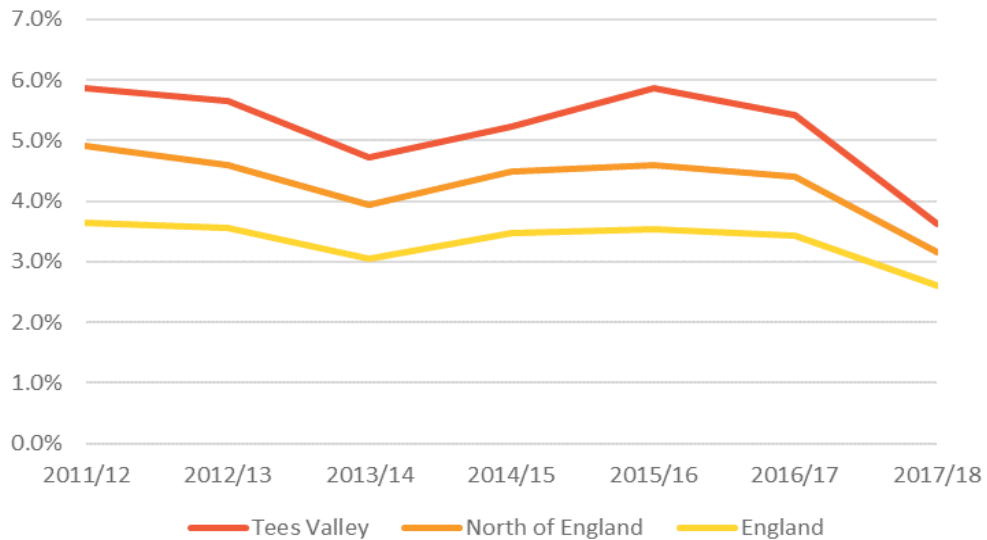
FIGURE 4.9 AVERAGE A LEVEL POINT SCORE PER A LEVEL



Source: Department for Education

- 4.20 Apprenticeships form an important part of the post-16 education and training landscape in Tees Valley, with 6,000 residents starting an apprenticeship in 2017/18. This corresponds to 3.6% of all 16-35 year olds – higher than the corresponding figure nationally (2.6%). This can be seen in Figure 4.10, which also highlights the sharp decline in apprenticeship starts in recent years (down 36% locally and 25% nationally since 2015/16).

FIGURE 4.10 PERCENTAGE OF 16-35 POPULATION STARTING AN APPRENTICESHIP



Source: Education Skills Funding Agency/ONS Mid-Year Population Estimates

- 4.21 In terms of the level of apprenticeship being undertaken, starts in Tees Valley in 2017/18 were dominated by intermediate level courses (49% compared to 43% nationally). In contrast, the proportion of starts categorised as advanced (40% compared to 44%) or higher (11% compared to 13%) were lower at the local

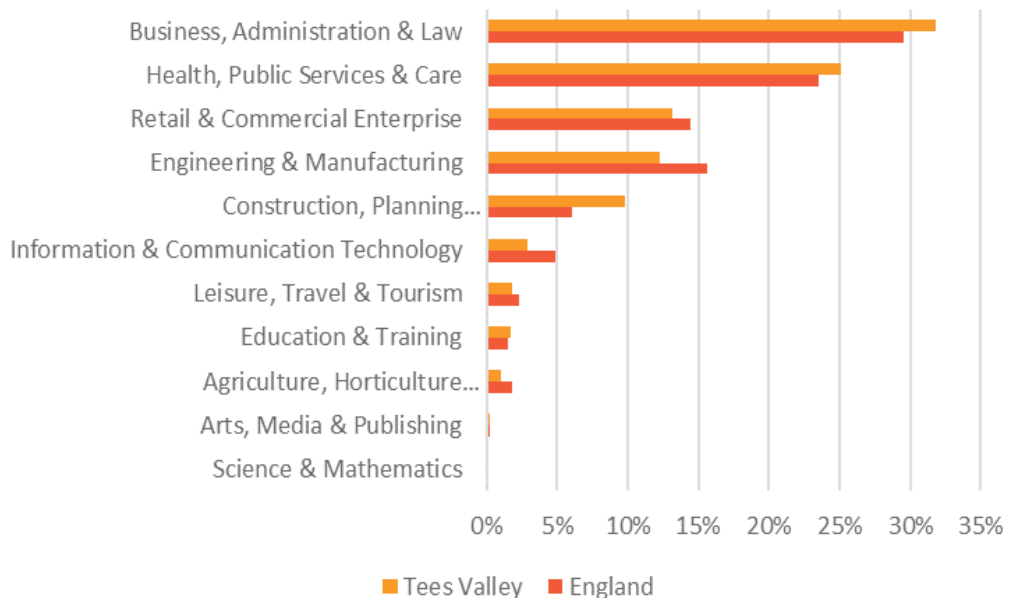
than the national level. This indicates a need to look at mechanisms to support greater progression through the system^{xxxviii}.

4.22 Figure 4.11 provides a summary of apprenticeship starts by subject area. It can be seen from the data that Tees Valley has a higher percentage of apprenticeship starts (relative to the national level) in: construction; planning and the built environment; business, administration and law; health, public services and care; and education and training. The low proportion of starts in the engineering and manufacturing and information and communication technology sectors is a cause for concern, however, having regard to:

- The existing strengths of the Tees Valley in manufacturing and the opportunity to support the evolution of the sector by leveraging Tees Valley's digital capabilities to position the area as being at the vanguard of the industrial digitalisation movement; and
- The analysis at Figure 4.21 which indicates that issues regarding SSVs are particularly acute locally in relation to the information and communications and manufacturing sectors.

4.23 Looking to the future, it is critically important that local training provision is aligned with the needs of businesses (particularly those where Tees Valley has an existing competitive advantage or strong growth potential) in order to support the growth aspirations of the Combined Authority.

FIGURE 4.11 PERCENTAGE OF APPRENTICESHIP STARTS BY FRAMEWORK SECTOR SUBJECT AREA 2017/18

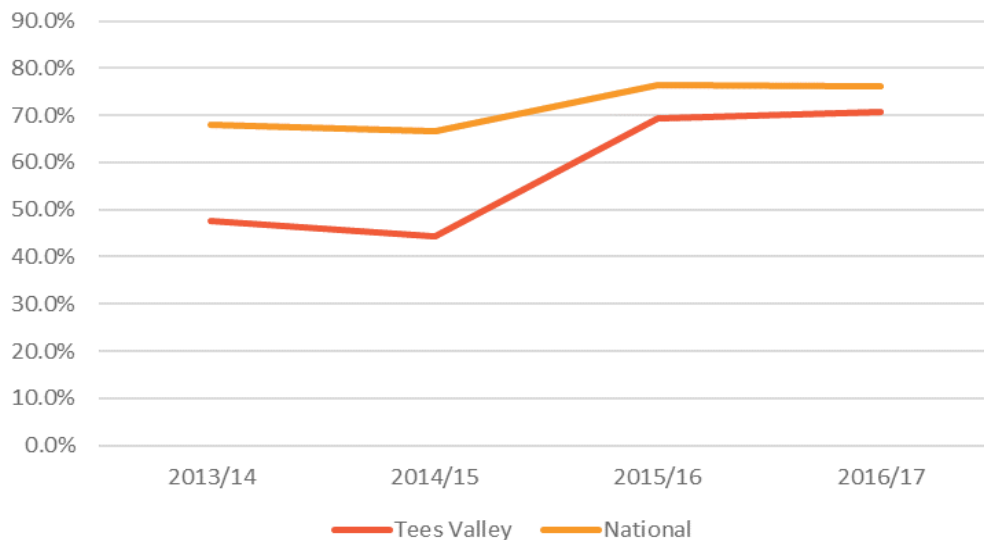


Source: Education Skills Funding Agency

Higher Education

- 4.24 Higher Education (HE) provision in Tees Valley is focussed on Teesside University and Durham University (Queens Campus) alongside a number of FE colleges offering HE courses.
- 4.25 Participation rates are high, with 18.8% of Tees Valley residents aged 18-29 in HE in 2016/17 compared to 18.2% nationally^{xxxix}. Interestingly, despite the higher rate of HE starts, data indicates that Tees Valley has:
- A lower proportion of students successfully completing HE courses (see Figure 4.12); and
 - Lower levels of postgraduate take-up (2.8% of 18-29 years olds locally compared to 3.5% nationally).

FIGURE 4.12 PERCENTAGE OF HIGHER EDUCATION QUALIFICATION COMPLETIONS

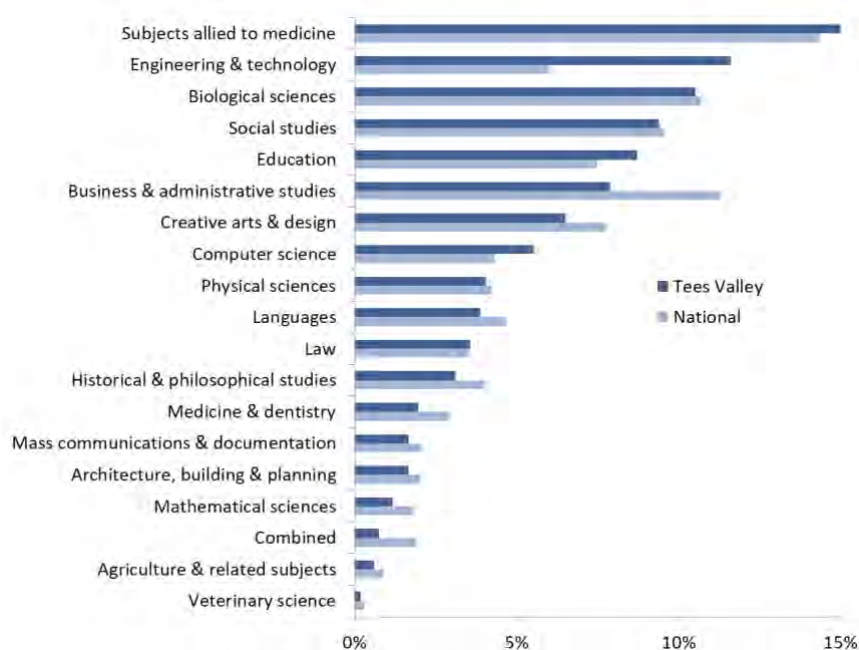


Source: Higher Education Statistics Agency

Subjects Studied

- 4.26 Figure 4.13 sets out the percentage of Tees Valley students participating in HE by subject studied. The data shows that the most popular subjects locally include: medicine; engineering and technology; biological sciences; social studies and education. Benchmarking the data against the national position identifies strong representation local in subjects such as: medicine; engineering and technology; education; and computer science.

FIGURE 4.13 HE COURSES BY SUBJECT STUDIED (2016/17)



Source: Tees Valley Higher Education (December 2018) Figure 4

Graduate Retention

4.27 In 2016/17, 51% of students whose permanent residence prior to commencing their studies was within Tees Valley gained their undergraduate or postgraduate qualification from Teesside University. Other popular university for study amongst those previously living within Tees Valley include:

- University of Northumbria at Newcastle (8%);
- University of Sunderland (5%);
- Newcastle University (4%); and
- University of Durham (4%).

4.28 59% of those graduating find employment in the area, with the majority taking up jobs in Middlesbrough and Stockton-on-Tees. The proportion of graduates that remain in the area for work has reduced year-on-year for the past five years from a high of 69%. The 41% of graduates that currently find employment outside of the Tees Valley represents a significant pool of talent that could help to address some of the existing and emerging labour shortages experienced by the local business base^{xl}.

4.29 The most popular destinations for Tees Valley graduates moving out of the area for work include:

- Tyne & Wear (9% of Tees Valley graduates);
- County Durham (5% of Tees Valley graduates); and
- Greater London (5% of graduates)^{xli}.

- 4.30 No data is available to unpack the reasons for the declining level of graduate retention. Discussions with Teesside University have, however, identified several factors that may have contributed towards this, including:
- The introduction of postgraduate loans in 2016, which resulted in more students progressing to postgraduate study (rather than employment); and
 - Shifts in the local jobs market, with significant changes to large employers in steelmaking, oil and gas (as well as related supply chains) and significant NHS budget cuts which may have resulted in fewer graduate opportunities in the area.
- 4.31 Based upon qualitative intelligence gathered through the LIS process it is anticipated that measures designed to achieve the following could help to increase the proportion of graduates that remain in the area: increased availability/awareness of employment and career progression opportunities in Tees Valley; and continued improvement of Tees Valley's wider place offer to attract investment and establish a global reputation for Tees Valley as a vibrant and thriving place to be, with world leading opportunities in clean energy, low carbon and hydrogen.

Adult Education Budget

- 4.32 The devolved Adult Education Budget (AEB) for Tees Valley has been confirmed at £29.5 million for Academic Year 2019/2020. The AEB covers skills provision for learners aged 19+, including Adult Community Learning and enables more flexible tailored programmes of learning to be made available through a variety of learning providers. The Combined Authority will have the powers and responsibility to determine the funding priorities for the devolved AEB for Tees Valley residents. This is a unique and invaluable opportunity for Tees Valley which will help to create a more dynamic education offer to learners and businesses, helping to support a more responsive, flexible skills system.
- 4.33 The AEB will continue to include a number of statutory requirements and in addition, from 2020/21 the government will introduce a new statutory basic digital skills entitlement. Funding for the entitlement will come from within the devolved AEB.
- 4.34 It is the intention of the Tees Valley Combined Authority to continue to support the Low Wage Pilot introduced by government for 2018/19. The aim of the pilot is to help increase adult education participation and lift social mobility barriers to learning for those who would not otherwise engage due to course fees being unaffordable. It will also support those that are in low paid employment and are wanting to further progress in work and in their chosen career.
- 4.35 It is the Combined Authority's intention to maximise funding to the learner by creating an adult education and skills system that focuses upon measuring and delivering better outcomes for all learners – in terms of making well informed decisions about their future, finding work, the quality and sustainability of this work and their progression in work. This will provide a progressive offer that creates lifelong pathways of learning to identifiable outcomes, including career pathways.

Skills Levels

4.36 Figure 4.14 provides an overview of the skills base of Tees Valley's working age population. This clearly highlights that the performance of Tees Valley lags the national average with respect to both higher and lower level skills:

- 30% of Tees Valley's working age population are qualified to NVQ Level 4 and above, which is below the national figure of 39%;
- 81% of Tees Valley's working age population are qualified to NVQ Level 1, compared to the national average of 85%; and
- 12% of Tees Valley's working age population have no formal qualifications, which is higher than the national figure of 8%.

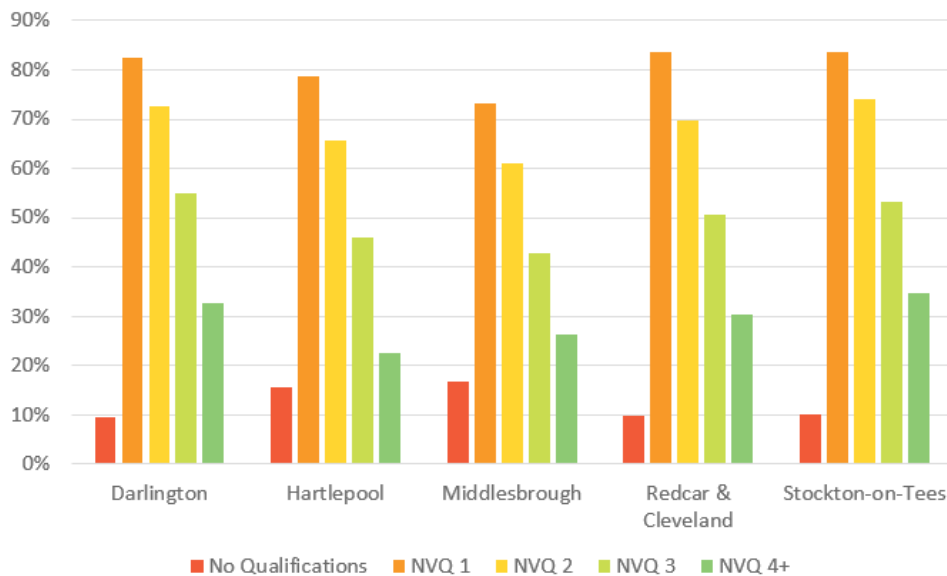
FIGURE 4.14 SKILLS LEVELS OF WORKING AGE POPULATION



Source: ONS Annual Population Survey (2017)

4.37 Figure 4.15 provides an overview of the skills base at the local authority level. From this it can be seen that, in general terms, performance is stronger in Stockton-on-Tees, Darlington and Redcar and Cleveland, where the highest proportion of residents qualified and NVQ Level 3 and 4 are observed (alongside a lower proportion of residents with no formal qualifications).

FIGURE 4.15 SKILLS LEVELS OF WORKING AGE POPULATION BY LOCAL AUTHORITY



Source: ONS Annual Population Survey (2017)

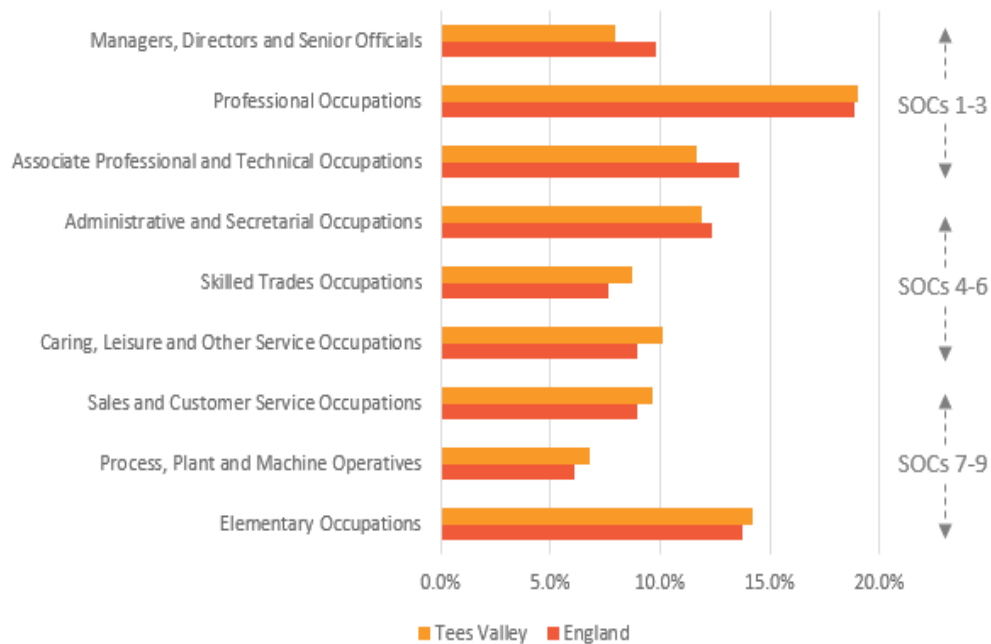
Occupational Structure

4.38

The area's low skills base is also reflected in the occupation structure of the local economy. This is summarised in Figure 4.16, which shows that Tees Valley is characterised by:

- Lower levels of employment (38.6% compared to 42.2%) in SOC Groups 1-3 – those occupations that are generally categorised by higher skills requirements and higher rates of productivity; and
- Higher levels of employment (30.6% compared to 28.8%) in SOC Groups 7-9 – those occupations that are generally categorised by more modest skills requirements and lower rates of productivity.

FIGURE 4.16 DISTRIBUTION OF JOBS BY OCCUPATION (2017)



Source: ONS Annual Population Survey

Skills Strategy (2018-2021)

A result of greater control over local decision-making facilitated by the Devolution Deal with Government, the Tees Valley Skills Strategy 'Inspiring Our Future' sets out investment priorities for employment, education and skills. This focuses on a number of areas including supporting education innovation and collaboration, developing a skills system for business growth and addressing long-term unemployment supported by new initiatives including the Routes to Work pilot and Tees Valley Careers.com. Whilst the devolution of greater powers offers the opportunity to deliver a more responsive education and skill landscape locally, it is too early to see its full impact.



Job Vacancy Data

- 4.39 The 2019 *Tees Valley Job Vacancies* report provides an overview of the current demand for jobs within Tees Valley. This highlights that more than 30,000 job vacancies were advertised in Tees Valley during 2018.
- 4.40 In comparison with data for the previous year, this shows that the largest increases in vacancies were reported in relation to:
- Process, Plant and Machine Operatives with 129 additional reported vacancies (an increase of 54%); and
 - Elementary Trades and Related Occupations with 72 additional reported vacancies (an increase of 35%).

- 4.41 In general terms, job vacancies advertised in Tees Valley required lower skills levels than those advertised nationally. At the local level, 36% of vacancies required a Level 5 qualification or above (compared to 53% nationally). 43% of vacancies in Tees Valley required a Level 2 qualification (compared to 28% nationally).

Future Skills Needs

- 4.42 Sector challenge sessions held as part of the development of the LIS raised concerns amongst stakeholders regarding the scale of replacement demand that must be address in key sectors. Whilst replacement demand is a normal function of the labour market, some areas of the local economy (including manufacturing and the chemicals and process industries) are faced with challenges relating to an ageing workforce^{xiii} and the associated need to replace large volumes of skilled and experienced staff in the near future.

“The manufacturing and engineering sectors are facing a critical juncture. A key strength of the Tees Valley offer is the skills base of the sectors’ established workforce. If we don’t replace the expertise of our ageing workers, we risk losing one of our key USPs.” Sector Challenge Session attendee

- 4.43 The *Northern Powerhouse Chemicals and Process Sector Science and Innovation Audit* outlines that almost 50% of the workforce across relevant sectors related to chemicals is over the age of 45 – with a similar situation observed in the wider manufacturing sector. The Audit goes on to state that:

“The ageing workforce will have significant implications for the sector going forward, in particular the high levels of replacement demand for higher skilled/technical and managerial functions, for which there is not an immediate source.”

- 4.44 Analysis presented within the *Tees Valley Strategic Economic Plan 2016-2026* identifies the need for almost 116,000 replacement jobs in the area over the ten-year period. The document goes on to acknowledge that:

“Without urgent action there is a real threat that posts may need to be filled by people from outside the region and that more junior staff will not be able to progress within their existing company/sector. There is a clear need for training to aid progression paths for existing staff and also to further enhance the productivity of all workers across all sectors.”

- 4.45 Table 4.1 provides a summary of the scale of replacement demand identified.

TABLE 4.1 REPLACEMENT DEMAND (2016-2026)

Sector	Replacement Demand (No. of Jobs)
Low Carbon/Process, Chemical and Energy	2,000
Advanced Manufacturing	900
Other Manufacturing	6,700
Construction	7,400
Professional and Business Services	13,200
Logistics	5,300
Digital	2,300
Education	10,000
Health and Social Care	21,900
Services	6,000
Culture and Leisure	11,400
Other Services	28,600
All Sectors	115,900

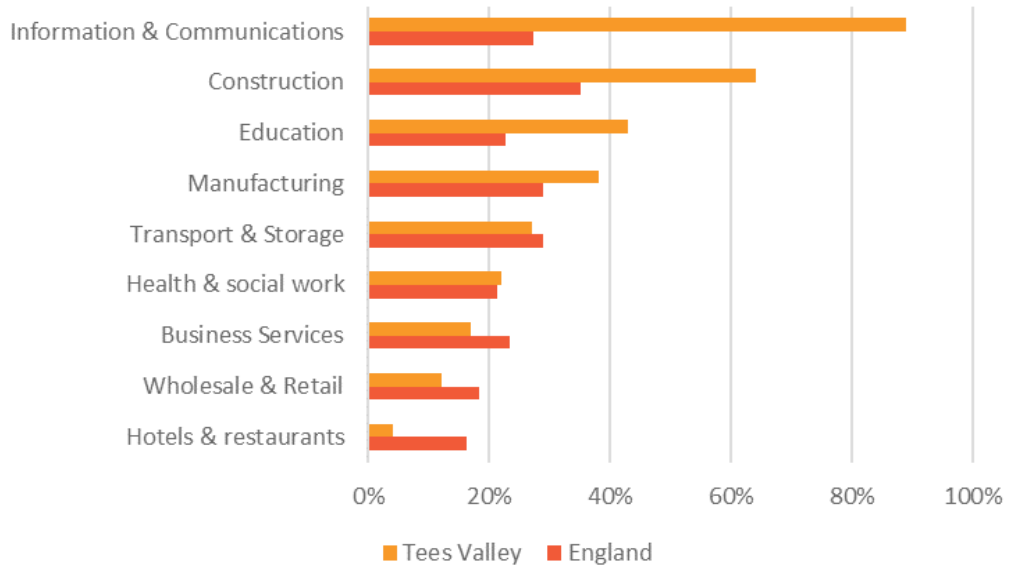
Source: Tees Valley Strategic Economic Plan

Skills Gaps

- 4.46 Anecdotal evidence collated via the LIS Sector Challenge Sessions suggests that the growth potential of the Tees Valley economy is being constrained as a result of difficulties in recruiting appropriately skilled staff. This is reinforced by the findings of *the Tees Valley Business Survey (2018)* which identified recruitment difficulties as the single biggest obstacle to the growth of the local business base – identified by 44% of respondents (see Figure 6.9).
- 4.47 Whilst the *Employer Skills Survey (2017)* conducted by the Department for Education highlights that recruitment challenges do appear to be more pronounced in Tees Valley than at the national level, with 27% and 22% of job vacancies categorised as SSVs respectively. Figure 4.17 provides a more granular analysis of the data, disaggregated by industrial sector. This indicates that the sectors facing the most acute recruitment challenges locally include:
- Information and communication, with 89% of vacancies categorised as SSVs (compared to 27% nationally);
 - Construction, with 64% of vacancies categorised as SSVs (compared to 35% nationally);
 - Education, with 43% of vacancies categorised as SSVs (compared to 23% nationally); and

- Manufacturing, with 38% of vacancies categorised as SSVs (compared to 29% nationally).

FIGURE 4.17 % SKILLS SHORTAGE VACANCIES BY INDUSTRY SECTOR (2017)

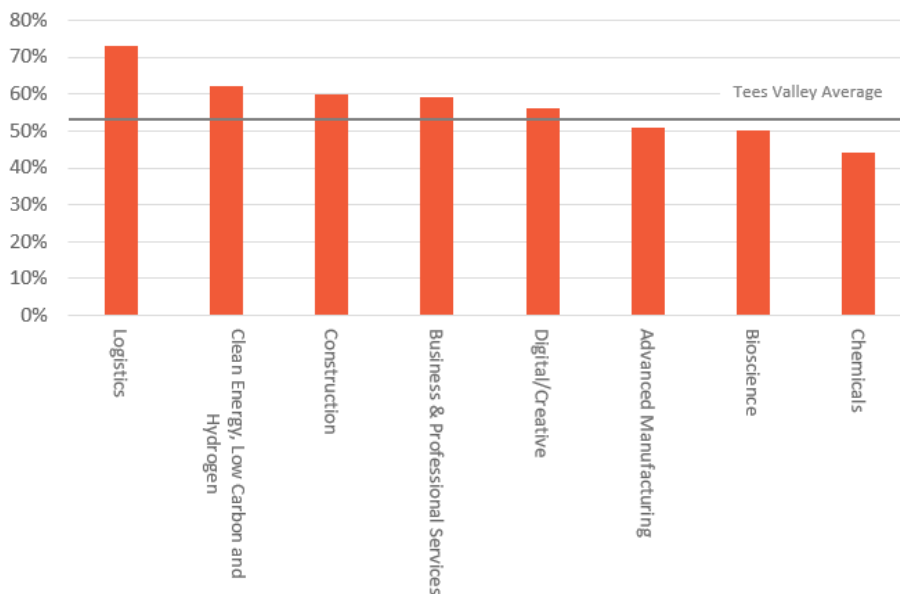


Source: Department for Education Employer Skills Survey

4.48

Further intelligence regarding local recruitment challenges is provided via the *Tees Valley Business Survey* (2018). The exercise found that 51% of respondent businesses had experienced difficulties in recruiting during the previous 18 months, with a breakdown by sector provided at Figure 4.18.

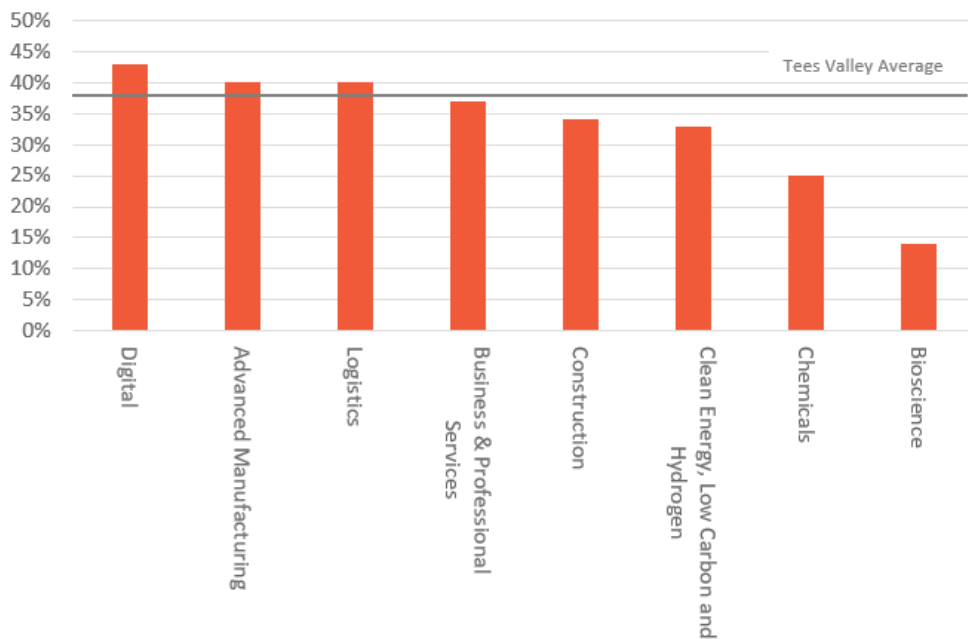
FIGURE 4.18 DIFFICULTIES IN RECRUITING STAFF (PREVIOUS 18 MONTHS)



Source: TVCA Business Survey 2018

4.49 Issues related to the availability of the skills required by business do not only materialise during the recruitment process. Some 37% of respondents to the *Tees Valley Business Survey* (2018) indicated that they were currently experiencing skills gaps within their existing workforce. The breakdown of responses by sector is shown in Figure 4.19, which suggests that skills shortages within the existing workforce are particularly prevalent within the digital, advanced manufacturing and logistics sectors.

FIGURE 4.19 SKILLS GAPS WITH EXISTING EMPLOYEES



Source: TVCA Business Survey 2018

Digital Skills

Findings from the research into the Digital sector in Tees Valley show that the challenge of finding skilled people to fill jobs is a key barrier to growth, especially for experienced staff. Of recent adverts for digital occupations in Tees Valley, Software Developers and IT Managers were the most frequently advertised posts, and Tees Valley has strong demand (relative to the national average) for Web Developers, IT Managers, IT Service Managers and IT Trainer roles. Popular skills that are in particularly high demand in Tees Valley include skills related to IT management (e.g. hardware, network security, configuration management, CompTIA A, Puppet), and web development (e.g. SEO, HTML5, accessibility). Less popular skills but which are in higher demand in Tees Valley than elsewhere include skills related to Tees Valley animation and games sub-sectors (e.g. character animation, character design).

This is corroborated by the Department for Education Employer Skills Survey which indicates that digital-facing firms in Tees Valley are experiencing skills shortages that significantly outstrip the national average.

The BoHo Zone in Middlesbrough is one of the number of successful digital locations and demonstrated the importance of a place and culture-oriented approach to establish a digital proposition and its importance in attracting and retaining staff.



Summary

4.50

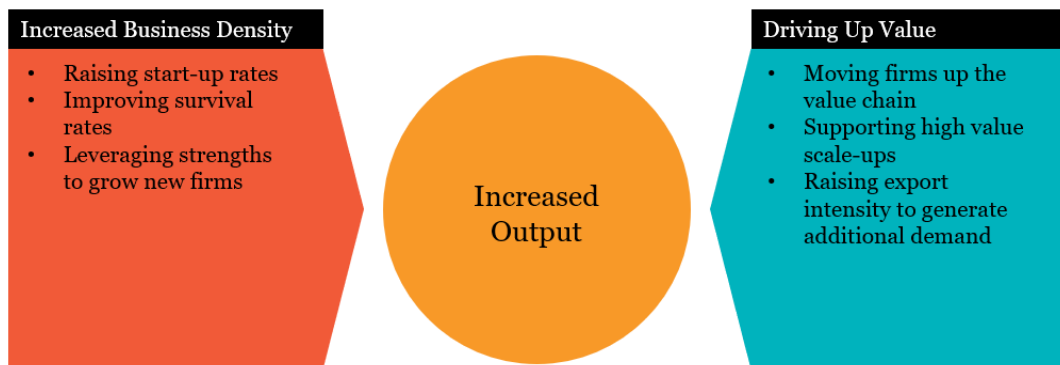
Key issues highlighted within the preceding paragraphs are summarised below:

- 1 Productivity in Tees Valley is adversely affected by low levels of labour market participation (reflected in a small working age population and high rates of economic inactivity, unemployment and part-time working);
- 2 Issues of participation are compounded by poor local performance in relation to both high- and low-level skills;
- 3 The performance of local primary schools is strong, but is not currently matched at secondary level;
- 4 Skills issues are considered by local businesses to represent one of the biggest constraints to growth at present; and
- 5 A number of sectors are facing a critical juncture in relation to resourcing, with an ageing workforce and significant levels of replacement need.

5.0 Business Environment

- 5.1 The strength of an area's economy is shaped – in part – by the size and composition of the business base, as well as the effectiveness of local systems in facilitating and supporting business growth (through start-ups, scale-ups and accessing new markets) and inward investment.
- 5.2 The mechanisms through which the business environment contributes towards increased economic output are summarised in Figure 5.1. They can largely be categorised according to: those that increase the number of active businesses in the economy; and those that support existing business to increase their economic contribution.

FIGURE 5.1 DELIVERING INCREASED OUTPUT VIA THE BUSINESS ENVIRONMENT

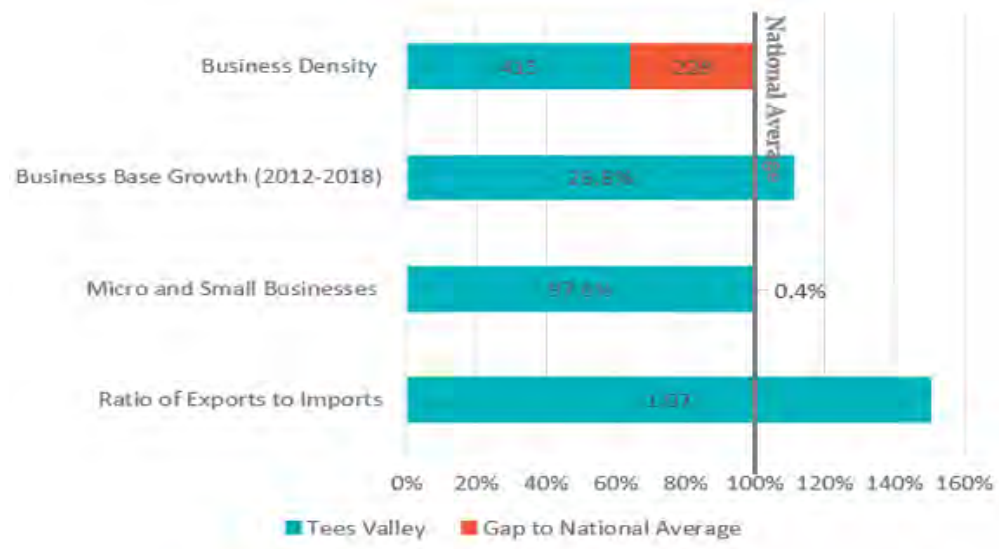


Tees Valley 'Business Environment' Scorecard

- 5.3 The scorecard at Figure 5.2 provides a summary of Tees Valley's performance relative the national average. From this analysis it can be seen that:
- Tees Valley has an under-developed business base relative to the size of the local population. There are 415 businesses for every 10,000 working age residents – this is approximately two-thirds of the national level and highlights the need to grow the area's business base as a means of creating additional employment opportunities and economic output;
 - Whilst the scale of the challenge facing Tees Valley in respect of growing the business base is clear, recent performance has been encouraging. The number of businesses in Tees Valley grew by 26.8% over the period 2012 to 2018, outstripping the rate of growth observed nationally (24.2%), although it must be recognised that local growth was achieved from a much lower base. The recent increase in the number of local businesses must be accelerated moving forwards;
 - Tees Valley is more export-oriented than the UK economy as a whole. In 2017, Tees Valley recorded a balance of trade in goods surplus with goods exports totalling £3,162m – 7% higher than goods imports (£2,956m)^{xliii}. In contrast, the UK economy ran a balance of trade in goods deficit in the same year: goods exports totalled £338,739m – representing just 71% of goods imports (£475,774m)^{xliiv}. Growing the Tees Valley economy therefore offers

an opportunity to add value to UK PLC by reducing the national trade deficit^{xlv}.

FIGURE 5.2 BUSINESS ENVIRONMENT PRODUCTIVITY SCORECARD



Source: Various

Business Density

- 5.4 Tees Valley has the lowest business density of any LEP in England, with just 415 enterprises per 10,000 working age residents in 2018. This corresponds to approximately two thirds of the UK rate of 643 enterprises per 10,000 residents. In order for the Tees Valley to increase its business density in line with the national average, the area’s business base would need to increase by a further 9,500 businesses.
- 5.5 The under-developed business base is, in part, a reflection of Tees Valley’s industrial heritage. Traditionally, the area relied upon a small number of large employers and this has dampened down entrepreneurial activity.
- 5.6 The scale of the challenge facing Tees Valley in order to replicate national levels of business density is clear and a step change in levels of business start-ups and support will be required to facilitate this. Significantly increasing the growth trajectory of the local business base offers the potential to drive economic growth and new employment, whilst also creating companies that are embedded in the local area and supply chains. Increasing the number of businesses will also help to protect the local area against economic shocks, by reducing the reliance of particular sectors on a small number of major employers.

Business Growth

- 5.7 In recent years, the Tees Valley business base has grown at a faster rate than that of the Northern Powerhouse and the UK. Between 2012 and 2018, the total number of businesses in the local economy increased by 26.8%, in comparison with 24.2% across the UK.
- 5.8 The stronger performance observed within Tees Valley has been underpinned by higher business start-up rates, as opposed to higher levels of business survival, as shown in Figure 5.3 for the period 2012-2017 (the latest available data). The extent to which the local economy has outstripped the performance of the UK and the Northern Powerhouse appears to have softened in 2016 and 2017, however. The graph also shows that the Tees Valley business base contracted in 2017, with the business birth rate declining and being overtaken by an increasing death rate.
- 5.9 Moving forward, therefore, it is considered that efforts to grow the business base in Tees Valley should focus on both: raising levels of entrepreneurship in order to stimulate more business start-ups; and introducing measures to increase survival rates.

FIGURE 5.3 BUSINESS BIRTH AND DEATH RATES 2012-17



Source: ONS Business Demography

Teesside University

Teesside University represents a key strength of Tees Valley's business environment. Previously described by Vince Cable MP, as *"one of the best universities for business in Britain"* it was also a finalist in the Outstanding Entrepreneurial University category of the 2018 Times Higher Education Awards. The award recognises those institutions which have delivered an exceptional approach to embedding entrepreneurship within their culture and programmes.



The University is one of the few nationally to run the BA (Hons) Team Entrepreneurship degree. It runs a number of projects designed to support start-ups in their early stages and equip entrepreneurs with the skills, knowledge and support they need to grow their companies. This includes: the Launchpad Business Incubator (providing co-working space for students, graduates, alumni-entrepreneurs and corporate partners to collaborate in a unique start-up ecosystem); and Innovate Tees Valley* (providing support, funding and mentoring as well as a platform to help build innovation capacity and deliver growth).

Support is provided to existing businesses and university spin-outs. The success of the approach is reflected in HEBICIS** data which shows that, in 2017, there were 143 start-ups founded by Teesside University graduates which were still active after 3 years of business. These firms had a combined estimated turnover of £20.8m, placing Teesside amongst the top 10 performing universities nationally.

**Innovate Tees Valley is delivered in partnership with Digital City, NEPIC, MPI and Creative Fuse.*

***Higher Education Business and Community Interaction Survey*

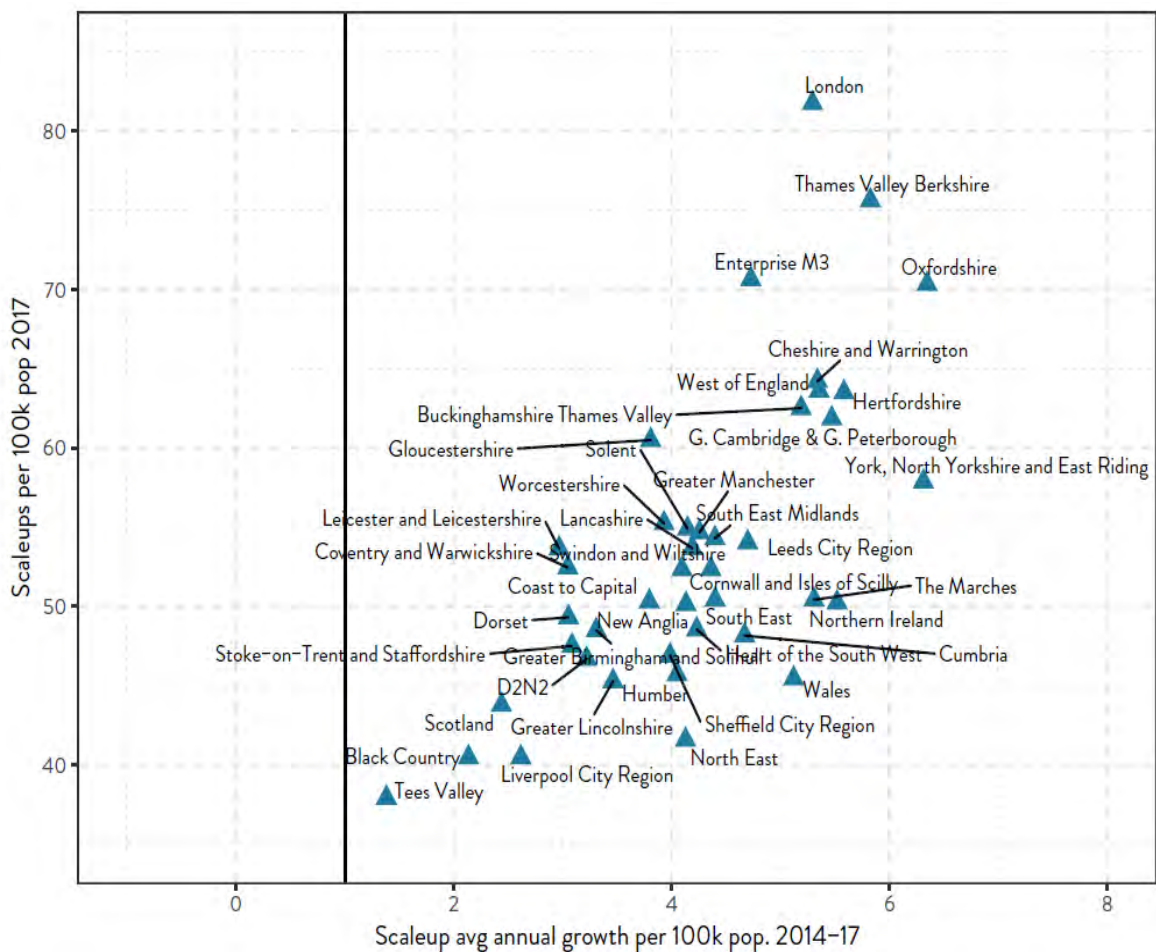
Scale-Ups

5.10

Issues of low business density within Tees Valley are compounded by weak scale-up performance. Scale-ups are defined as those businesses that demonstrate growth of 20% per annum over a three-year period with respect to employee numbers, turnover or both (achieved from a base of at least 10 employees). High representation or growth in scale-ups can help to drive growth in employment and value in local areas.

- 5.11 Research published by the ScaleUp Institute in 2019^{xlvi} assessed the performance of all LEPs and devolved nations with respect to scale-up density and growth. This is summarised in Figure 5.4 and shows that:
- Scale-up density is low: Tees Valley is the only area LEP/devolved nation in the UK with less than 40 scale-ups per 100,000 residents; and
 - Scale-up growth is low: between 2014 and 2017 the number of scale-up business in Tees Valley grew by 1.4% per annum. This is the lowest figures recorded across all the geographies assessed.

FIGURE 5.4 SCALE-UP PERFORMANCE: LEP'S/DEVOLVED NATIONS



Source: Scale-Up Institute (2019)

- 5.12 This is consistent with earlier research from the ScaleUp Institute^{xlvii} work which classified Tees Valley as an area that ‘needs improvement’ with respect to both scale-up density and growth. Positive interventions have been put in place with a view to increasing local scale-up performance, although it is too early to evaluate the impacts and further support is likely to be required given the scale of the challenge. The ScaleUp Institute work acknowledges that the Combined Authority has: *“responded positively to the Institute’s finding that scale-ups in its area were not capitalising on the opportunity to grow further. The Authority*

worked with Teesside University to develop LEAP 50 an imaginative offer focusing on the barriers that scale-up businesses can face.”

5.13 Key barriers to the growth of scale-ups in Tees Valley^{xlviii} have previously been identified as:

- Accessing available talent that meets the needs of businesses;
- Meeting the training and development needs of the existing workforce (including leadership development); and
- Accessing new markets and customers (including larger corporate supply chains).

5.14 In addition, research by Durham University Business School^{xlix} concluded that absorptive capacity within Tees Valley is low relative to other Local Enterprise Partnership and that absorptive capacity tends to be lower amongst smaller businesses. This may also be constraining the growth of scale-ups. Previous analysis by the Enterprise Research Centre^l highlights that absorptive capacity is disproportionately important in driving innovation and growth in SMEs. This is because R&D in SMEs is less likely to be formalised and therefore more dependent upon the ability to draw upon external knowledge spillovers.

Supporting Business Growth

5.15 The Tees Valley Business Survey (2018) sought views regarding those factors currently constraining business growth. Whilst the data is based upon a modest sample size (394 completed surveys were submitted) it nevertheless provides a useful ‘temperature test’ of local business views.

5.16 Key obstacles to growth identified by respondents are summarised below. This highlights that issues related to skills/recruitment and cashflow/finance, as well as the strength of existing/access to new markets emerged as particular barriers amongst participant businesses:

- Finding suitably skilled people: 44% of respondents;
- Cash flow: 33% of respondents;
- Access to finance: 29% of respondents;
- UK market demand: 19% of respondents;
- Access to new markets or supply chains: 18% of respondents;
- Skills of existing staff: 17% of respondents;
- Assistance for research, development and innovation: 16% of respondents; and
- Availability of suitable development sites/premises: 16% of respondents.

Business Demography

5.17 Historically, the Tees Valley economy was dominated by a small number of large employers. The latest ONS data (Table 5.1) indicates that the structure of the business base is now broadly in alignment with the UK average, albeit with:

- A lower proportion of micro-businesses locally (88.0%) in comparison with UK levels; and
- A higher proportion of small, medium and large firms relative to the UK average.

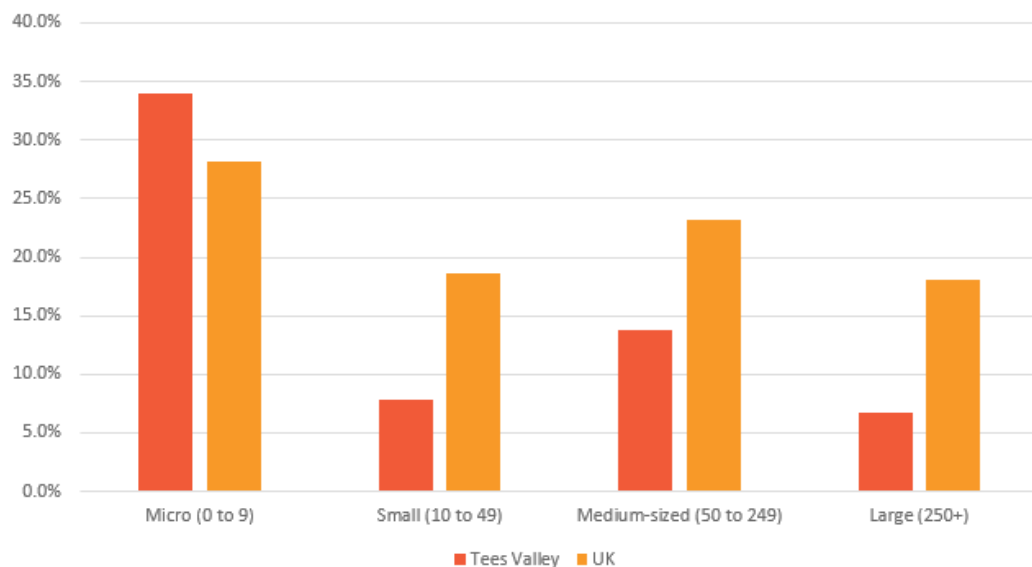
TABLE 5.1 STRUCTURE OF BUSINESS BASE BY SIZE (NUMBER OF EMPLOYEES) (2018)

	Micro (0 to 9)	Small (10 to 49)	Medium-sized (50 to 249)	Large (250+)
Tees Valley	88.0%	9.6%	1.9%	0.5%
UK	89.3%	8.7%	1.6%	0.4%

Source: ONS UK Business Counts

5.18 The structure of the local business base has shifted in recent years reflecting the increasing importance of micro-businesses. Figure 5.5 provides a summary of growth in the business base by employment size band. This shows that growth has been driven by an expanding cohort of micro-businesses, which increased by 34.0% between 2010 and 2018. This is higher than the corresponding figure for the UK (28.1%) and more than double the rate of growth observed across any other size band within Tees Valley. However, this was from a very low base and micro-businesses are still significantly under-represented in Tees Valley. This imbalance acts to increase the region's relative reliance on the economic contribution of its larger employers.

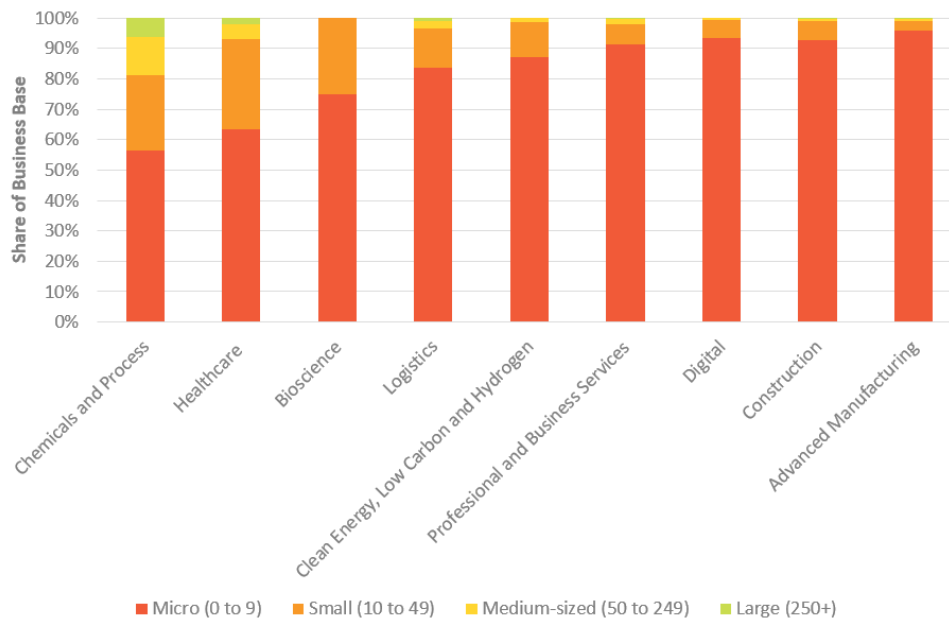
FIGURE 5.5 GROWTH IN BUSINESS BASE BY EMPLOYMENT SIZE BAND (2010-2018)



Source: ONS UK Business Counts

5.19 The size of the business base varies significantly by sector, however, as illustrated at Figure 5.6. This shows that the chemicals and process and healthcare sectors are characterised by a higher proportion of larger employers. At the other end of the spectrum, the advanced manufacturing, construction and digital sectors are comprised almost exclusively of micro and small businesses.

FIGURE 5.6 EMPLOYMENT BY SIZE BAND AND SECTOR

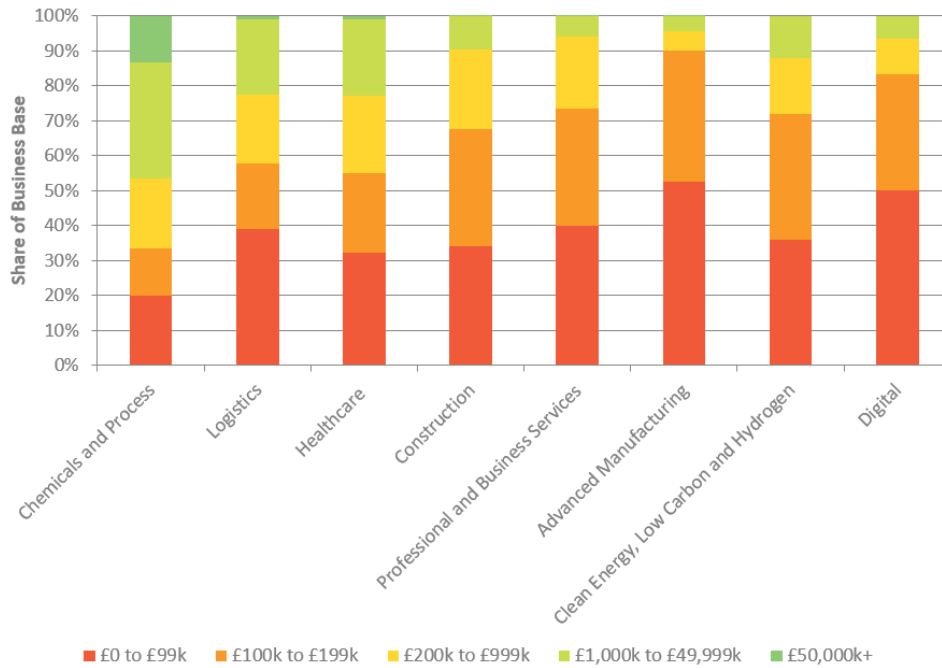


Source: ONS UK Business Counts (2018)

5.20

Similar sectoral variations can also be observed with respect to turnover, as shown in Figure 5.7. This illustrates that the chemicals and process, logistics and health sectors are generally characterised by a higher proportion of businesses with turnovers in excess of £1m. The scale of some of Tees Valley’s major chemical and process operators is also highlighted, with the data indicating that more than 10% of businesses in the sector have a turnover greater than £50m.

FIGURE 5.7 TURNOVER BY SIZE BAND AND SECTOR



Source: ONS UK Business Counts (2018)

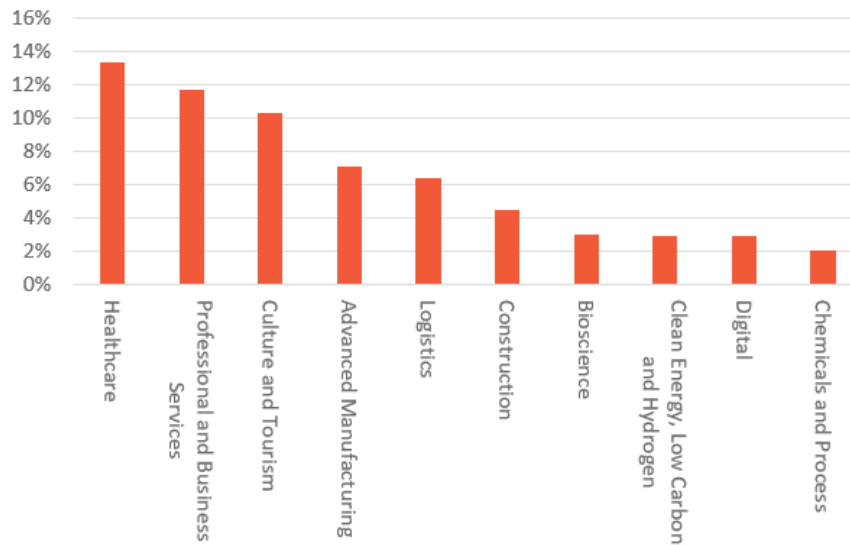
NB: Bioscience excluded from analysis due to sampling issues

Employment

5.21

Figure 5.8 provides a summary of the relative employment share of each of the Combined Authorities' priority sectors. This highlights the importance – in employment terms – of the healthcare, professional and business services and culture and tourism sectors. Levels of productivity by sector are considered in Table 5.2 and the accompanying analysis.

FIGURE 5.8 SECTORAL EMPLOYMENT



Source: Durham University/Tees Valley Economic Assessment (Figure 7.31)

Foreign Ownership and FDI Offer

- 5.22 **Port of Tees and Hartlepool:** what sets us apart from other locations are our excellent port facilities. Tees Valley has ten miles of operational river along the Tees, the deepest berths on the east coast of England, 5.4km of quayside, five ro-ro berths and more than 1.4 million sq.ft. of warehousing space. The port is the UK's northern gateway for global shippers and, with lock-free access to the North Sea, Tees Valley is ideal for companies who need access to international markets. The port facilities are well-connected via road and rail, providing easy access to the rest of the UK.
- 5.23 **Durham Tees Valley Airport:** recently brought back into public ownership, Durham Tees Valley Airport connects Tees Valley to more than 300 global destinations with KLM Royal Dutch Airlines. There are three daily connections to the world-renowned, award-winning Schiphol hub as well as multiple daily flights to Aberdeen with connectivity to the Highlands & Islands and Scandinavia with Eastern Airways. A ten-year plan for the airport will see ten new routes for leisure and business passengers by 2022.
- 5.24 In overall terms, it is estimated that foreign-owned firms account for 23.0% of employment and 30.9% of turnover in Tees Valley. This would appear to suggest that foreign-owned firms are more productive than the indigenous business base and is likely to be a function of the tendency for foreign-owned firms to benefit from proprietary knowledge and high levels of absorptive capacity^{li}.
- 5.25 Foreign-ownership does not, however, represent a silver bullet with respect to productivity growth. Whilst such firms can import managerial and technical expertise, they can also: increase an area's vulnerability to external decision making; limit the capability to make local investment decisions; and act as 'branch plants' with investment in higher value-added functions (such as R&D)

focussed elsewhere. One of the principal challenges for Tees Valley in delivering future productivity growth is to better leverage the area's internationally significant innovation assets in sectors such as advanced manufacturing and process and chemicals in order to encourage foreign-owned businesses to undertake more R&D locally, particularly aligned to areas of sector growth, including clean energy, low carbon and hydrogen.

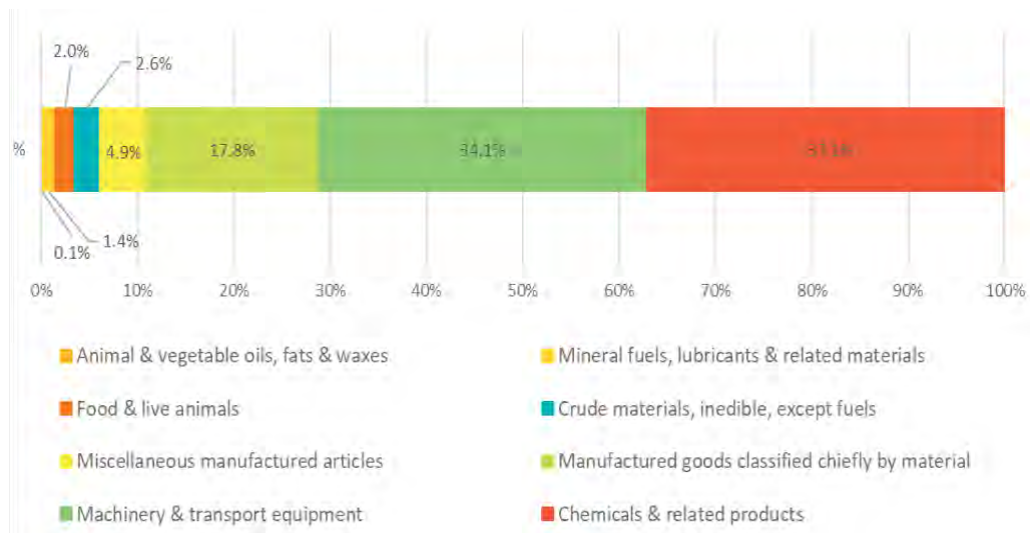
- 5.26 Those sectors of the local economy where foreign-ownership is most prevalent include:^{lii}
- Clean Energy, Low Carbon and Hydrogen: accounting for 39.9% of employment and 63.6% of turnover in the sector within Tees Valley;
 - Advanced Manufacturing: accounting for 32.6% of employment and 49.0% of turnover in the sector within Tees Valley; and
 - Chemicals and Process Industries: accounting for 66.3% of employment and 39.3% of turnover in the sector within Tees Valley. This would suggest that, within this particular sector, foreign-owned businesses are less productive than domestic ones.
- 5.27 The above three sectors are also those where Tees Valley sees significantly higher concentrations in terms of both the number of enterprises and in employment.
- 5.28 The scale of employment and turnover supported by foreign firms in these high productivity sectors highlights the importance to Tees Valley of ensuring that the area maintains and builds upon its existing proposition to these sectors within the context of global competition.
- 5.29 The dominance of these sectors in relation to foreign-ownership is also highlighted by considering the 50 largest foreign-owned businesses in Tees Valley, which includes:
- 20 advanced manufacturing businesses (including 6 automotive manufacturers);
 - 15 businesses in the process, chemicals and energy sectors; and
 - 5 logistics businesses.
- 5.30 It is clear, therefore that inward investment and foreign-ownership is focussed on industrial activities, rather than the service sector. This reflects both Tees Valley's economic heritage, as well as those sectors where Tees Valley is recognised as internationally significant strengths at present.

Exports

- 5.31 Tees Valley is an export-oriented economy and one of the few areas nationally to run a trade in goods surplus. In 2017, Tees Valley goods exports totalled £3,162m. Imports stood at £2,956m, resulting in a surplus of £206m^{liii}.
- 5.32 Official data regarding the sectoral breakdown of goods exports is not available at the Combined Authority level. Figures for Tees Valley and Durham are, however, available for a small number of broad sectors. This shows the importance of three key export (of goods) sectors:

- Chemicals and related products: £1.79bn of exports (37.1% of total exports from Tees Valley and Durham);
- Machinery and equipment: £1.65bn of exports (34.1% of total exports from Tees Valley and Durham); and
- Manufactured goods: £863m of exports (17.8% of total exports from Tees Valley and Durham).

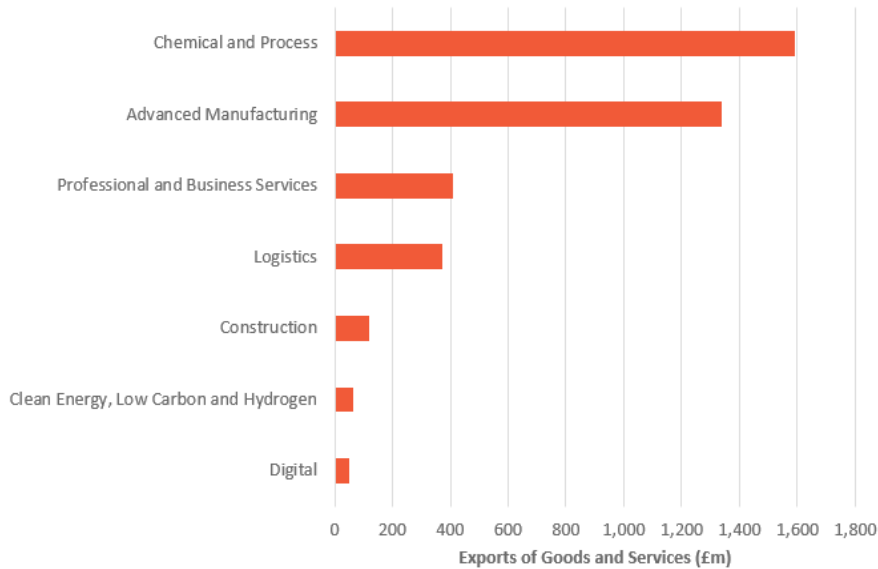
FIGURE 5.9 TEES VALLEY AND COUNTY DURHAM GOODS EXPORTS BY SECTOR, % OF TOTAL



Source: HMRC Regional Trade Statistics

- 5.33 The above data relates to a geographical area that extends beyond the Combined Authority's boundary. Nevertheless, it is considered to reflect some of the key, internationally recognised, strengths of the local economy, in particular: chemicals and process industries; and advanced manufacturing (including automotive).
- 5.34 Additionally, Durham University have produced bespoke sectoral total (goods and services) export estimates at the Tees Valley geography. Figure 5.10 provides a breakdown of total exports of goods and services by sector for the Tees Valley in 2016. This clearly reinforces the dominance of the chemicals and process and advanced manufacturing sectors (estimated to account for around £1.59bn and £1.34bn of goods and services exports respectively in 2016 prices).

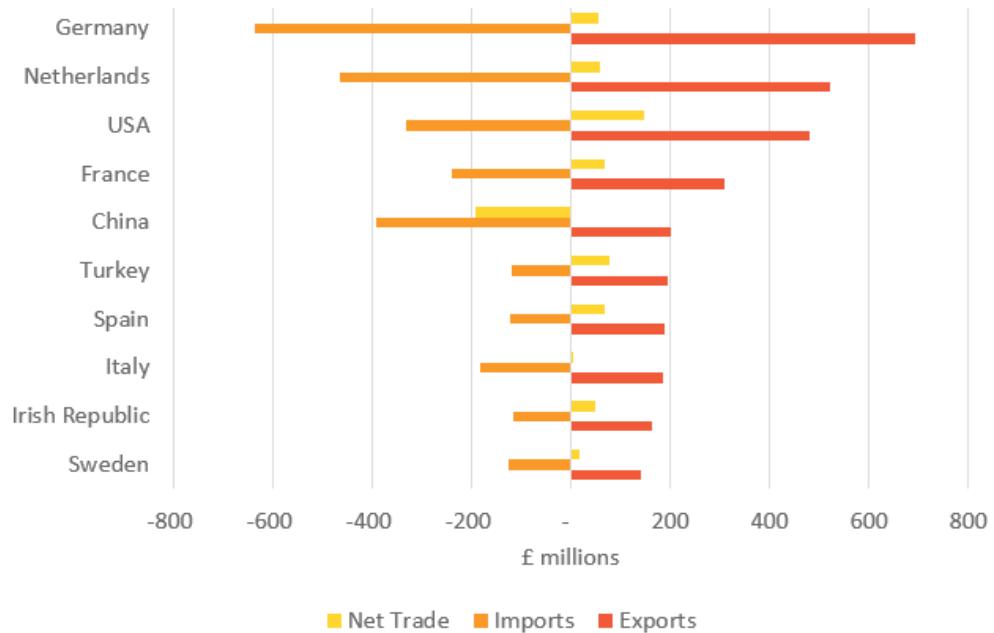
FIGURE 5.10 TEES VALLEY GOODS AND SERVICES EXPORTS BY SECTOR, 2016



Source: Durham University^{liv}

- 5.35 The top 10 goods export destinations for Tees Valley and Durham are summarised at Figure 5.11. Seven of the countries listed are members of the European Union, showing the importance of Tees Valley's trade links to the area.
- 5.36 In total, the 10 countries listed accounted for 64% of all exports from and the area and 59% of imports into the area in 2017 and it can be seen that Tees Valley and Durham recorded a net surplus on its trade in goods with all of the countries excluding China.

FIGURE 5.11 TEES VALLEY AND DURHAM: TOP 10 GOODS EXPORT DESTINATIONS (2017)

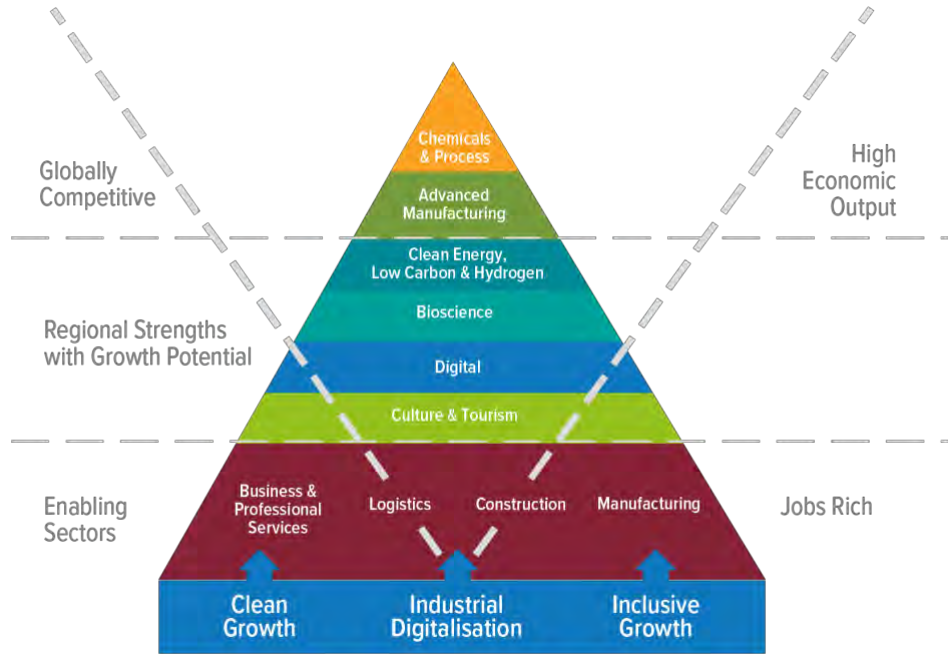


Source: HMRC Regional Trade Statistics

Sectoral Strengths

- 5.37 The Tees Valley business base is diverse and comprises of a range of sectors characterised by different levels of maturity, productivity and labour intensity. In high level terms, sectors can largely be considered to fall within one of three categories, although there is inevitably a degree of overlap between each:
- **Globally Competitive Sectors:** well-established sector strengths where the Tees Valley is widely regarded as benefitting from world class expertise and a business base comprised (largely) of globally significant firms. Local concentrations of employment and economic output are typically high in these sectors, reflecting the presence of high volumes of activity;
 - **Regional Sector Strengths with Growth Potential:** sectors where the Tees Valley is not currently recognised as being globally competitive, but where the conditions are in place locally – or could be established – to drive growth moving forwards. Often these are sectors where strong growth is anticipated at the national level and where an opportunity exists for the area to outstrip national performance by better exploiting: locally-driven research/innovation assets; or emerging synergies with existing sector specialisms; and
 - **Enabling Sectors:** job rich sectors that account for high volumes of employment in overall terms and which play an important role in supporting the effective functioning of the wider economy through the goods or services that they provide. The logistics sector, for example, supports the efficient movement of raw materials and finished products, which is beneficial to all parts of the economy. In many instances, enabling sectors also account for high volumes of employment at the national level and, as a result, do not shape the local distinctiveness of the Tees Valley economy in the same way as the global and regional sector strengths outlined above.
- 5.38 The diagram overleaf provides an overview of the relative positioning of Tees Valley's priority sectors, within this context, as well as the inter-relationships between them. Table 5.2 (and supporting text) explore the economic contribution of each and the role that they play in supporting the local distinctiveness of the Tees Valley economy. An overview of the definition of each sector (based upon 4 digit SIC codes) is provided at Appendix 1. It should be noted, however, that GVA data for Tees Valley is not available at the 4 digit SIC level. As such, broader sector definitions (based upon 2 digit SIC codes) have necessarily been applied as a 'best fit'.

FIGURE 5.12 TEES VALLEY SECTOR INTER-RELATIONSHIPS AND LINKS TO PRODUCTIVITY



Source: TVCA Sector Action Plan

NEPIC

The North East of England Process Industry Cluster (NEPIC) was established in 2004. It is a membership organisation that helps to build a globally-competitive chemical processing cluster across the North East of England, including Tees Valley. Its contribution to the North East's economic output since 2004 was estimated at £3.5 billion in 2016. In 2014, NEPIC was the first UK cluster to be awarded the Gold standard ESCA accreditation for cluster management excellence.



TABLE 5.2 SECTOR SUMMARY TABLE

	Advanced Manufacturing	Bioscience	Chemicals and Process	Clean Energy, Low Carbon and Hydrogen	Construction	Culture and Tourism	Digital	Logistics	Professional and Business Services	Source
Employment (2017)	18,910	7,975 ^{lv}	5,445	7,760	12,100	27,560	7,800	17,090	31,315	BRES
Employment Change (2012-2017)	26%	n/a	-21%	4%	-23%	9%	2%	14%	-6%	EMSI
Location Quotient (Employment)	1.5	1.8 ^{lvi}	2.2	1.4	1.1	0.9	0.6	0.9	0.7	BRES
Enterprises (2018)	2,790	495 ^{lvii}	80	385	2,215	1,980	750	950	2,840	ONS, NOMIS, UK Business Counts – enterprises.
Change in number of enterprises (2017-2018)	-9.9%	n/a	6.7%	-1.3%	1.8%	3.1%	0.7%	-5.0%	0.7%	ONS, NOMIS, UK Business Counts – enterprises.
Location Quotient (Enterprises)	2.5	n/a	1.4	1.2	1.0	0.9	0.5	0.8	0.8	ONS, NOMIS, UK Business Counts – enterprises.
GVA per worker (£.000, 2017)	51.7	135.4 ^{lviii}	131.5	81.4	69.0	n/a	103.1	39.5	81.3	ONS, Annual Business Survey
R&D intensity (2016 R&D stock per unit of sales) (£m 2000 prices)	0.05	n/a	0.005	n/a	0	n/a	0.005	0	0.004	Durham University
Change in R&D intensity (2010-2016)	-17.0%	n/a	-42.0%	n/a	10.3%	n/a	144.9%	11.5%	70.7%	Durham University
Exports (£m) (2016)	1,344	n/a	1,592	48.8	89.4	n/a	38.6	377.3	421.5	Durham University
% firms exporting (2016)	55.1%	n/a	68.3%	26.9%	15.9%	n/a	55.3%	30.4%	38.5%	Durham University
Change in exports (2011-2016)	83.1%	n/a	56.9%	-49.2%	n/a	n/a	102.8%	-28.7%	153.8%	Durham University
Exporting intensity - % sales exported (2016)	42.6%	n/a	26.3%	2.8%	0.8%	n/a	2.2%	6.9%	5.9%	Durham University
% foreign-owned employment (2016)	32.6%	n/a	66.3%	39.9%	14.6%	n/a	20.1%	27.1%	11.8%	Durham University
% turnover belonging to foreign-owned firms (2016)	49.0%	n/a	39.3%	63.6%	11.9%	n/a	8.3%	21.2%	21.0%	Durham University

Performance of Key Sectors

- 5.39 Key headline messages from the table on the preceding page are summarised below:
- Six sectors (bioscience^{lix}; chemicals and process; digital; clean energy, low carbon and hydrogen; professional and business services; construction; and advanced manufacturing) are more productive than the Tees Valley all sector average. This is based upon an average GVA per worker of £49,300 in the local area;
 - Three sectors (bioscience; chemicals and process; and digital) are more productive in Tees Valley than at the national level. It should be noted, however, that analysis contained within the *Tees Valley Combined Authority: Specialist data requirements to inform the Local Industrial Strategy* report identifies advanced manufacturing as having the highest Total Factor Productivity of all Tees Valley sectors. The analysis, which is not presented in the table above, also led Durham University to conclude that – in the national context – “*Tees Valley performs relatively well [in relation to Total Factor Productivity] in advanced manufacturing and to some extent energy and the circular economy*”;
 - Four sectors (advanced manufacturing; chemicals and process; clean energy, low carbon and hydrogen; and healthcare) have location quotients higher than 1.0 in relation to both employment and the number of enterprises. The advanced manufacturing and chemicals and process sectors recorded the highest values. Location quotients are a measure of local concentration of activity relative to the national position, with a value of more than one being indicative of over-representation;
 - Whilst no data is available to calculate an enterprise location quotient for bioscience, the sector has an employment location quotient of 1.8. This would suggest strong local representation;
 - In absolute terms, the value of exports from Tees Valley is dominated by the chemicals and process and advanced manufacturing sectors. Both also perform strongly with respect to the proportion of firms involved in export activity, as does digital; and
 - Over the period 2011-2016, growth in exports was observed in the following sectors: professional and business services; digital; advanced manufacturing; and chemicals. The rate of growth was strongest in professional and business services and digital.
- 5.40 Consultation with stakeholders as part of the LIS process identified the difficulty in obtaining robust data that fully reflects the scale and strength of the local digital and bioscience sectors. In recognition of this, bespoke, deep-dive exercises were commissioned by the Combined Authority. Wherever possible, the analysis presented in the preceding table reflects the findings of these exercises. Given the richness of the data gathered through the deep-dive work, it is considered helpful to provide more detailed overviews of each sector and their contribution to the Tees Valley economy. These are presented in the following paragraphs.

Digital

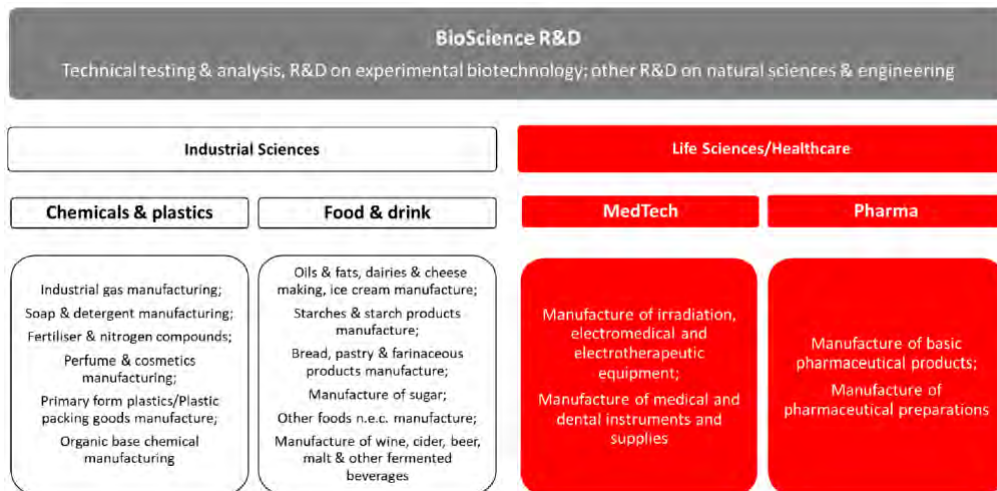
- 5.41 *Research into the Digital Sector in Tees Valley (2019)* provides a more detailed understanding of the sector and its drivers. The document recognises that there are alternative ways of defining the sector and the level of employment that it supports but acknowledges that several sources (including BRES and EMSI) suggest that digital currently supports in the order of 7,000 jobs in Tees Valley.
- 5.42 Although the sector is under-represented relative to the national level in employment terms (with a location quotient of less than one) the report suggests that recent growth in employment has been stronger in Tees Valley. Looking to the future, the number of digital jobs in Tees Valley is projected to grow by 8% between 2017 and 2024.
- 5.43 With respect to the spatial distribution of employment, the highest number of jobs are in Darlington and Stockton-on-Tees, although figures for Darlington are skewed by a strong telecommunications sub-sector (linked to call centre activities in the borough).
- 5.44 Across Tees Valley as a whole, the digital offer is particularly strong in relation to the following sub-sectors:
- Smart public sector services: with key local businesses including Cubic, Northgate Public Services and Transend;
 - Advanced web development: with key local businesses including Clicksco, Colewood, Mabo and Visualsoft;
 - Telecommunications call centres: with key local businesses including EE and Virgin Media; and
 - Animation, visualisation and games: with key local businesses including Animmersion, Double Eleven, SockMonkey and Spearhead Interactive.
- 5.45 The research examines the digital intensity of all key industrial sectors in Tees Valley, concluding that each is “*broadly in line*” with the national average. Professional and business services (including legal and finance) appear to have higher levels of digital intensity at the local level. The manufacturing (digital intensity of 17%) and engineering (digital intensity of 18%) sectors – and process engineering in particular (digital intensity of 21%) – generally have lower levels of digital intensity within Tees Valley than nationally, but are identified within the research as having made “*significant progress in recent years towards exploiting digital technologies.*”
- 5.46 This is reflected in the fact that a number of non-digital businesses in these sectors are amongst the top ten recruiters of digital talent in Tees Valley. This includes:
- Johnson Matthey (chemicals and process);
 - Cummins (manufacturing); and
 - Worley (chemicals and energy).
- 5.47 The research highlights the importance of an area’s quality of place offer in attracting and retaining digital talent. Whilst the place offer of Valley is considered in greater detail in Section 7.0, the research states that:

*“The **cost of living, cost of housing, access to coast and the beauty of the countryside** are significant factors in helping to retain digital talent. However, Tees Valley has an **image problem** with people not familiar with the area: it is perceived as unattractive and run down by outsiders, and it is difficult to win over people drawn by the brighter lights of Newcastle, Leeds, Manchester and London.”*

Bioscience

- 5.48 *Opportunities for the Tees Valley Bioscience Sector* applies an alternative, broader, definition to the bioscience sector than that adopted by Durham University in *Tees Valley Combined Authority: Specialist data requirements to inform the Local Industrial Strategy*. The definition focused on recognises the overlap between activities in wider sectors that have a broader overall focus (including bio-based production in the chemicals and plastics sector). It brings together Tees Valley’s distinctive blend of key world-leading and innovative players, including:
- FujiFilm Diosynth Biotechnologies: development and manufacture of biologics and biopharmaceuticals;
 - Calysta: development and testing of animal feed for global market introduction;
 - Invista Performance Technologies: R&D and biotechnology for materials;
 - Marlow Foods: manufacture of food and drink using fermentation-based biotechnology processes^{lx};
 - Ensus: one of Europe’s largest bioethanol plants, located at Wilton.
- 5.49 The definition identified via this approach is made up of 27 individual industries or sub-sectors across five broad segments of the economy: bioscience R&D; chemicals and plastics; food and drink; medtech; and pharmaceuticals. This is summarised in the diagram overleaf.

FIGURE 5.13 BESPOKE BIOSCIENCE SECTOR DEFINITION AND INTER-RELATIONSHIPS



Source: Opportunities for the Tees Valley Bioscience Sector (2019)

5.50 Based upon this wider definition, Opportunities for the Tees Valley Bioscience Sector estimates that the local bioscience sector comprises of 495 companies, with the majority being SMEs. The collective economic contribution of these businesses is set out below:

- 7,975 direct jobs supported, which translates to a location quotient of 1.8. The research states that both the existing location quotient and forecast growth in bioscience job numbers for Tees Valley are higher than other northern regions; and
- Responsible for sales worth £2.6 billion in 2015.

5.51 Tees Valley also benefits from a distinctive and integrated innovation ecosystem. This supports the existing activity in the area and could provide the platform for further development of a locally-based cluster. Key innovation assets include:

- Centre for Process Innovation: the High Value Manufacturing Catapult offers R&D and facilities related to industrial biotechnology and represents the UK's largest bio-innovation centre;
- National Biologics Manufacturing Centre: a key element of CPI's integrated innovation offer, the NBMC is a central hub for the UK-wide biologics sector, focussed on the commercialisation of R&D;
- National Horizons Centre: a Teesside University-led centre of bioscience excellence, offering higher education provision, R&D, knowledge exchange, CPD and access to facilities for the sector;
- The Healthcare Innovation Centre: a collaboration between Teesside University and TWI which works with industry and clinical partners for the development of new tools and therapies for healthcare;
- FujiFilm Biocampus: provision of office and lab spaces. The importance of further planned investment by FujiFilm is recognised in the Life Sciences Sector Deal; and

- South Tees Institute for Learning, Research and Innovation: part of the South Tees Hospitals NHS Foundation Trust, the Institute supports clinical research projects, offers opportunities to collaborate and partner with other organisations, and an Innovation Hub supporting medical and health-related innovation and R&D.

Clean Energy, Low Carbon and Hydrogen

National Context

- 5.52 There is a clear government commitment to pursuing clean energy, low carbon and hydrogen as part of the wider Clean Growth agenda. The national Clean Growth Strategy^{lxii} sets out how the country can benefit from low carbon economic opportunities through the creation of new technologies and new businesses. In addition, government has established, through the Industrial Clusters Mission an ambition to create: *“the world’s first net-zero carbon industrial cluster by 2040 and at least one low-carbon cluster by 2030”*^{lxii}.
- 5.53 Embracing the transition to clean energy, low carbon and hydrogen, including the creation of a low-carbon exemplar location that others in the UK and internationally can learn from and replicate, offers an opportunity to position at least one UK cluster as a leading area for global inward investment and innovation^{lxiii}. Furthermore, the transition will also ensure that industry is better equipped to tackle climate change (now and in the future) – helping to support the environmental and economic sustainability of energy intensive industry in the long-term^{lxiv}.
- 5.54 Government is currently consulting on the Industrial Energy Transformation Fund (IETF), which will have a UK-wide budget of £315m over a five year period (to 2024). The IETF is intended to support businesses within energy intensive industries to:
- Cut their bills and emissions through increased energy efficiency; and
 - Transition to a low carbon future through the use of lower carbon energy and processes.
- 5.55 It is anticipated, by government, that the IETF and the Industrial Clusters Mission will complement one another, with:
- The IETF supporting short-term projects across the UK; and
 - The cluster focus adopting a more long-term and place-based approach to industrial decarbonisation.

Tees Valley Position

- 5.56 With one of Europe’s largest integrated industrial complexes and a concentration of both energy producing and energy intensive industries, Tees Valley represents an ideal location to pilot and demonstrate the benefits of clean energy, low carbon and hydrogen on productivity and supply chain integration – focussing on industrial decarbonisation and the application of the circular economy. The Oil and Gas Climate Initiative, a group of ten of the world’s leading oil and gas companies, assessed over 50 locations across Europe to develop a 3GW gas Carbon Capture and Storage (CCS) power station, and

concluded that Tees Valley was the optimal location. The initiative is now developing what will be the world's largest CCS power station in Tees Valley, a key element of what will be the world's largest CCS network based in Tees Valley.

- 5.57 The area's clean energy, low carbon and hydrogen proposition is focussed on the potential to successfully deliver industrial decarbonisation through a range of complementary initiatives including: Carbon Capture Utilisation and Storage (CCUS); the Hydrogen Economy; and bulk low carbon/renewable energy. It is supported by the coalescence of a unique breadth and depth of assets:
- An established industrial ecosystem: Tees Valley is home to the largest chemical complex in the UK and the second largest in Europe (by manufacturing capacity)^{lxv};
 - Geographically concentrated and highly integrated: the area benefits from many chemical and process businesses being located within close geographical proximity of one another, with key sites at Wilton, Billingham and Seal Sands connected via pipeline corridors (Figure 5.14). This allows for easy movement of outputs and feedstocks between businesses;
 - Geographical location: Tees Valley's is situated in close proximity to potential North Sea carbon storage sites. Coupled with the existing concentration of industry, this makes the area a prime candidate for piloting CCUS. Tees Valley is also ideally positioned to land power from large scale offshore wind power developments (building on the commitments of the Offshore Wind Sector Deal) and provides deep water port access to sites such as Dogger Bank;
 - Infrastructure and expertise to support the Hydrogen Economy: more than 50% of all UK hydrogen is produced in Tees Valley. The area already has significant expertise in operating hydrogen systems at scale (including hydrogen production and storage) and has an operational distribution infrastructure in place; and
 - Existing innovation specialisms: a network of innovation providers, with existing specialisms and internationally significant capabilities linked to clean energy, low carbon and hydrogen is already established in Tees Valley. This is considered in greater detail overleaf.

Current Situation

Scale and Importance of the Clean Energy, Low Carbon and Hydrogen

- 5.58 Tees Valley's clean energy, low carbon and hydrogen proposition is principally intended to address downside risks and emerging opportunities in key sectors.
- 5.59 The chemicals and process industries represent a significant local strength with a clear comparative advantage relative to Great Britain:
- The sector supported an estimated 5,445 jobs in Tees Valley in 2017, resulting in a location quotient of 2.2; and
 - Gross Value Added from the sector in 2017 was estimated at approximately £802million. This represents a location quotient of 2.6.
- 5.60 The same analysis provides the following estimates of the economic footprint of the clean energy, low carbon and hydrogen sector at the local level:
- Approximately 7,760 jobs supported in Tees Valley in 2017, representing a location quotient of 1.4; and
 - Gross Value Added of approximately £727million in 2017. This represents a location quotient of 1.1.
- 5.61 Taken together, the sectors make up a significant part of the Tees Valley economy, accounting for 5.0% of employment in the area and 11.7% of Gross Value Added. Nevertheless, it is important to recognise that the data risks understating their wider economic importance.
- 5.62 The chemicals and process industries, for instance, act as an enabler, providing technological solutions to many of the challenges faced 'downstream' in other parts of the economy. It is estimated that the industries have supply chain impacts for 90% of UK manufacturing. A strong and competitive Tees Valley chemicals and process sector – as the largest cluster in the UK – can help to enhance the productivity of UK manufacturing in overall terms.

Key Drivers

- 5.63 Pursuit of the clean energy, low carbon and hydrogen agenda offers an opportunity to address three strategic challenges currently facing Tees Valley:
- A high concentration of Energy Intensive Industries (EIIs);
 - EIIs face relatively high energy costs; and
 - Tees Valley is competing for investment in an increasingly competitive international market place.

High Concentration of Energy Intensive Industry (EII)

- 5.64 The Tees Valley economy is characterised by a high carbon intensity manufacturing base. This reflects the area's industrial heritage, as well as the continued strong representation of businesses (particularly in the chemical and process industries) which are either: energy intensive; or emit high levels of carbon in their own right.

5.65 Consequently, CO₂ emissions in Tees Valley are significantly higher than the UK average, even allowing for the closure of the SSI steelworks^{lxvi}. In 2017, CO₂ emissions per capita were almost double that observed nationally – 10.2 tonnes in Tees Valley compared to 5.3 tonnes across the UK. In order to comply with the Climate Change Act, there is a need to deliver significant CO₂ emissions reductions in the area moving forward. EILs remain a key strength of the local economy and will remain so into the future. As a result, there is a need to decouple economic growth (both generally and in EILs specifically) from CO₂ emissions through adopting a strategic approach to industrial decarbonisation.

High Energy Prices

5.66 Many EILs in Tees Valley (particularly those in the chemical and process industries) sell their products on international markets. As a result, the ability to be price competitive at a global level is fundamental to their economic success. For EILs, this is heavily influenced by energy prices – reflecting the importance of power as a key input.

5.67 Natural gas prices within the UK are amongst the lowest in Europe. In contrast, electricity prices paid by extra-large industrial consumers (EILs) in the UK are amongst the highest^{lxvii}. These high electricity costs represent a competitiveness issue for EILs in the area.

Increased Competition

5.68 Tees Valley competes globally for inward investment in the chemicals and process industries and many of the largest businesses currently based within the area are in foreign ownership. The sector is becoming increasingly clustered around a smaller number of internationally significant locations, and it is therefore critically important that Tees Valley maintains its position as a major European chemicals complex.

5.69 The European Chemistry Industry Council and the European Chemical Site Promotion Platform consider that successful chemicals and process clusters share the following characteristics:

- Positive investment environment
- Availability of land
- Raw material and feedstock supplies at competitive prices
- Energy and utilities at competitive prices
- Relative proximity and easy access to most important customers
- Availability of efficient services (logistics, finance, IT, packaging, security, marketing, promotion etc.)
- Availability of labour (skilled and unskilled) at competitive prices
- Efficient logistics infrastructure
- Low-risk and stable business climate and stable regulatory environment
- Good schooling and educational facilities
- Co-siting & partnering opportunities

These characteristics all exist to varying degrees in Tees Valley, and it will be critical to retain a focus on these to ensure sustainability and future competitiveness for the sector.

The Clean Energy, Low Carbon and Hydrogen Response

- 5.70 Establishing Tees Valley as an exemplar clean energy, low carbon and hydrogen location (underpinned by industrial decarbonisation and the circular economy) offers the potential to address a number of the challenges outlined above. As a local authority area with significantly higher than average CO₂ emissions per capita, Redcar & Cleveland Council's announcement of a climate emergency and setting a carbon neutral target by 2030 demonstrates strong local support towards the development of Tees Valley's Clean Energy, Low Carbon and Hydrogen sector.
- 5.71 Tees Valley will look to harness the existing integration of the sector in order to maximise opportunities to use outputs from one sector as energy/feedstock for another. This will enable the area to ensure the certainty and reliability of feedstocks and energy at competitive prices, whilst also reducing the need to import raw materials. This will help to improve the sector's net balance of trade (which has worsened in recent years at the national level) and reduce its vulnerability to exchange rate volatility.
- 5.72 In addition, a strategic approach to industrial decarbonisation will help to: decouple growth from emissions – enabling Tees Valley to pursue significant further investment from EITs whilst making a significant contribution to delivering the Climate Change Act; and future-proof local industry from the rising costs of emitting CO₂ – helping to ensure that energy costs become more competitive.
- 5.73 Tees Valley's clean energy, low carbon and hydrogen aspirations are not simply a response to existing and emerging challenges. Fully embracing clean energy, low carbon and hydrogen will also help to strengthen the area's proposition in relation to EITs and provide a renewed platform for growth – to be driven by inward investment and the indigenous business base. It will help to establish Tees Valley as the location of choice for global businesses looking to reduce their exposure to future CO₂ emissions costs (with many opportunities focussed on sites such as Wilton, Billingham, Seal Sands and the Development Corporation site). The *Process, Chemicals and Energy Sector Action Plan* (August 2018) summarises the potential impact as follows:

“The development of and investment in the circular economy and resource efficiency represents a significant opportunity for the chemical and process sector to re-shore activity and build new product bases.”

Tees Valley's Clean Energy, Low Carbon and Hydrogen Strengths

- 5.74 The size, geographical concentration and integration of the process, chemicals and energy cluster within Tees Valley – and the important role that these factors play in underpinning the area's clean energy, low carbon and hydrogen proposition – are considered in the paragraphs above. The following section focuses on exploring: how well embedded the concept is locally; which clean

energy, low carbon and hydrogen specialisms are already established in the area; and the key actors across each specialism.

Strategic Commitment

- 5.75 The clean energy, low carbon and hydrogen potential of Tees Valley has been acknowledged and promoted as a strategic priority for the area for a number of years, with much of the work being led by key stakeholders including: Tees Valley Combined Authority; North East Process Industry Cluster (NEPIC); and Teesside Collective (an industry-led public-private sector group including some of the area's major multinational chemical and process businesses).

Teesside Collective

Teesside Collective is a cluster of energy-intensive industries with a shared vision: to establish Teesside as the go-to location for future clean industrial development by creating a Carbon Capture and Storage (CCS) equipped industrial zone.



The project offers a compelling opportunity to progress the UK's industrial and environmental interests hand-in-hand. Teesside Collective can play a significant role in the UK's Industrial Strategy of a low carbon Northern Powerhouse, helping to retain the UK's industrial base, attract new investment and jobs, and meet the UK's climate change targets.

Teesside Collective published a [blueprint for delivering Industrial Carbon Capture and Storage in the UK](#) in 2015 which received widespread support from business organisations, environmental groups, the public sector and academics.

Through an industry-led approach, Tees Valley has succeeded in attracting a group of major oil and gas companies (the Oil and Gas Climate Initiative – OGCI) to develop what will be the world's largest CCUS equipped power station in the area. In addition, we have witnessed one of the world's largest chemical companies replace natural gas for hydrogen for their heating in Tees Valley, significantly reducing their carbon emissions. The region is ready to adopt the technology on a large scale, making a significant contribution to the UK's carbon budget.

- 5.76 Much of the work pre-dates the publication of government's Industrial Strategy White Paper and the production of the LIS. As such, it has not always been presented under the Clean Growth – or more the more Teesside-specific – Clean Energy, Low Carbon and Hydrogen 'straplines'. Rather, it has often been presented using the underlying themes of industrial decarbonisation and the circular economy – both of which feature prominently in the Combined Authority's key policy and strategy documents, including: *Tees Valley Strategic Economic Plan*; and *Investing in Tees Valley's Future 2017-2021*. In addition, the case for establishing Tees Valley as a clean energy, low carbon and

hydrogen exemplar region has been considered more explicitly within documents such as:

- *Tees Valley Combined Authority Low carbon industrial cluster sector research*; and
- Research published by Teesside Collective, which includes a business case for Carbon Capture and Storage and a proposition for an industrial Carbon Capture and Storage pilot.

5.77 It is clear, therefore that the clean energy, low carbon and hydrogen aspirations reflected within the LIS are an extension of existing policy priorities and that much work has already been carried out with key organisations to crystallise, and confirm the rationale for the Tees Valley offer.

Current Clean Energy, Low Carbon and Hydrogen Landscape

5.78 At present, process, chemicals and energy-related industries within Tees Valley are focussed on three key sites of Wilton, Billingham and Seal Sands. All three are located in close proximity to one another and have the additional benefit of being connected via a network of pipelines. In addition, a Mayoral Development Corporation has been established to acquire, remediate and market the Development Corporation site, which represents the largest single development opportunity – and the only Special Economic Area – in the UK. The vision for the site is to create 20,000 skilled jobs, with an emphasis on manufacturing innovation and advanced technologies within a high value, low carbon, diverse and circular economy.

5.79 Existing clean energy, low carbon and hydrogen sector specialisms within Tees Valley include:

- **Chemicals/process industry**, comprising of key employers such as: Sabic (one of the world's largest manufacturers of chemicals, fertilisers and plastics and recently invested in a world-scale ethylene cracker and associated storage in Tees Valley); INEOS (global company whose nitriles technology is responsible for over 90% of global acrylonitrile production); Lotte Chemicals (one of Korea's largest corporations with sales in excess of \$45bn per annum); Ensus (one of the largest bioethanol production plants in Europe); BOC (the largest supplier of industrial gases, speciality gases and gas equipment in the UK); and Sembcorp (major industrial energy, utilities and services provider to international process industry companies)^{lxviii};
- **Offshore wind supply chain companies**, including businesses such as: JDR Cables (cable manufacturer for sub-sea and power installations); Able UK; CTC Marine (trenching and installation services); Heerema (construction of substation platforms) Wilton Engineering (design and fabrication of offshore wind turbines); and EEW Industries (manufacture of large diameter pipes for offshore turbine foundations)^{lxix}.

In recognition of the area's supply chains, as well as the skills of the workforce and the existing port infrastructure (with 16.5GWE of wind farm development within easy reach of the area's ports) Tees Valley has been awarded UK Government Core status as a Centre for Offshore Renewable Engineering^{lxx};

- **Decommissioning assets**, Tees Valley benefits from substantial available quayside with water depths of up to 11m. Able UK's facilities at Seaton Port boast the strongest quay in Europe, as well as significant crane capacity, and have been constructed to meet the requirements of the heavy fabrication industry.^{lxxi} This resulted in the site being selected to decommission the 24,200 tonne Brent Delta topside – the largest single North Sea decommissioning project undertaken to date. Coupled with the wider offshore supply chain, Tees Valley's decommissioning assets leave the area well placed to secure further business in an area of growth.

The scale of opportunity is significant, with the North West European Continental Shelf forecast to be worth approximately £2 billion per annum over the period to 2025, based upon a requirement to decommission 349 fields. Within this, the UK Continental Shelf is the largest sub-market, with spending of between £17 billion and £20 billion forecast (on the basis of 214 fields)^{lxxii}; and

- **Clean energy producers**, including: EDF (Hartlepool Nuclear Power Station – the Nuclear Sector Deal recognises that the future success of the industry is central to achieving government's Clean Growth Grand Challenge); and SUEZ/SITA (Energy from Waste plant at Wilton, biomass plant at Wilton and facilities at Haverton Hill). In addition, a 250MW biomass power station is being constructed at the Port of Tees and Hartlepool.
- **Biofuel production**. Ensus Limited, operates one of the largest bioethanol production plants in Europe. Based on the Wilton International site, it has an annual production capacity of 400 million litres (314kt) of bioethanol, produced from fermentation of 1 million tonnes of grain crops, primarily wheat and maize. Greenergy is Europe's largest manufacturer of biodiesel from waste vegetable oils and tallow, with a plant based at Seal Sands, capable of producing 250,000 tonnes of biodiesel (the UK's largest) and a 2nd at Immingham. The move to use of mainly waste oils and fats as feedstocks was prompted by changes in UK policy within the Renewable Transport Fuels Obligation (RTFO) which now, after consultation in 2016, encourages the development of waste-based and advanced fuels whilst limiting the use of fuels made from crops. However, the amended RTFO did provide some time limited relief to bioethanol producers.

5.80 Research by the Smart Specialisation Hub also recognises the emerging strengths of the area with respect to the circular economy, with Tees Valley ranked 5th highest across the LEP network in relation to the number of commercial organisations engaged in circular economy activities^{lxxiii}. It should be noted that the data underpinning the analysis is presented in absolute terms. Re-basing the top 5 to take into account the size of each area's population results in Tees Valley rising to 2nd.

5.81 Linked to the circular economy and our wider clean energy, low carbon and hydrogen ambitions, the current landscape affords a potential opportunity exists to develop a supply chain in Tees Valley linked to the production of lithium ion batteries for electric vehicles. Research published by the UK Advanced Propulsion Centre^{lxxiv} identifies the potential for UK chemical and process companies to supply the battery industry – a market estimated to be worth £2.7 billion a year in the UK by 2030.

- 5.82 Given the scale of the chemicals and process industry within Tees Valley, this is an opportunity that the area should look to exploit. Tees Valley is home to parts of the supply chain for the wider North East Electric Vehicle market, including Mitsubishi Chemical Corporation's electrolyte plant and Johnson Matthey's growing R&D capability both located in Billingham. The Wilton Centre is the European home of Lucite International's Strategic Projects Group, Global Safety Health and Environment and New Business Development teams. Venator, a global leader in pigments such as Titanium Dioxide, have their global HQ and innovation and technology functions in Billingham. Tees Valley is also home to CPI's advanced battery chemicals formulation centre. CPI has 10 major battery and drive innovation projects with partners in the UK supply chain with visibility of investment opportunities.
- 5.83 The clean energy, low carbon and hydrogen specialisms of the private sector, as outlined above, are also supported by Tees Valley's network of innovation assets. This includes a number of internationally significant research organisations with a focus on industrial decarbonisation and related issues:
- Centre for Process Innovation: Research and Technology Organisation (RTO) whose specialisms include assessing feedstock and materials to determine how they can be utilised to create new products in order to reduce (or re-use) waste and support the move away from fossil fuels;
 - Materials Processing Institute: RTO with industrial scale pilot equipment which can be used to demonstrate hydrogen deployment in an industrial environment. Particular research specialisms of the Institute include: low carbon (underpinned by extensive experience of improving energy efficiency and energy recovery in relation to industrial processes); and circular economy (building on an established track record of developing, piloting and commercialising technology and processes to add value to secondary raw materials);
 - TWI: RTO with expertise in materials for gas transmission and storage, polymers and metallic – including systems integration and joining technologies; and
 - Teesside University: Grid Modelling capabilities and research interests in novel low carbon hydrogen production and purification.
- 5.84 Currently, a large proportion of the work conducted by the above innovation assets is undertaken with or on behalf of national/international clients. Establishing and actively promoting Tees Valley as an exemplar clean energy, low carbon and hydrogen location present an opportunity to foster greater collaboration between the area's innovation ecosystem and its business base. This, in turn, could help to drive up levels of BERD in the local economy through increased engagement in business-led innovation.

Clean Energy, Low Carbon and Hydrogen Priorities

- 5.85 The *Tees Valley Combined Authority Low carbon industrial cluster sector research* identifies a series of strategic interventions that offer the potential to reduce carbon emissions in the local area whilst also facilitating economic growth. Such an approach is consistent with governments' *Clean Growth Strategy* as well as the economic aspirations of the Combined Authority.

- 5.86 The interventions have been developed to recognise Tees Valley's baseline position with respect to the chemicals, process and energy sectors, whilst also allowing the flexibility to adopt to newly developed technologies as they emerge. Taken together, the research estimates that the interventions have the potential to deliver the following (Table 5.3) over the period to 2050:
- Total Tees Valley emissions reductions equivalent to 80Mt CO₂; and
 - An additional £40billion in GVA to the UK economy.

Methodology

- 5.87 The methodology applied by the *Tees Valley Combined Authority Low carbon industrial cluster sector research* in quantifying the estimated impacts is summarised below.
- 5.88 In assessing the **economic impacts** of each strand set out in the research, the following approach has been adopted. For industrial development, total costs of building and operating new installations have been calculated (in today's prices). These costs reflect future reductions in technology costs and have been discounted by applying 'Green Book' rates. Revenues to be generated by new industrial development have also been calculated, with the same approach to discounting applied.
- 5.89 The gross margin (discounted revenue – discounted costs) has been calculated for each technology and an industry-specific multiplier applied to each to calculate the direct. Indirect and induced GVA associated with each opportunity.
- 5.90 In assessing the **employment impacts** of each strand (see below) the methodology applied has distinguished between jobs supported during construction and longer-term jobs to be created by operational plant. A bottom-up approach to estimating job impacts associated with each technology, using publicly available statements and sources from projects around the world. These have then been scaled to reflect the assumptions developed for Tees Valley projects.
- 5.91 **CO₂ emission reductions** have been derived by estimating the emission saving produced each year under each opportunity and totalling the figures over the period of operation. Emission savings for each opportunity have been calculated having regard to a counterfactual scenario. The counterfactual has been used to express how a good would have been provided in the absence of the proposed intervention(s). For example. Power emissions under the various options considered have been benchmarked against the average emissions intensity of the electricity grade (as a counterfactual).

Prioritisation by Intervention

- 5.92 The *Low carbon industrial cluster sector research* also identifies and ranks the three interventions that should be prioritised by the Combined Authority and which offer the greatest combined economic and environmental dividend:
- **Establish an operational Carbon Capture Utilisation and Storage (CCUS) network:** develop a carbon transport and storage network that can be used by industry and the energy sector. This will allow Tees Valley to

manage carbon emissions and become the leading UK location to develop CCUS at scale for power, industry and hydrogen production;

- **Begin using hydrogen for heat and transport:** utilise the area's nationally significant hydrogen production and storage assets to trial hydrogen-based heat and transport projects within Tees Valley and beyond. The availability of CCUS at scale would present a route to large scale low carbon hydrogen production for the UK; and
- **Develop bulk low carbon and renewable energy:** Tees Valley is ideally located to land power from large scale offshore wind developments. By providing low carbon electricity (and potentially hydrogen) this could offer an additional mechanism through which low-cost, clean power is generated in the area. Opportunities also exist to focus on nuclear electricity production and supply chain sources for nuclear generation.

TABLE 5.3 ECONOMIC AND ENVIRONMENTAL EFFECTS ASSOCIATED WITH LOW CARBON INTERVENTIONS

Option	Total GVA (discounted, 2018-2050)	Total emissions reduction (MtCO ₂) (2018-2050)	Short-term (construction) FTE	Long-term (operation) FTE
Enhancing infrastructure	-£0.4bn - -£0.6bn	0	Unknown	Unknown
Using waste and biomass resources	£11bn - £12bn	-6	18-19,000	3-4,000
Capturing carbon (CCS)	£2bn - £3bn	37	15-16,000	1-2,000
Using hydrogen for heat and transport	£6bn - £7bn	13	4-5,000	500-1,000
Utilising carbon (CCU)	£3bn - £4bn	3	2-3,000	500-1,000
Developing bulk low carbon and renewable electricity	£1.5bn - £2.5bn	26	2-3,000	2-3,000
Building on our strengths	£8bn - £9bn	4	7-8,000	4-5,000

Source: Tees Valley Combined Authority Low carbon industrial cluster sector research

5.93

In addition to the quantitative benefits associated with establishing Tees Valley as a leading clean energy, low carbon and hydrogen economy, the research also outlines that this could make a significant and positive contribution at the national and local level across each of the five foundations of productivity:

- Ideas: Tees Valley will be a centre for the development of innovation approaches in industry and energy;
- People: low-carbon industries will provide well paid jobs for Tees Valley residents;
- Infrastructure: increased energy integration;
- Business environment: Tees Valley will be the best place nationally for energy-intensive industries; and
- Places: a low-carbon hub that is able to take advantage of future industrial opportunities.

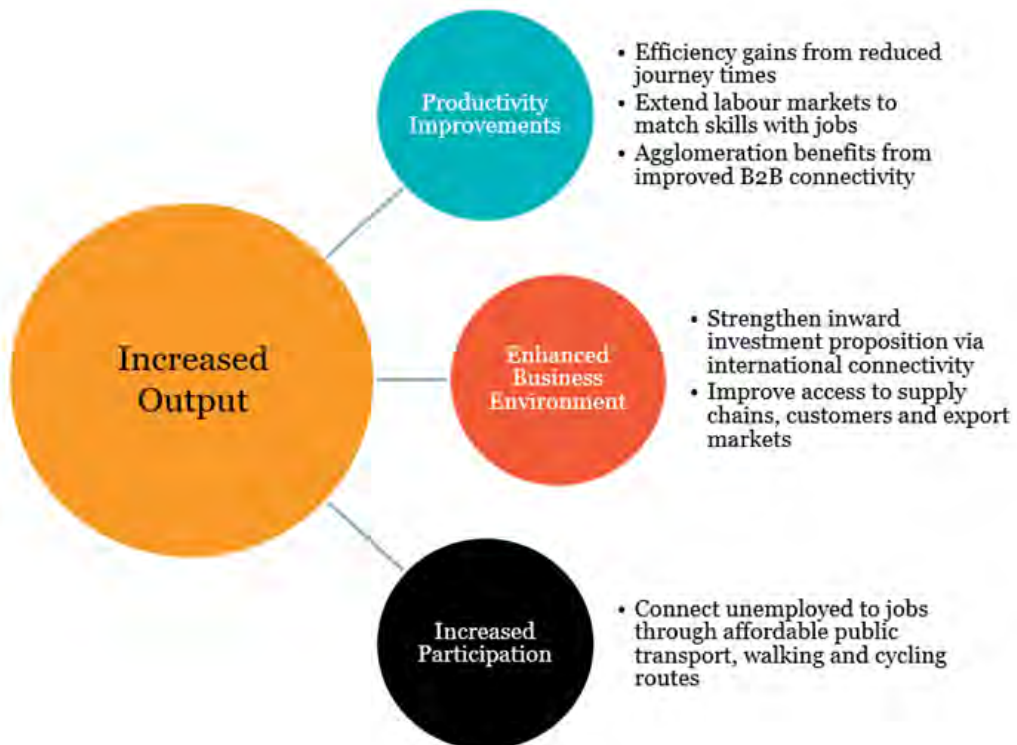
Summary

- 5.94 Key issues highlighted within the preceding paragraphs are summarised below:
- 1 Tees Valley suffers from an under-developed business base relative to the size of the local population. Stakeholder consultation has indicated that this reflects the area's industrial legacy and a historical reliance upon a small number of large employers;
 - 2 Recent growth in the business base has outstripped the national average, driven by high start-up rates. Scale-up performance in the area remains weak, however;
 - 3 Export performance in the Tees Valley is strong, with chemicals and manufacturing key contributors to this. Tees Valley runs at a balance of trade in goods surplus and is one of the few areas nationally to do so;
 - 4 The local business environment is characterised by existing strengths in established sectors (including chemicals/process industries and advanced manufacturing) as well as emerging specialisms in high value sectors;
 - 5 The promotion of industrial decarbonisation will be critical to maintaining the area's strengths in energy intensive industries. It offers an opportunity to address competitive threats related to the availability and cost of feedstocks, as well as energy prices, whilst also presenting opportunities to develop new business propositions.
 - 6 Building on the area's existing and established strengths in terms of size, concentration and integration of the process, chemicals and energy cluster, the development of the Clean Energy, Low Carbon and Hydrogen sector is a key priority for the Tees Valley.

6.0 Infrastructure

- 6.1 Infrastructure provision is a key determinant of a local economy's internal and external connectivity which – in turn – influences productivity. Academic literature^{lxv} recognises that investment in improved infrastructure contributes towards a range of positive economic outcomes, which can broadly be categorised as follows:
- **Economic Well-Being Benefits:** including impacts on local participation rates/unemployment levels (improving access to employment opportunities) and business model improvements (better matching jobs with skills, creating agglomeration benefits, stimulating innovation and attracting globally mobile investment);
 - **User Benefits:** including greater journey time reliability, as well as productivity gains and driver experience benefits associated with commuting and business trips made during working hours; and
 - **Unlocking development opportunities:** including impacts on residential and commercial property market values (reflecting that better-connected locations are viewed as being more attractive to prospective occupiers).
- 6.2 Figure 6.1 provides a summary of the mechanisms through which infrastructure drives increased economic output.

FIGURE 6.1 DELIVERING INCREASED OUTPUT THROUGH INFRASTRUCTURE



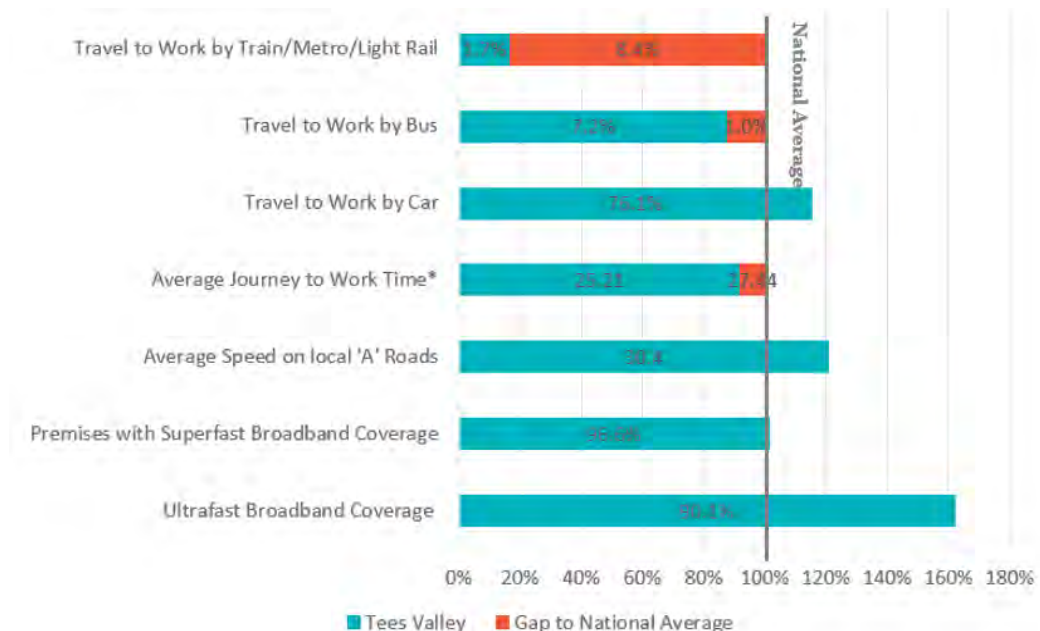
Tees Valley 'Infrastructure' Scorecard

6.3

The scorecard at Figure 6.2 provides a summary of Tees Valley's performance relative to the national average for a package of key infrastructure-related metrics. Based upon the analysis, it can be seen that:

- The modal share of commuting journeys within Tees Valley is skewed towards journeys by car, with journeys via rail/light rail and bus much less prevalent than at the national level. 76.1% of all commuters travel by car in Tees Valley, 15% more than nationally;
- Tees Valley performs well in terms of the duration of commuter journeys, with the average journey to work time (25 minutes) being shorter than at the national level (almost 28 minutes). In part, this is likely to reflect the relatively compact geography of Tees Valley as well as the self-contained nature of the local labour market;
- Average speeds achieved on local 'A' roads, at 30 miles per hour exceed the national average by 20%. This indicates that traffic is able to move well on the local network, for the most part, although it should be noted that a small number of significant pinch points do exist;
- Tees Valley scores well in terms of digital infrastructure. The proportion of homes and business premises with access to superfast (96.6%) and ultrafast (90.1%) broadband exceed the national average. It should be noted, however, that stakeholders have raised concerns regarding the age and fitness-for-purpose of the area's digital infrastructure moving forwards.

FIGURE 6.2 INFRASTRUCTURE PRODUCTIVITY SCORECARD

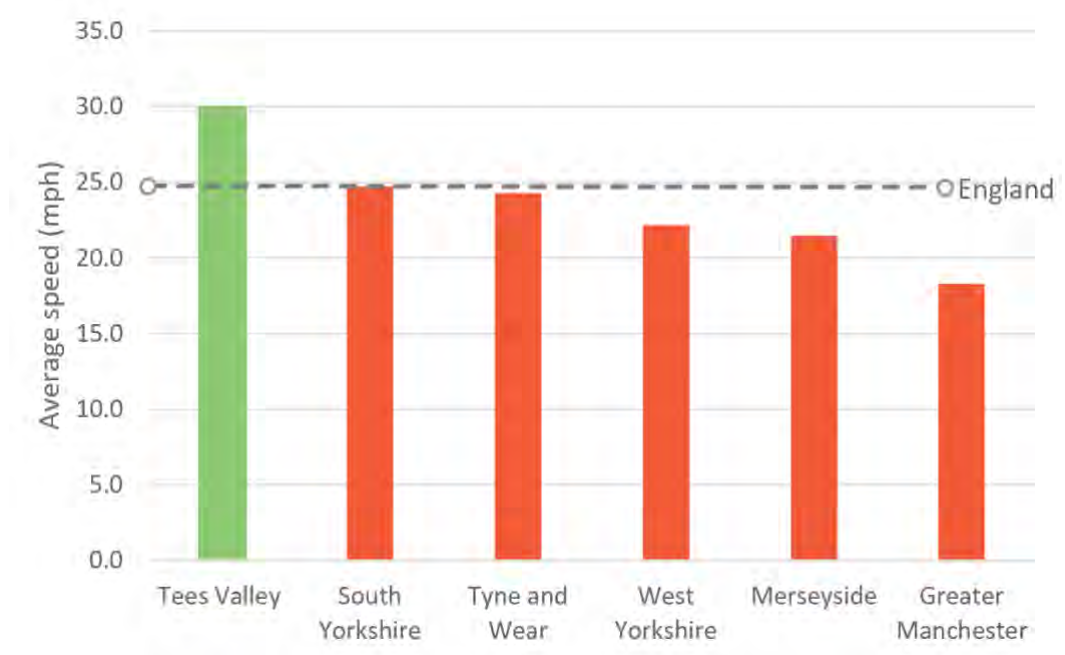


Source: Various ^{lxxvi} (*based on LEP average)

Road

- 6.4 As a polycentric geography, with high levels of self-containment, it is important that residents are able to move around Tees Valley quickly and easily. The local road network is a key part of this – particularly given the modal share of commuter journeys. A higher proportion of commuter journeys take place via private car locally, (76% in Tees Valley compared to 66% across England)^{lxxvii} despite low levels of car ownership in Tees Valley.^{lxxviii}
- 6.5 In headline terms, the local road network performs well. This is demonstrated in Figure 6.3, which draws upon analysis published by the Department for Transport^{lxxix}. The data shows that, at over 30 miles per hour, the average speed on Tees Valley's 'A' roads exceeds the national average, as well as the corresponding figures for other metropolitan areas in the North of England.

FIGURE 6.3 AVERAGE SPEED ON LOCAL A ROADS



Source: Department for Transport

- 6.6 It should be noted that there has been a trend of falling average speeds across much of Tees Valley, as a result of increased congestion. This is illustrated in the table below, which shows that in Middlesbrough, the average speed has reduced by 3.7mph since 2015. This compares to a drop of 0.6mph across England. Should this trend continue, average speeds in Middlesbrough would be lower than the national average within just 3 years.

TABLE 6.1 AVERAGE SPEED ON LOCAL A ROADS OVER TIME

	Average Speed (mph)			
	2015	2016	2017	2018
Darlington	29.1	28.6	28.4	28.2
Hartlepool	33.2	33.4	33.4	33.7
Middlesbrough	30.9	33.3	28.7	27.2
Redcar and Cleveland	37.4	38.4	36.3	36.0
Stockton on Tees	25.6	25.3	25.0	25.0
England	25.5	25.2	25.2	24.9

Source: Department for Transport

- 6.7 Analysis of data at the Tees Valley and local authority level, however, fails to reflect the existence of a small number of significant pinch points which are currently constraining the growth potential of the area. The key road infrastructure issues at present relate to the strategic routes of the A19 and A66. Further detail and analysis with respect to each are provided in the paragraphs below.

A19

- 6.8 A key north-south corridor within Tees Valley (carrying 96,000 vehicles per day at the point it crosses the River Tees) the A19 is also vital to the area's external connectivity, linking Tees Valley with East Durham, Sunderland and Cramlington to the north, as well as York and Doncaster to the south. Department for Transport analysis^{lxxx} indicates that 55% of journeys on the Tees Valley section of the A19 are currently classed as being 'on time' – considerably lower than the national average of 78% for strategic routes.

- 6.9 The importance of addressing the issue is recognised by Transport for the North^{lxxxi}, who state that:

"Improving transport connectivity between the cities and surrounding economic centres, such as along the A19, will increase productivity and support the growth of complementary industrial capabilities."

- 6.10 In addition, research published by IPPR^{lxxxii} identified the development of a new Tees Crossing to address the current capacity issues on the A19 as one of six quick wins for the North of England's transport network. The accompanying report concluded that:

"A new bridge across the Tees would help this small but important economy reach its potential and have a wider impact on the North."

A66

- 6.11 The principal east-west route through Tees Valley, passing through the local authorities of Redcar and Cleveland, Middlesbrough, Stockton-on-Tees and Darlington on a route that runs between Teesport and the A1(M) (and beyond to connect with the M6 at Penrith). Department for Transport analysis^{lxxxiii} indicates

that the proportion of journeys classed as being ‘on time’ ranges from 55% to 66% – in comparison with a national average of 78% for strategic routes.

- 6.12 Transport for the North^{lxxxiv} identify improving the resilience of the A66 as one of several interventions required to improve east-west connectivity across the North of England – with current east-west routes viewed as:

“a significant barrier for future growth in the North, and a key constraint to agglomeration and transforming the North’s economy.”

Proposed Interventions

- 6.13 TVCA’s Strategic Transport Plan identifies the provision of an additional major road crossing of the River Tees and improvements to the A66 corridor as key road priorities for the area moving forwards. Strategic Outline Business Cases have been prepared in relation to both interventions in order to support future funding bids.

Rail

- 6.14 Tees Valley benefits from an East Coast Mainline station at Darlington, providing regular services to most major cities the UK, including:
- London: journey times of under 2 hours and 30 minutes;
 - Edinburgh: journey times of under 2 hours; and
 - Manchester: journey times of under 2 hours.
- 6.15 The national connectivity that this provides is critical to both business and leisure travel, helping to underpin Tees Valley’s inward investment proposition and growing tourism economy. Recent research^{lxxxv} estimates that East Coast Mainline services at Darlington benefit the Tees Valley economy by £400million per annum.
- 6.16 The services at Darlington are supplemented by Middlesbrough Station – which provides direct links to Leeds, Manchester, York and Newcastle – as well as a wider network of local stations. Proposals are in place to establish a direct route between Middlesbrough and London from 2020, helping to enhance the area’s external rail connectivity.
- 6.17 Whilst external rail connectivity remains a key asset of the Tees Valley, local rail journey times are generally uncompetitive. Travelling by train from Darlington to Stockton and Middlesbrough, for instance, can take between 40 and 60 minutes^{lxxxvi} compared to a journey time of 19 to 23 minutes by car. In addition, local services are often infrequent (the Combined Authority’s Draft Rail Strategy identifies improved frequency of services on existing local routes as a key priority). Taken together, these factors mean that the local rail network is relatively unattractive to commuters travelling within Tees Valley, as reflected in the modal share data set out above.

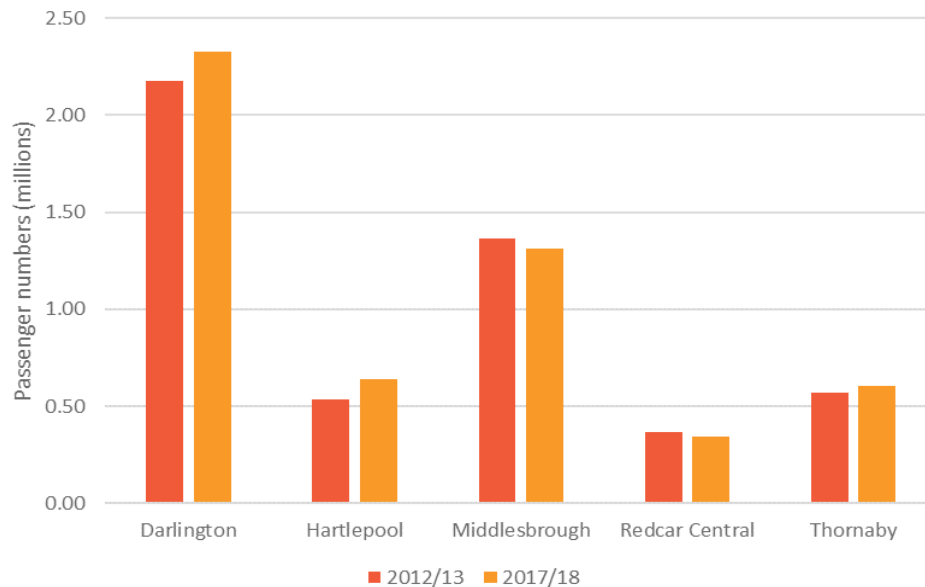
Passenger Numbers

6.18 Within Tees Valley, the busiest stations (entry and exit) are as follows^{lxxxvii}, clearly highlighting the current importance of Darlington the area's rail network:

- Darlington: 2.33m passengers;
- Middlesbrough: 1.31m passengers;
- Hartlepool: 642,000 passengers;
- Thornaby: 604,000 passengers; and
- Redcar Central: 345,000.

6.19 Over the period from 2012/13 to 2017/18, overall levels of rail usage in Tees Valley increased from 6.2m to 6.6m passengers. It can be seen from Figure 6.4, however that changes have not been uniform across the key stations, with growth observed at Darlington, Hartlepool and Thornaby and a fall in numbers recorded at Middlesbrough and Redcar Central.

FIGURE 6.4 TOTAL RAIL PASSENGER NUMBERS (ENTRY AND EXIT)



Source: Office of Rail and Road

Strategic Issues

6.20 At present, there are three key strategic issues affecting the rail network in Tees Valley, as identified within TVCA's Strategic Transport Plan and recent IPPR research^{lxxxviii}. These are summarised below:

Darlington Station Upgrade

6.21 Darlington station currently has a number of constraints, including: a lack of capacity on mainline and local passenger services; a lack of capacity on some

southbound freight services; a lack of integration with Darlington Town Centre and Central Park (an Enterprise Zone site adjacent to the station); and a lack of high-quality station facilities.

- 6.22 A masterplan has been developed to remodel and upgrade the station to address these constraints. Proposals include the provision of: additional platform and track capacity; an enhanced station building (with an improved retail and commercial offer); and improved access and integration with the surrounding area. The improvements will also ensure that Darlington can be integrated into Northern Powerhouse Rail and HS2 – enhancing the potential for Tees Valley to make a greater contribution to the wider Northern Powerhouse economy moving forwards.
- 6.23 It is anticipated that the proposals will cost £150m. £25m of funding has been committed by TVCA to deliver the first phase of the masterplan, whilst a strategic outline business case for further funding has been submitted to the Department for Transport.

Middlesbrough Station Upgrade

- 6.24 Middlesbrough station is facing a number of challenges, including: a lack of platform capacity and operational flexibility for current service levels (a significant proportion of total delays on the TransPennine service have originated from issues at Middlesbrough in recent months – impacting on wider Northern Powerhouse connectivity^{xxxxix}); a lack of integration with other modes of transport; and a lack of integration with Middlesbrough Town Centre and the Middlehaven Enterprise Zone.
- 6.25 A masterplan for the station has been produced. This will ensure that provide additional capacity and flexibility – addressing current constraints impacting on the TransPennine service and enabling Middlesbrough to cater for planned increases in the number of services and passengers using the station (most notably through direct links to London). £20m of funding has already been committed by TVCA in order to fund this phase of works.
- 6.26 The masterplan also includes further proposals improve station facilities, as well as the integration issues referenced above. A strategic outline business case is currently in development, with a view to identifying the total cost of the proposals, as well as providing a basis for future funding bids.

Northallerton to Teesport Gauge Clearance

- 6.27 Rail gauge clearance in the Tees Valley is a constraint to enhanced freight connectivity at present. Currently, all container traffic from Teesport to or from the South, Midlands, Yorkshire and the North West is required to make a reversing manoeuvre at Darlington (due to an absence of the correct gauge clearance and electrification on the alternative route). This is inefficient, adding time, distance and cost to each journey, whilst also placing a limit on train path availability.
- 6.28 Improved gauge clearance on the rail line between Northallerton and Teesport is proposed so that it can be used more effectively by both freight and passenger

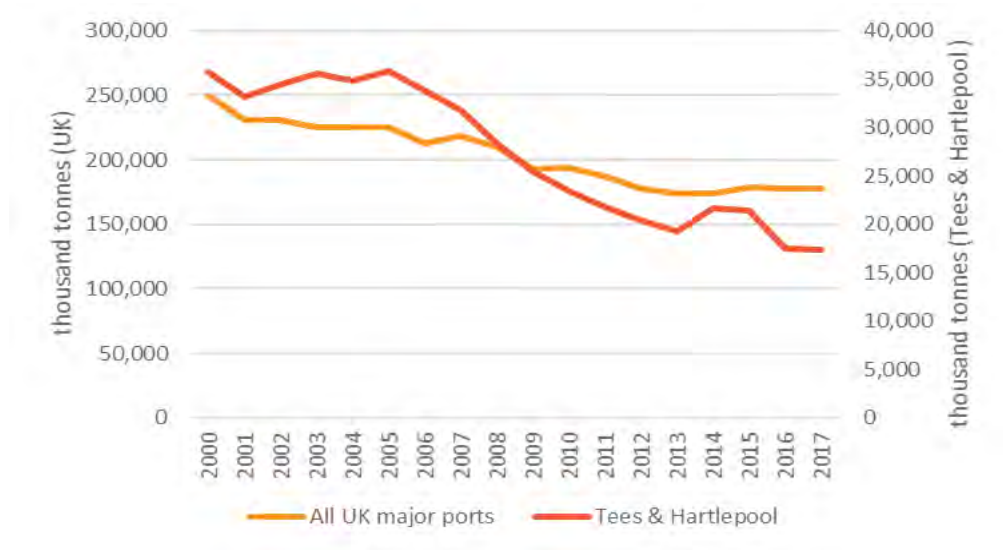
trains. This will help to ensure that the rail network is equipped to cater for the largest freight growth market in Tees Valley (high cube containers to/from Teesport)^{xc} thereby supporting the continued development of Teesport – a major infrastructure asset within both Tees Valley and Northern Powerhouse context.

- 6.29 Technical feasibility work has been commissioned in order to identify appropriate engineering solutions, costs and a programme of works. Funding is not, however, in place to deliver any emerging proposals.

Ports

- 6.30 Tees Valley is home to two tidal, deep-water ports – Port of Tees and Hartlepool. In total, they provide more than eighty operational berths and 10 miles of operational river, including the deepest facilities on the East Coast.^{xci} This represents a significant competitive advantage for the area, as Tees Valley's ports are subject to fewer limitations on maximum vessel size than most UK ports.
- 6.31 Taken together, the ports represent a major international trade gateway and key economic asset for Tees Valley and the wider Northern Powerhouse (alongside major ports in Liverpool and Humberside). The Port of Tees and Hartlepool has consistently placed within the UK's top ten ports in terms of tonnage handled since the 1970s. Unlike many ports, however, it is export facing – ranked as the largest English port in terms of outward tonnage in 2017 (17.4m tonnes) and 7th largest overall.
- 6.32 PD Ports advise that investment totalling nearly £120 million has taken place at the Port of Tees and Hartlepool in recent years. This investment has focussed on upgrading and enhancing capacity to meet customer demand (including a £50 million quay redevelopment).
- 6.33 An analysis of the recent performance of the Port of Tees and Hartlepool, however, is more mixed and heavily influenced by the metric against which performance is assessed. The Port was ranked 7th in the UK in terms of volume of cargo in 2017 – down from 3rd in 2014. Figure 6.5 shows that, whilst there has been a national trend toward reduced volumes of tonnage handled across the UK's major ports (down 15% between 2000 and 2017) a more pronounced contraction (-45%) has been observed at the Port of Tees and Hartlepool over the same period of time.

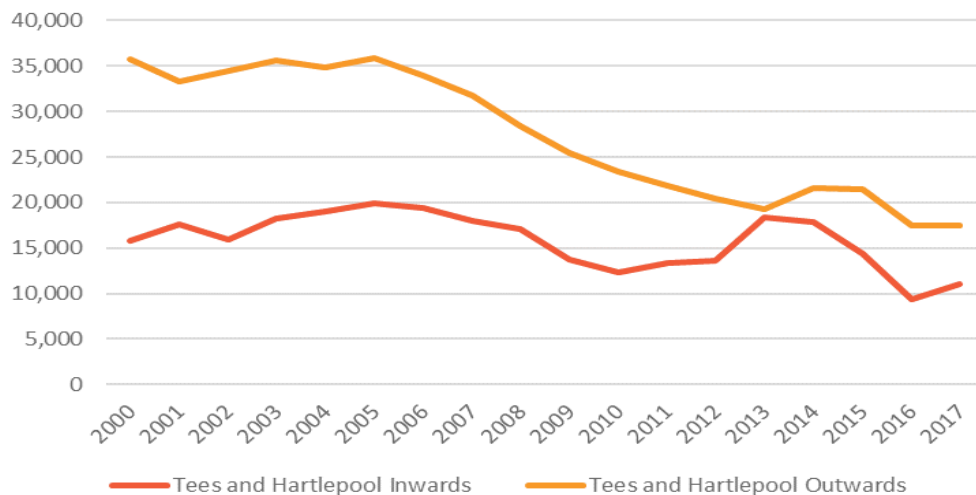
FIGURE 6.5 UK MAJOR PORT FREIGHT TRAFFIC, INBOUND AND OUTBOUND, 2000-2017



Source: Department for Transport

6.34 The reduction in volume has primarily been driven by a decline in outbound freight (down by 51% from 35.7m tonnes to 17.4m tonnes). Levels of outbound freight have also fallen since 2000, albeit to a lesser extent (down by 30% from 15.8m tonnes to 11.0m tonnes) (see Figure 6.6).

FIGURE 6.6 TEES AND HARTLEPOOL INBOUND AND OUTBOUND PORT FREIGHT COMPARISON, 2000-2017



Source: Department for Transport

6.35 In recent years (2015-2017) the decline in outbound cargo has been as a result of falls in three main cargo types^{xcii}, reflecting the Port's vulnerability to fluctuations in key markets; and some economic restructuring within Tees Valley:

- Crude Oil: whilst the overall decline was modest (-9%) crude oil accounts for the majority of outward tonnage handled by Tees and Hartlepool Ports (70% in 2017);
- Dry Bulk: down by 0.81m tonnes (a reduction of 49%); and
- Iron and Steel: fell by 2.08m tonnes (-87%) as a result of the closure of the SSI steelworks at Redcar in 2015.

- 6.36 It is important to note, however, that significant growth in the level of container traffic handled has increased significantly in recent years. Data provided by PD Ports indicates that the Port has experienced 12% year on year growth in container traffic for the last seven years.
- 6.37 The Port is established as the port of choice for rail car imports linked to Hitachi's manufacturing facility in Newton Aycliffe, County Durham. Since manufacturing began in 2015, carriages and locomotives have been handled, stored and re-delivered to the factory (for fit-out and completion) via the Port of Tees and Hartlepool. It is estimated that more than 860 carriages and locomotives have been handled to date.
- 6.38 In addition, the Port is well established as one of the UK's leading specialists in portcentric logistics. It is home to Teesport Logistics Park, the largest retailer-backed, portcentric logistics park in the UK and home to two of the UK's largest retailers (Tesco and Asda). In November 2015 a new rail terminal opened at the Port of Tees and Hartlepool, further strengthening its portcentric logistics offer.

Airport

- 6.39 Durham Tees Valley Airport has the potential to operate as a significant asset for the Tees Valley, providing national and international connections for business and leisure visitors and helping to support a stronger local inward investment and tourism proposition. In recent years, however, passenger and freight numbers have declined significantly. In 2006 approximately 911,900 passenger travelled via the airport. By 2016, this had fallen to just 131,500. As a consequence, Durham Tees Valley Airport is the second smallest in the North of England in terms of passenger numbers, as shown in Table 6.2.
- 6.40 The airport currently provides daily scheduled services to Aberdeen and Amsterdam Schiphol, charter programmes to Bulgaria and Jersey as well as ad hoc packaged tours.

TABLE 6.2 PASSENGER NUMBERS BY NORTH OF ENGLAND REGIONAL AIRPORT

Airport	Passenger Numbers
Durham Tees Valley	131,500
Blackpool	36,300
Doncaster/Sheffield	1,255,600
Humberside	201,300
Leeds/Bradford	3,611,500
Liverpool	4,777,000
Manchester	25,598,800
Newcastle	4,804,958

Source: DfT Aviation Statistics

- 6.41 The volume of freight handled by Durham Tees Valley Airport has also declined markedly. In 2007, Newcastle Airport and Durham Tees Valley Airport handled comparable levels of air freight (785 tonnes and 786 tonnes respectively). By 2017, however, airfreight handled by Durham Tees Valley Airport had all but ceased, with 4 tonnes recorded (linked to activity from a small number of ad hoc, chartered freighters). In contrast, freight volumes at Newcastle have grown to 5,482 tonnes
- 6.42 In early 2019, Durham Tees Valley Airport was purchased by the Combined Authority. Subsequently a Joint Venture agreement was signed with Stobart Group to assist in the airport's operational management and strategic direction. This represents a major opportunity to reverse the historic decline of activity at the airport and reposition it as a significant asset for Tees Valley and the surrounding area. The Tees Valley Combined Authority intends to develop and deliver a 10-year growth strategy for the airport, which is likely to focus on a series of measures to reposition it at the heart of a successful local economy:
- Strategic route development (including a new route to London);
 - Explore the possibility of establishing the airport as an Enterprise Zone; and
 - Investment to enhance the use of the airport for freight.

Alternative Transport

- 6.43 An extensive network of cycle routes that caters for both leisure and utility trips is being developed within Tees Valley. Sections of the National Cycle Network pass through the Tees Valley including NCN1, which links Stockton and Middlesbrough Town Centres on a traffic free route along the River Tees. NCN14 also passes through the area. This route links Stockton and Darlington Town Centres through a mixture of on and off-road sections, some of which follow the track bed of the original Stockton-Darlington railway.
- 6.44 Significant investments have been made in recent years across Tees Valley in order to help provide sustainable access to employment for both pedestrians and

cyclists. This includes Parkgate Bridge in Darlington, which links Darlington Bank Top Station with the Business Central employment site. Investments have also been made in Riverside Park, Middlesbrough and in the vicinity of industrial estates in the Brenda Road area of Hartlepool.

TVCA Investment Plan and Transforming Cities Fund

- 6.45 The Tees Valley Investment Plan, 2019-2029, highlights the key role that transport will play in supporting and unlocking the growth potential of the Tees Valley. It outlines the key transport investment priorities that will help achieve this and commits £256.7m of funding to deliver them. A critical and significant element of this funding is the £75.5m that has been secured from government from the Transforming Cities Fund. This covers the period up to 2022/23, was devolved directly to the Combined Authority rather than through a competitive process and is enabling good early progress to be made in the development of our key transport schemes.

Freight

- 6.46 The availability of robust data on freight movements is limited. The quality of information varies by mode and much of the information is fragmented, with lags in published data.
- 6.47 The absence of robust, timely and integrated data regarding freight movements makes it more difficult for the Combined Authority to make evidence-based investment decisions. The availability of richer, more co-ordinated data would be welcomed, enabling the Combined Authority to more effectively identify potential interventions which could support supply chain optimisation and greater productivity.
- 6.48 Notwithstanding the above, the following paragraphs provide a summary of the data that is available in relation to freight, across each of key modes.

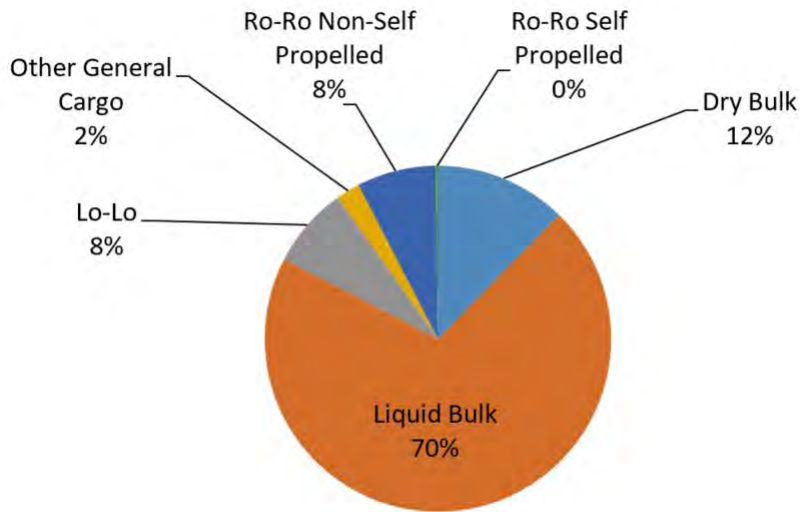
Freight by Pipeline

- 6.49 The Tees Valley chemicals and process sector has significant pipeline networks for the transport of liquid bulk commodities between terminals. No current data is available regarding the volumes being moved or the capacity within these pipelines (the Department for Transport last published data in 2012). It is understood, based upon qualitative intelligence gathered by the Combined Authority, that the Port of Tees and Hartlepool alone handles 20 million tonnes of liquid bulk per annum.

Sea Freight

- 6.50 Figure 6.7 provides an overview of sea freight by type in Tees Valley. The data relates to total freight (i.e. inward and outward bound) and demonstrates the dominance of liquid bulk, which accounts for 70% of total freight handled by the Port of Tees and Hartlepool.

FIGURE 6.7 PORT OF TEES AND HARTLEPOOL SEA FREIGHT BY TYPE (2017)

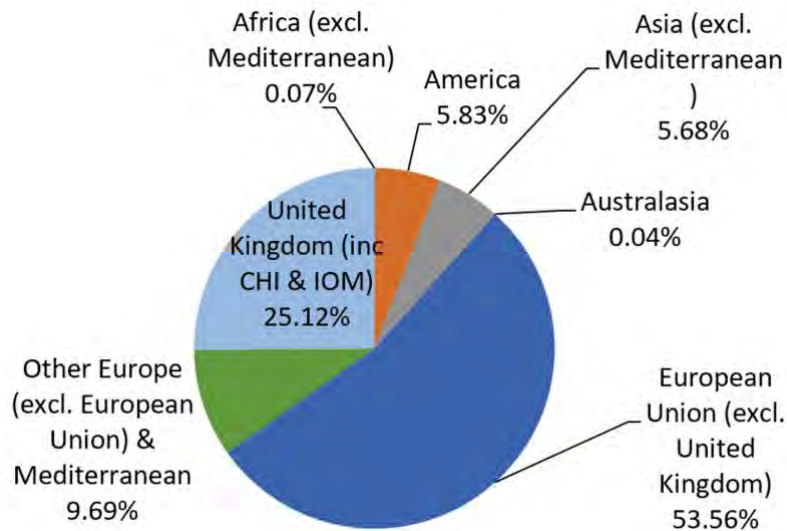


Source: Department for Transport, Port Freight Annual Statistics

6.51

The majority of sea freight movements are to or from the European Union (54%) followed by the UK (25%) as shown in Figure 6.8. Freight movements of 5-10% are also observed with respect to America, Asia and other European nations, demonstrating the Port of Tees and Hartlepool's role as a global trade gateway.

FIGURE 6.8 PORT OF TEES AND HARTLEPOOL SEA FREIGHT BY REGION (2017)



Source: Department for Transport, Port Freight Annual Statistics

Road Freight

6.52

Data from the Department for Transport's Continuing Survey of Road Goods Transport Great Britain suggests that road freight from Tees Valley totalled 21,285 thousand tonnes in 2017. A summary of the key destinations for good moved by road from Tees Valley is provided below. This shows that the majority

of road freight movements are focussed elsewhere in Tees Valley and across the wider Northern Powerhouse area:

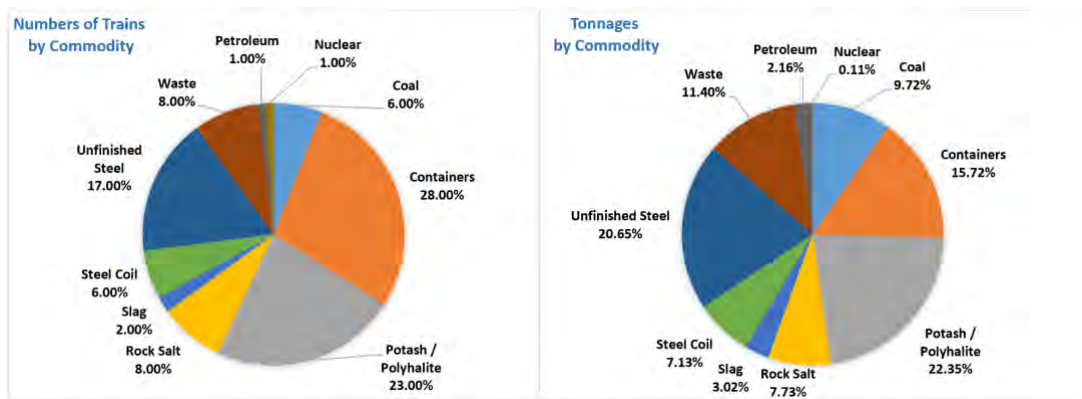
- Tees Valley: 8,645 thousand tonnes;
- Yorkshire and Humber: 5,546 thousand tonnes;
- North East (excluding Tees Valley): 2,225 thousand tonnes; and
- North West: 1,950 thousand tonnes.

Rail Freight

6.53 Due to data availability issues, the chart below is based upon data collated across a single week (week commencing 16th April 2018). As such, it should be interpreted with a degree of caution.

6.54 Notwithstanding the above, the data would appear to suggest that rail freight movements in Tees Valley are largely focused on: containers; potash/polyhalite; and unfinished steel.

FIGURE 6.9 TEES VALLEY RAIL FREIGHT DATA (2018)



Source: Open Rail Data

Digital Infrastructure

- 6.55 Digital connectivity is critically important to business. It has become an essential part of an area's economic infrastructure^{xciii} and will increase in prominence as the way we work continues to evolve. In addition, Tees Valley's sectoral strengths across Advanced Manufacturing, Chemical & Process and Clean Energy, Low Carbon & Hydrogen provide significant scope for greater than average returns to industrial digitisation.
- 6.56 In general terms, Tees Valley's digital connectivity is a key strength of the area as place to live and work. The proportion of residential and commercial premises with access to superfast broadband across the area (96.6%) is marginally higher than the UK average (95.4%), whilst coverage of ultrafast broadband far outstrips the UK average.
- 6.57 Across the five local authority areas, only Darlington falls below the UK figure in relation to the provision of superfast broadband.

TABLE 6.3 DIGITAL BROADBAND COVERAGE AT NOVEMBER 2018 (PERCENTAGE OF RESIDENTIAL AND COMMERCIAL PREMISES COVERED)

	Superfast (>30mbps)	Ultrafast (>100mbps)
Darlington	94.4%	86.4%
Hartlepool	97.3%	90.5%
Middlesbrough	97.2%	93.4%
Redcar & Cleveland	97.7%	90.2%
Stockton-on-Tees	96.4%	89.8%
Tees Valley	96.6%	90.1%
United Kingdom	95.4%	55.6%

Source: *thinkbroadband.com*

- 6.58 In addition, the area has the highest take-up across the LEP network in relation to the fastest broadband line speeds (>30mbit/s), as shown in Table 6.4.

TABLE 6.4 TAKE UP OF LINES BY SPEED, % SPLIT, 2014

	<2 Mbit/s	2-10 Mbit/s	10-30 Mbit/s	>30 Mbit/s
Lowest	2.6	26.1	22.7	8.8
Highest	11.7	50.5	36.2	44.3
LEP average	6.4	36.3	28.8	28.5
Tees Valley	5.9	26.1	23.8	44.3

Source: *Mapping Local Comparative Advantages in Innovation, BIS*

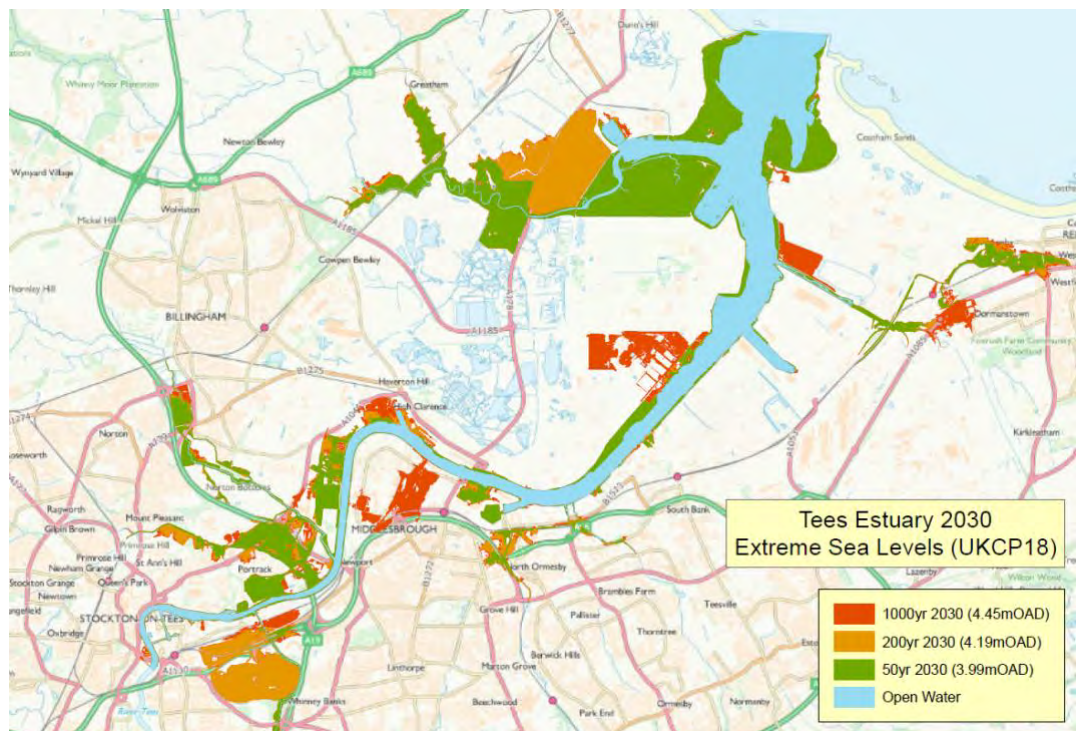
- 6.59 Despite the strong current performance of the area as a whole, pockets of poor broadband provision do exist at a more localised level. These are not just confined to rural locations, but are also observed in more isolated pockets within existing employment areas.

- 6.60 Stakeholder engagement undertaken as part of the LIS process has identified a widely held perception amongst local businesses that significant investment is required to future proof Tees Valley's digital infrastructure. In order to facilitate the move towards 5G networks moving forwards, it was suggested that it may be necessary to replace much of the existing cabling.

Climate Change Resilience

- 6.61 Figure 6.10 provides a summary of current flood defences in Tees Valley and their resilience to climate change. The map, produced by the Environment Agency, highlights the anticipated likelihood (i.e. 1 in 50-year event) and extent of flooding. From an economic development perspective, this identifies flood risk in the Portrack area of Stockton as a particular concern over the time horizon of the LIS. The Environment Agency are currently considering a number of options to address the issue and indicative funding (post 2020/21) has been identified.
- 6.62 In the medium to long term, the industrial complex at Seal Sands – a key part of the area's chemicals and process industry offer – becomes increasingly at risk of flooding. The Environment Agency has advised that any intervention is likely to fall beyond the Environment Agency's current 10 year investment plan horizon, but that preparatory work in relation to the site is anticipated during this period.

FIGURE 6.10 TEES ESTUARY FLOOD RISK RESILIENCE UNDER 2018 UK CLIMATE PROJECTIONS (UKCP18)



Source: Environment Agency

- 6.63 The importance of ensuring that Tees Valley remains resilient to climate change is highlighted by the *Tees Tidal Flood Risk Management Strategy*. The Strategy

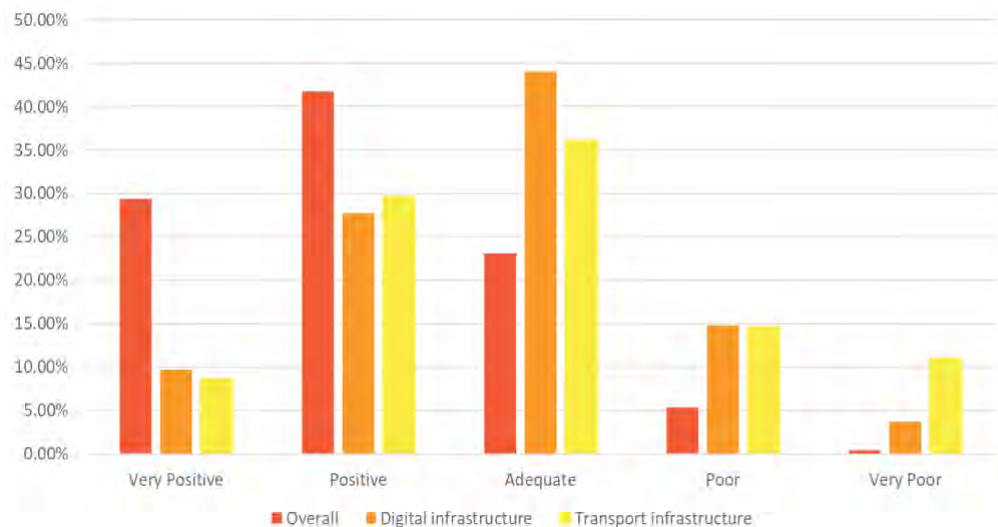
considered tidal risk in the estuary up to the Tees Barrage. The Strategy was informed by a detailed survey of major businesses in the estuary and concluded that the economic cost of tidal flooding in Tees Valley could be more than £1 billion locally and £2.5 billion nationally. This reflects the high inter-connectivity and inter-dependency between key businesses, meaning that impacts on a single major employer could have a domino effect across the area.

- 6.64 This was illustrated by the 2013 tidal event, when breaching of a flood embankment resulted in significant direct damage to SABIC UK’s infrastructure. This affected SABIC UK’s ability to provide its customers at Seal Sands with the chemicals required for their manufacturing processes. Damage from this single event is understood to have resulted in an economic cost (primarily through lost business) of more than £20 million.

Infrastructure as a constraint to growth

- 6.65 The *Tees Valley Business Survey (2018)* sought to understand business satisfaction with Tees Valley as a place to live, work and invest – both in overall terms and with a specific focus on key elements of the area’s offer. The findings in relation to infrastructure are summarised in Figure 6.11. This illustrates that business views in relation to digital and transport were generally positive or neutral, with 38% of respondents viewing the digital and transport infrastructure positively or very positively. This was, however, significantly lower than views of Tees Valley in overall terms.
- 6.66 Similarly, the proportion of negative feedback was markedly higher in relation to transport infrastructure (viewed as poor or very poor by 26% of respondents) and digital infrastructure (19%) than for the Tees Valley’s overall offer.

FIGURE 6.11 HOW WOULD YOU RATE TEES VALLEY AS A PLACE TO LIVE, WORK AND INVEST IN?



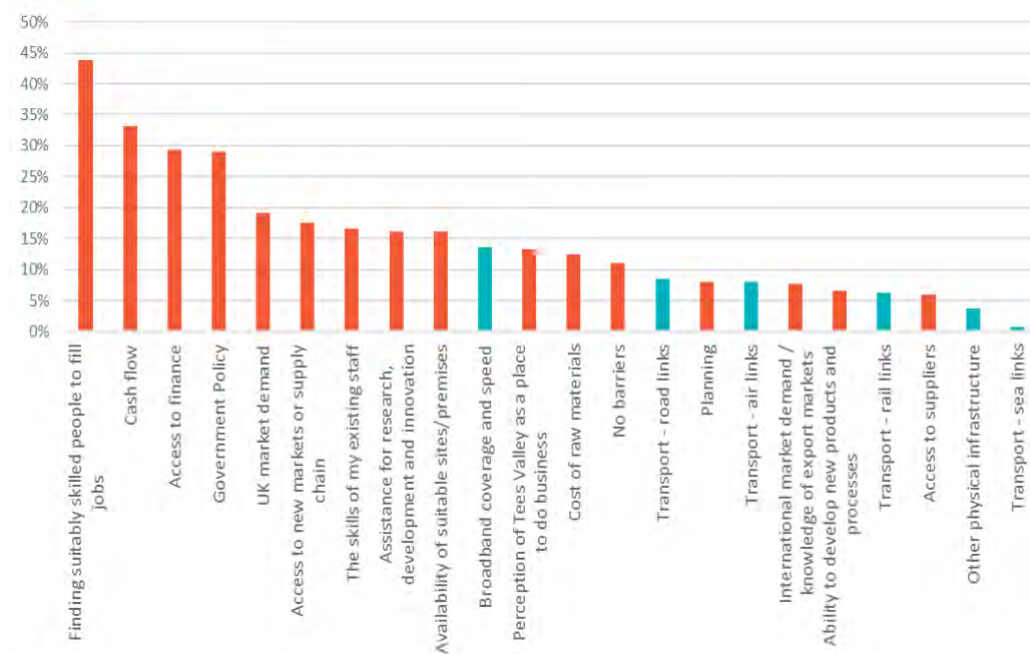
Source: TVCA Business Survey

- 6.67 Despite the comparatively negative views of the area’s infrastructure offer, when businesses were asked to identify those issues or obstacles that represent the

most significant constraint to growth, infrastructure issues did not feature particularly prominently. As shown in Figure 6.12, respondents viewed issues related to skills/recruitment and cashflow/access to finance as the principal barriers to growth in Tees Valley.

6.68 The Business Survey identifies infrastructure as a constraint to growth in Tees Valley with broadband coverage/speed (14%) identified as a principal constraint. The coverage and speed of broadband was the most frequently cited infrastructure-related barrier to growth. This was identified by 14% of participating businesses, placing it within the 'top 10' of key issues raised. With respect to transport infrastructure road and air connectivity were viewed as the most significant barriers (8% of respondents).

FIGURE 6.12 BUSINESS BARRIERS TO GROWTH



Source: TVCA Business Survey, 2018

Summary

Key issues highlighted within the preceding paragraphs are summarised below

- 1 Commuting in Tees Valley is dominated by private car, despite local car ownership levels being below the national average;
- 2 Whilst overall performance regarding journey time metrics exceeds the national average, a number of key pinch points exist on the road network (notably the A19 and the A66). Strategic Outline Business Cases are in development with a view to delivering projects to address each;
- 3 Excellent digital infrastructure and connectivity - broadband coverage and speeds outperform the national average. Stakeholder consultation has,

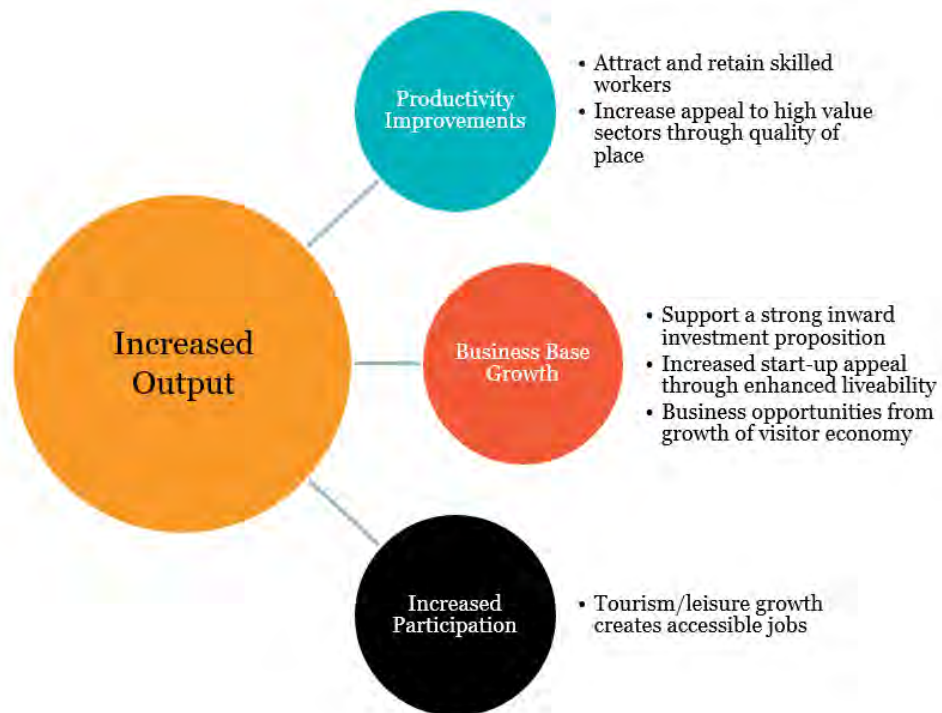
however, highlighted the existence of some geographical gaps in provision and a need to future proof the digital infrastructure;

- 4 A number of key strategic rail issues currently exist, including capacity constraints at Darlington Station and Middlesbrough Station. Funding has been committed to both projects, albeit further funding is needed to harness the benefits of HS2 to Darlington; and
- 5 Port of Tees and Hartlepool and Durham Tees Valley Airport are critically important to the area's international connectivity.

7.0 Place

- 7.1 The sense of place associated with any local economy is unique and multi-dimensional. It reflects spatial patterns of development and the inter-relationship between different settlements, as well as the built and natural environment and cultural/recreational amenities. There is a growing body of evidence that supports the view that businesses and highly-skilled workers are increasingly basing their location decisions on the ‘liveability’ of a town or city, as well as the strength of its economy^{xciiv}. As a result, establishing and effectively promoting a strong place proposition can help to support productivity growth by: attracting and retaining skilled workers; increasing an area’s appeal to business start-ups and inward investors; and creating additional economic output through tourism.

FIGURE 7.1 DELIVERING INCREASED OUTPUT THROUGH QUALITY OF PLACE



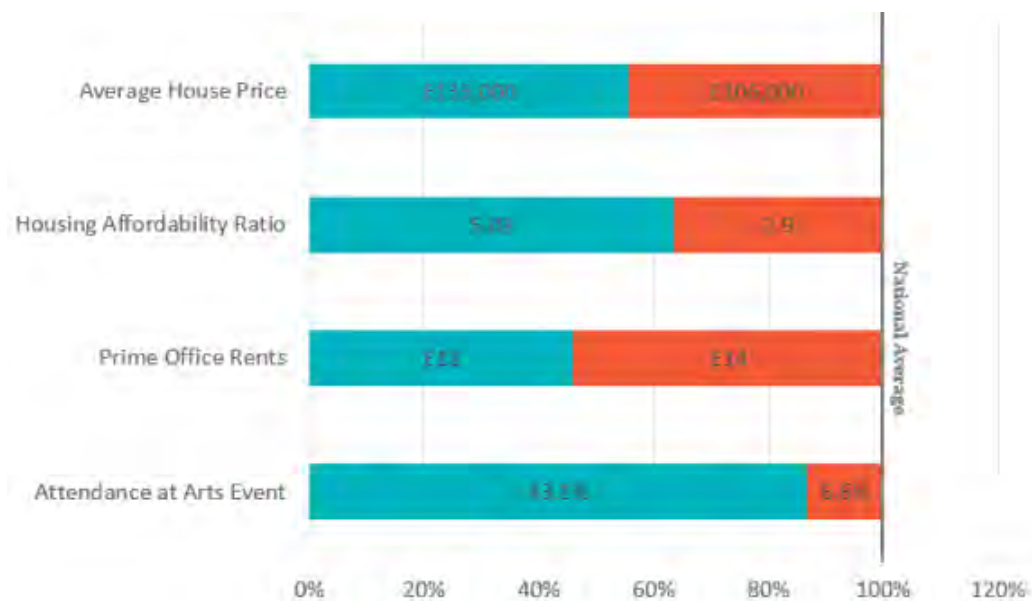
Tees Valley ‘Place’ Scorecard

- 7.2 The scorecard at Figure 7.2 provides an overview of Tees Valley’s performance (relative to the national average) with respect to a number of key place-based metrics. Of the five foundations of productivity, Place is arguably the one where many of the underlying determinants are difficult to quantify in a way that lends itself to comparisons with national benchmarks. As such, the analysis set out in Figure 7.1 should not be viewed as an exhaustive review of the area’s place-based competitiveness.

7.3 Notwithstanding the above, the key messages that emerge from the scorecard can be summarised as follows:

- Tees Valley represents a cost competitive business location. Average rental costs for Grade A office space in Middlesbrough are in the order of £12/sq.ft. This is significantly lower than the cost of premises in other major cities in the North of England and less than half the average cost identified via an assessment of key regional office markets (£26/sq.ft.)^{xcv}. In addition, average wages in Tees Valley are also low (see Table 7.1);
- Whilst wages in Tees Valley are relatively low, it remains an affordable place to live and work, with the average local house price corresponding to 5.08 times the average salary (in comparison with 8.00 times annual salary at the national level).^{xcvi} Although not considered in Figure 7.2, the ratio of earnings to rental costs is also lower within Tees Valley. This should be promoted by the area as part of the wider quality of life offer, with a view to attracting and retaining young, skilled workers who might find it more difficult to get a foot on the property ladder in other major cities; and
- Local engagement in culture and the arts is below the national average. Data published in January 2018 indicates that just 43.1% of Tees Valley residents attended 3 or more arts events over a 12 month period, in comparison with 49.7% nationally^{xcvii}. Consultation undertaken as part of the LIS process highlighted a perception amongst some stakeholders that the area is currently constrained by a modest cultural infrastructure and has traditionally experienced below average levels of cultural investment. It was also acknowledged that there is a renewed commitment to investing in enhancing the cultural offer/profile of the area under the Combined Authority and that the area benefits from a number of key assets upon which to build.

FIGURE 7.2 PLACE PRODUCTIVITY SCORECARD

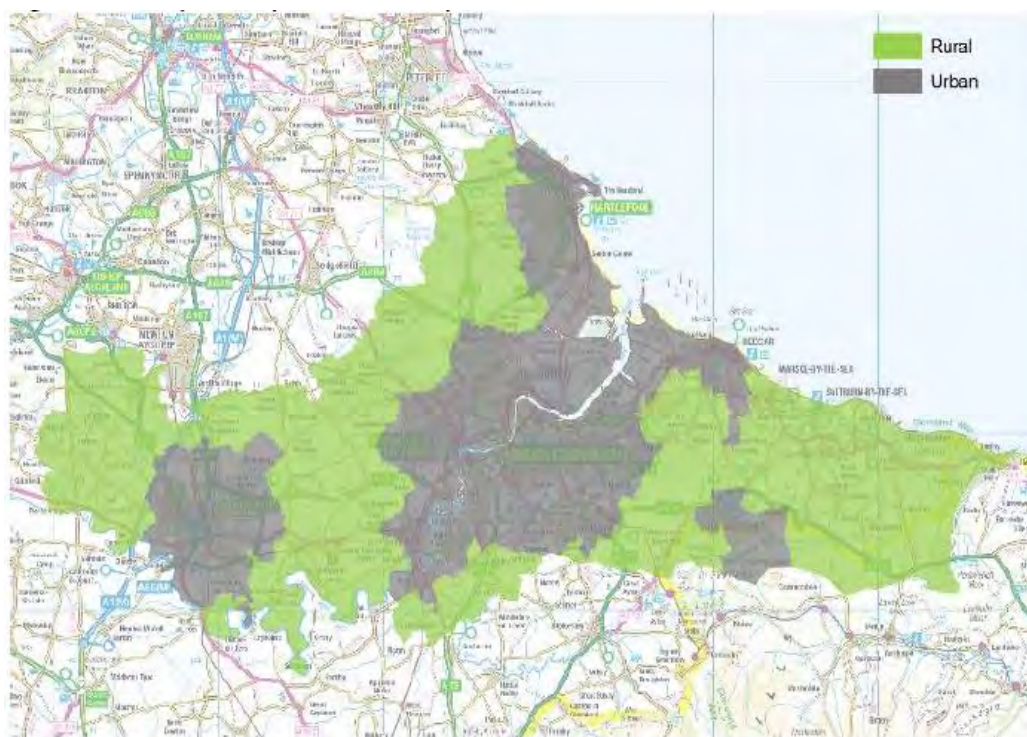


Source: Various

Rural-Urban Split

- 7.4 Tees Valley is a polycentric City Region covering an area of almost 80,000 hectares and with a population of approximately 670,000 people. It comprises of five local authorities (Darlington, Hartlepool, Middlesbrough, Redcar and Cleveland and Stockton-on-Tees). It is highly urbanised, with 90% of the population in urban areas. Figure 7.3 compares the urban/rural composition of the Tees Valley.

FIGURE 7.3 RURAL-URBAN SPLIT OF TEES VALLEY



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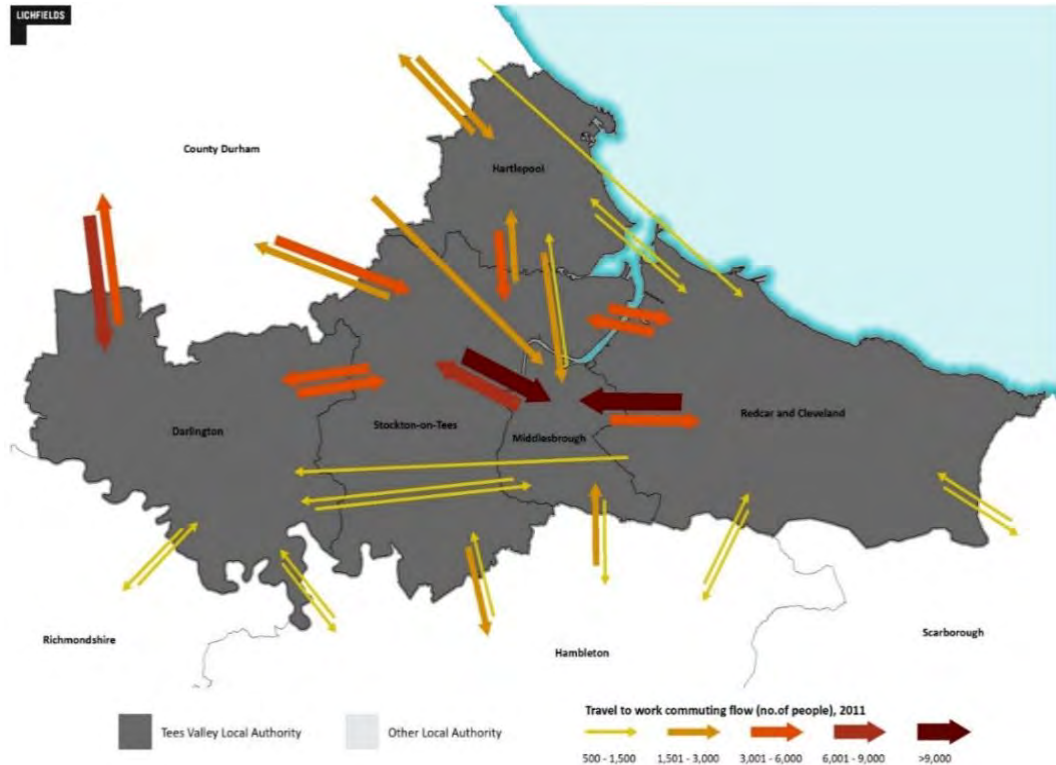
Housing and Demographics

Travel to Work Patterns

- 7.5 In overall terms, Tees Valley is a modest net exporter of labour. It is estimated that the area has a net outflow of 3,000 workers, based upon:
- 35,000 people travelling into the area (from homes outside of Tees Valley) for employment; and
 - 38,000 Tees Valley residents travelling out of the area for employment.
- 7.6 An analysis of travel to work patterns highlights that the Tees Valley labour market is relatively self-contained, with 87% of all Tees Valley residents in employment work in the area (with the majority living and working within the same local authority). Cross boundary travel to work movements can be observed in Figure 7.4. Whilst this shows Middlesbrough to be a net importer of

labour, it also highlights the polycentric settlement pattern of Tees Valley, which means that no single location dominates the economic and demographic landscape.

FIGURE 7.4 TRAVEL TO WORK COMMUTING FLOWS, 2011

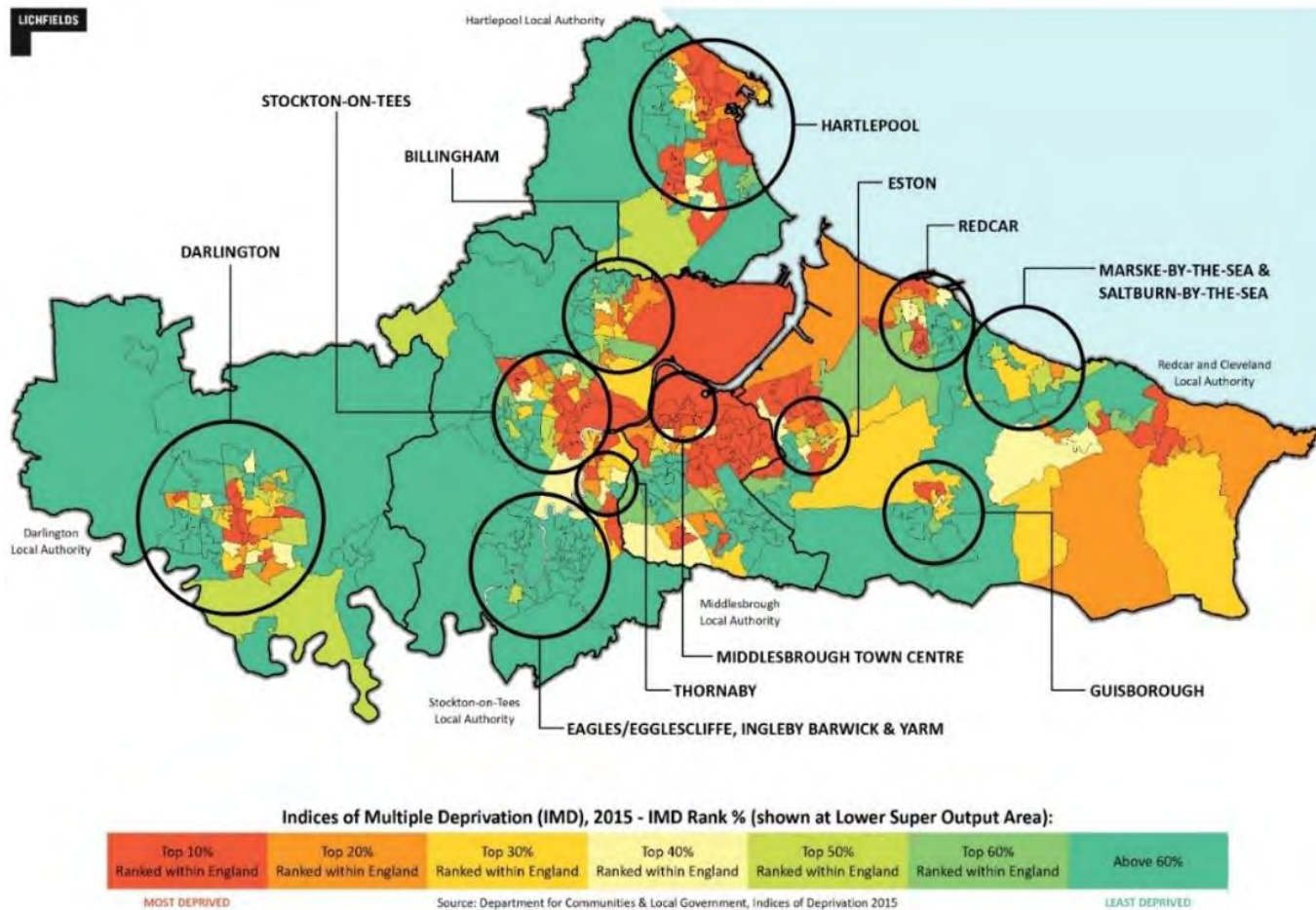


Source: ONS

Deprivation

- 7.7 At the local authority level, deprivation within Tees Valley is highest in Middlesbrough (ranked as one of the 5% most deprived areas in England) and Hartlepool (ranked as one of the 10% most deprived areas in England). Redcar & Cleveland, Stockton-on-Tees and Darlington are all placed within the 30% most deprived authorities in England.
- 7.8 At a more granular level, significant variations can be observed across each of the five authorities. As shown in Figure 7.5, all five include concentrations of acute deprivation (10% most deprived Lower Super Output Areas nationally). These are generally concentrated within urban areas, with much lower levels of deprivation observed in the more rural areas towards the northern, western southern boundaries of Tees Valley.

FIGURE 7.5 DEPRIVATION MAP OF TEES VALLEY



Source: DCLG, Indices of Deprivation, 2015

Housing

- 7.9 The availability of good quality, affordable housing – as part of an area’s wider quality of life offer – can play an important role in attracting and retaining workers. Table 7.1 shows that mean average house prices in Tees Valley, at £133,000, are approximately 56% of the national level. Whilst the average local salary (£26,200) is also lower, the scale of difference is much less stark, with the average salary in Tees Valley approximately 88% of the national level.
- 7.10 As a consequence of the above, the average house price in Tees Valley is 5.08 times that of the average annual salary. This compares with a multiple of 8.00 nationally, highlighting the relative affordability of homes in the local area.

TABLE 7.1 HOUSING AFFORDABILITY

	Mean Annual Gross Pay	Mean House Price	Ratio of House Price to Earnings
Tees Valley	£26,200	£133,000	5.08
North of England	£26,900	£160,000	5.95
England	£29,900	£239,000	8.00

Source: ONS, House Price Statistics for Small Areas and ONS, ASHE 2018 estimates

- 7.11 A similar position can also be observed with respect to rental costs, as illustrated in Table 7.2. On average, Tees Valley residents could be expected to spend 27% of their monthly take home pay on renting a 1-bedroom home, or 32% on renting a 2-bedroom home. This compares to 43% and 47% respectively at the national level.

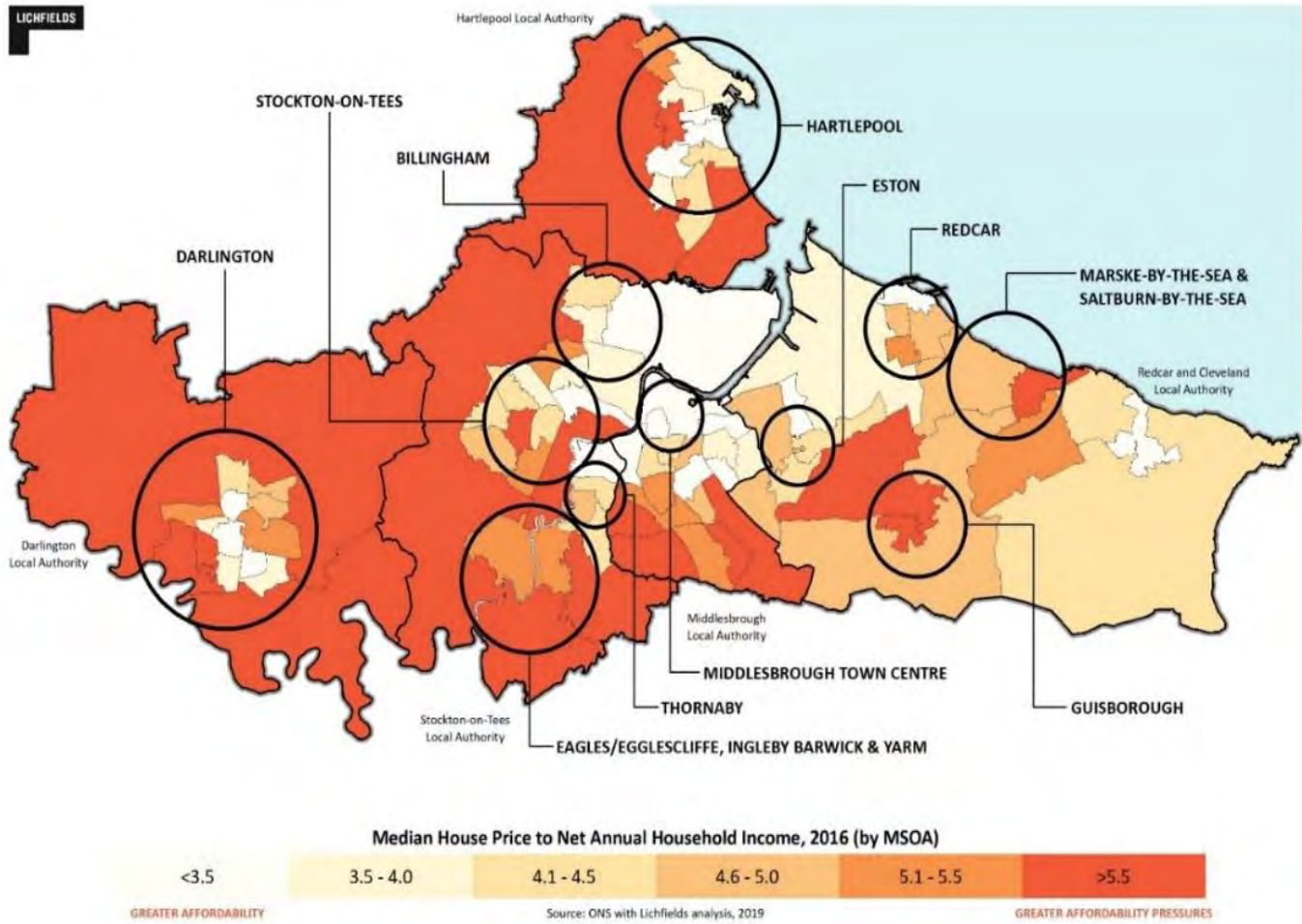
TABLE 7.2 EARNINGS AND HOUSING RENTAL COSTS

	Median Monthly Net Take Home Pay	Mean Rent (1 Bedroom)	% Take Home Pay (1 Bedroom Rent)	Mean Rent (2 Bedroom)	% Take Home Pay (2 Bedroom Rent)
Tees Valley	£1,443	£394	27%	£462	32%
North of England	£1,505	£452	30%	£533	35%
England	£1,628	£707	43%	£772	47%

Source: Tees Valley Economic Assessment, Table 9.2

- 7.12 The relative affordability of housing is not, however, uniform across the Tees Valley, as highlighted in Figure 7.6. This shows that, in general terms, local housing affordability pressures are more pronounced in the west and north of Tees Valley – particularly in less urban areas.

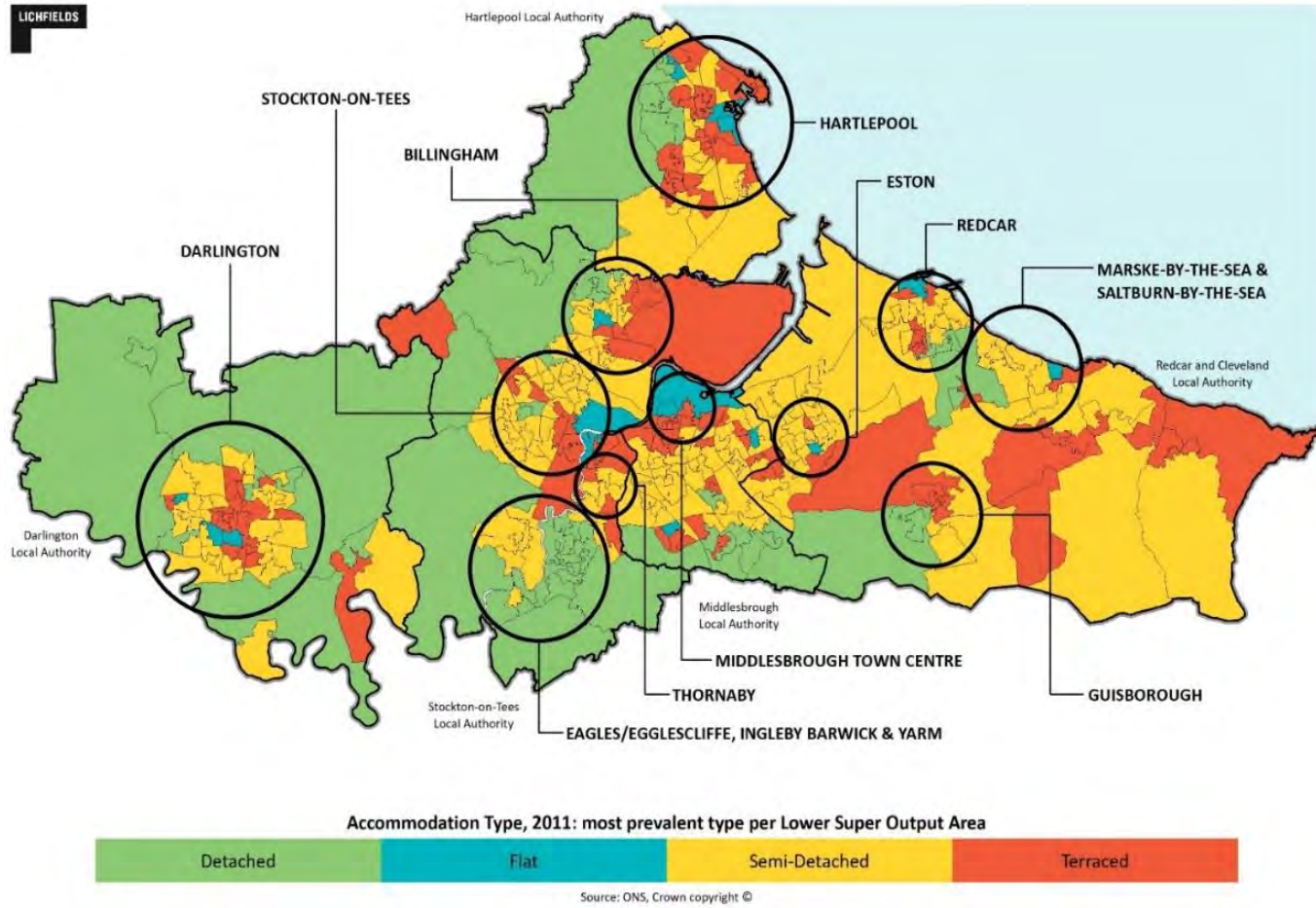
FIGURE 7.6 TEES VALLEY HOUSING AFFORDABILITY RATIOS



Source: ONS

7.13 In part, this is likely to reflect the nature of the housing stock in the west and north, which is characterised by higher levels of detached properties (see Figure 7.7). Similarly, those parts of the Tees Valley which are most affordable (the town centres of Hartlepool, Middlesbrough, Billingham and Darlington and the immediately surrounding areas) generally contain high proportions of terraced properties and flats.

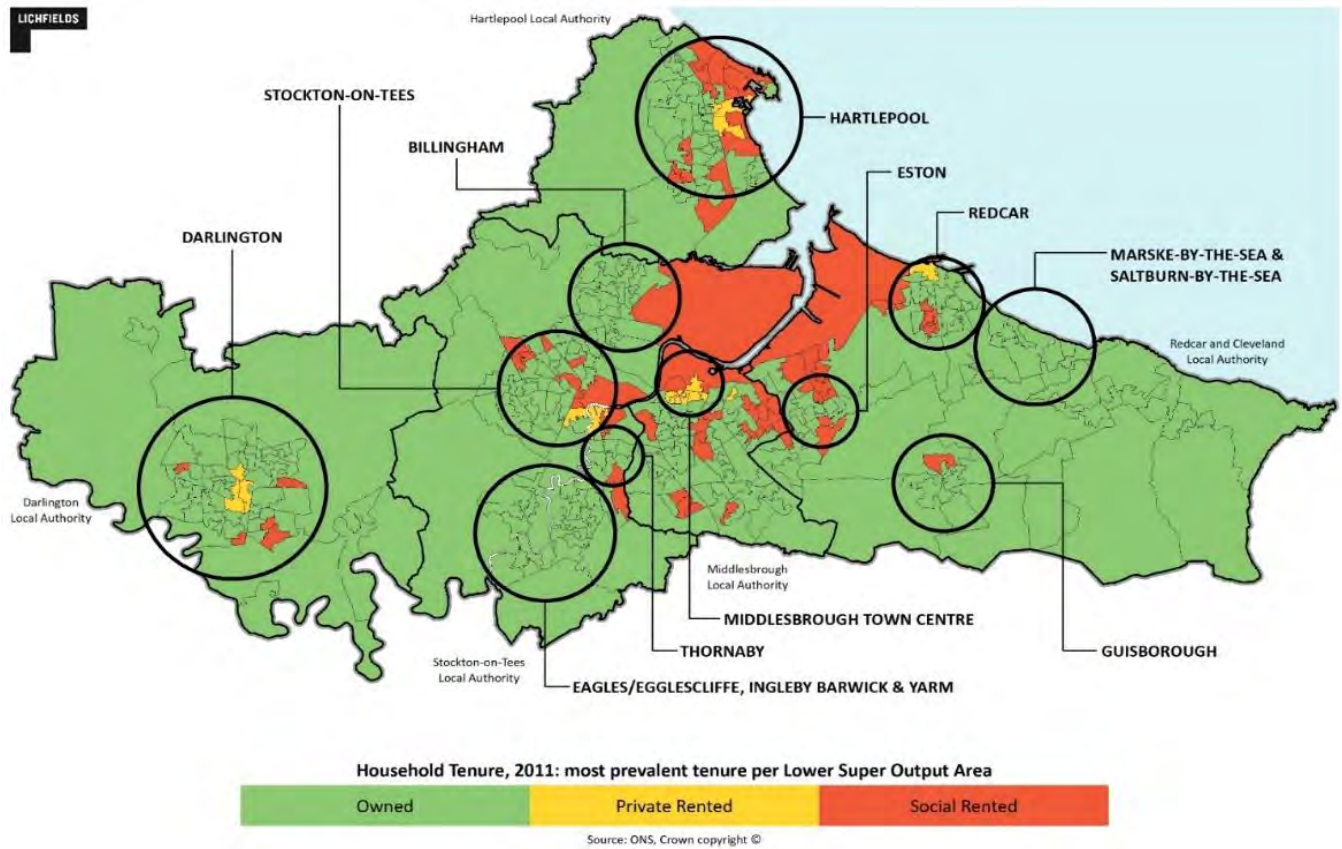
FIGURE 7.7 TEES VALLEY HOUSING STOCK BY TYPE



Source: ONS

7.14 Figure 7.8 indicates that the most affordable parts of Tees Valley are generally those locations dominated by social rented and private rented accommodation.

FIGURE 7.8 TEES VALLEY HOUSEHOLD TENURE



Source: ONS

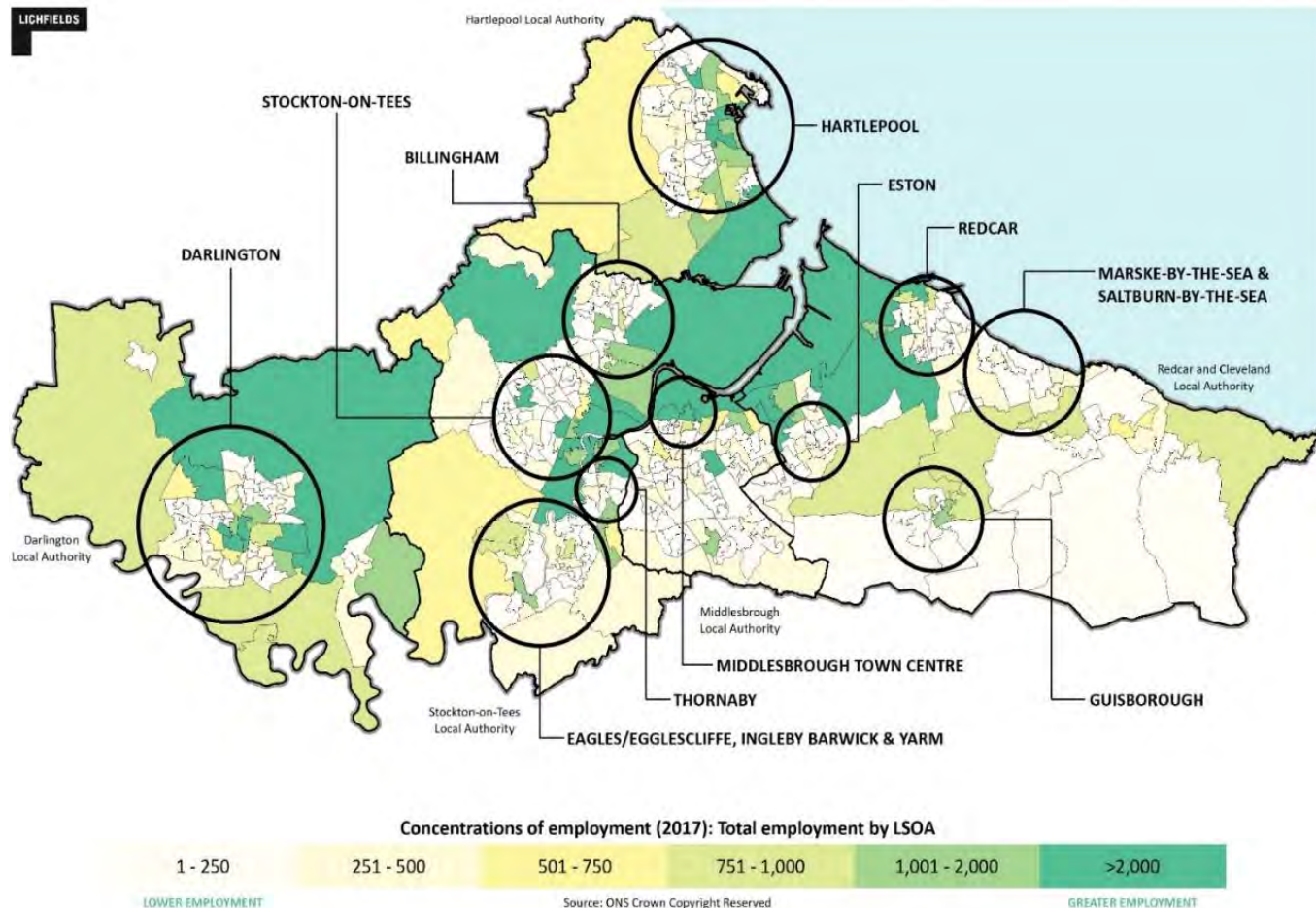
Employment

Distribution of Employment

- 7.15 The spatial distribution of employment in Tees Valley is summarised in Figure 7.9. This highlights the polycentric nature of the settlement pattern in Tees Valley, no single centre emerging as the sub-regional focal point for employment and economic activity. Rather, the Tees Valley economy is characterised by the presence of important employment locations spread across the five local authority areas.
- 7.16 This includes some concentrated pockets of employment within the area's town and city centres. However, a significant number of jobs are concentrated on large business parks and industrial complexes located in less central locations (including Teesdale Business Park, Wynyard, Belasis Business Park, Wilton and the south bank of the Tees).
- 7.17 Qualitative intelligence gathered through the LIS process suggests that accessibility via public transport to some of these major employment locations is currently challenging and represents a potential barrier to effectively matching jobs and workers. This is a particular concern with respect to lower skilled, lower

paid employment opportunities, where workers are more likely to be reliant on public transport.

FIGURE 7.9 TEES VALLEY EMPLOYMENT CONCENTRATION



Source: ONS

Provision of Employment Space

7.18

Tees Valley has a plentiful supply of employment land. This includes a series of Enterprise Zone designations comprising over 400 hectares of land across seven sites. More detail on these sites, identified below, is available through TVCA's dedicated investment support website, Invest Tees Valley:

- Government Funded Enterprise Zone (Enhanced Capital Allowance Sites) at: Hartlepool Port Estates; New Energy and Technology Park; South Bank Wharf & Prairies; and Wilton International.
- Tees Valley Funded Zone (Business Rate Relief Sites) at: Central Park; Northshore; and Middlesbrough Historic Quarter.

7.19 In addition, the Development Corporation has been awarded £123million to begin land remediation on 4,500 acres of prime land to the south of the River Tees, providing another major development opportunity for the area. The ultimate vision for the site is:

7.20 *“To see South Tees transformed into a hotbed of new industry and enterprise for Tees Valley that makes a substantial contribution to the sustained economic growth of the area and communities it serves, through the delivery of an exemplar, world-class industrial business park that is renowned as a destination for manufacturing excellence”^{xviii}*

South Tees Development Corporation Site

The South Tees Development Corporation was launched in August 2017. It is the UK's first Special Economic Area and comprises the single biggest development opportunity in the UK today, covering 4,500 acres of land. It is also home to many thriving companies, including PD Ports, British Steel, Redcar Bulk Terminal, Northumbrian Water and BOC. The site already attracted 125+ enquiries despite the focus being on land acquisition rather than marketing to date. The Development Corporation is in discussions with 10+ live projects with a potential collective land take up of 500 acres demonstrating that the site is an internationally credible opportunity. Emerging interest to date has clustered around three themes: energy, metals and offshore wind supply chains.



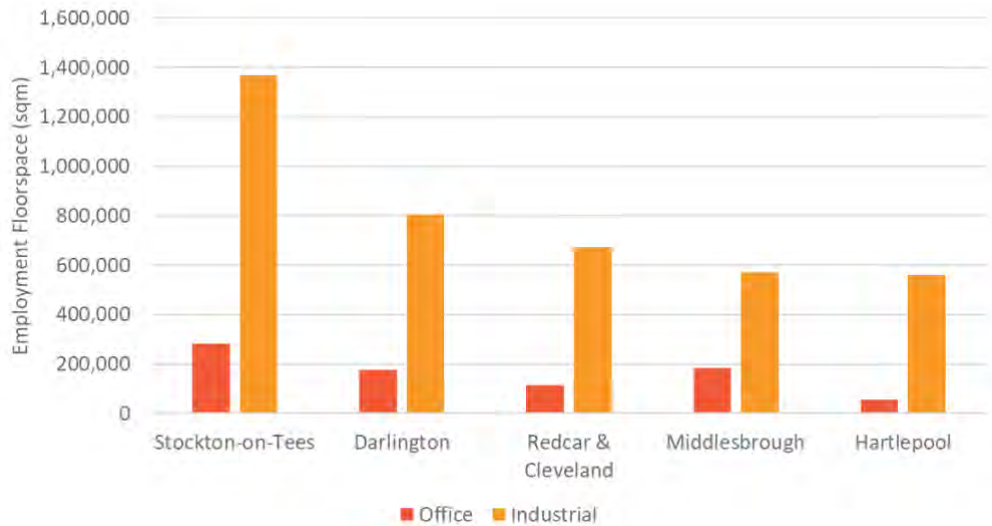
7.21 An analysis of Valuation Office Agency data (Figure 7.10) indicates that Tees Valley contains almost 4,795,000sq.m. of office and industrial floorspace, comprising of:

- 3,976,000sq.m. of industrial floorspace (83% of the total stock); and
- 819,000sq.m. of office floorspace (17% of the total stock).

7.22 This distribution reflects the industrial focus of the local economy. Stockton-on-Tees accounts for the highest absolute level of employment floorspace (1,650,000sq.m.) and a far higher level of industrial floorspace than any other Tees Valley authority. The data excludes significant levels of floorspace at Port of Tees and Hartlepool and Wilton (as well as Seal Sands), however. As a result, the importance of Redcar & Cleveland to the provision of industrial floorspace is likely to be understated.

7.23 Stockton-on-Tees also accounts for the highest absolute level of office floorspace (284,000sq.m.) – representing 17% of all employment space in the Borough. In proportionate terms, however, the economies of Middlesbrough and Darlington would appear to have a stronger office focus, with office space accounting for 24% and 22% (respectively) of employment floorspace.

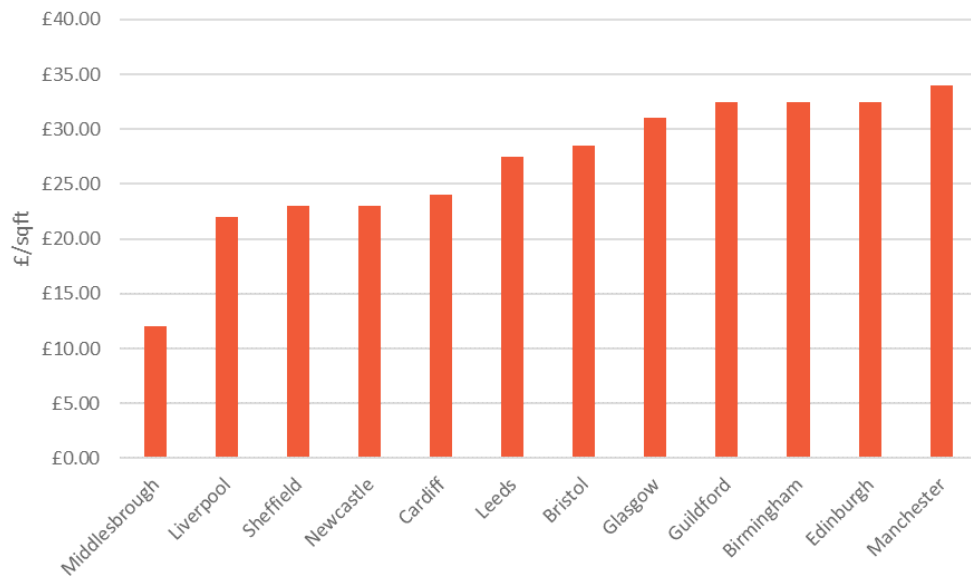
FIGURE 7.10 TEES VALLEY EMPLOYMENT FLOORSPACE STOCK



Source: Valuation Office Agency, 2016

- 7.24 Tees Valley is a cost competitive business location, with low labour (Table 7.1) and premises costs. It is estimated that average rental costs for Grade A office space in Middlesbrough are in the order of £12/sq.ft. (data is not available on a consistent basis for Tees Valley's other key commercial centres). This is significantly lower than the cost of premises in other major cities in the North of England and less than half the average cost identified via an assessment of key regional office markets (£26/sq.ft.)^{xcix} as shown in Figure 7.11.
- 7.25 Whilst this should be promoted as a benefit of Tees Valley, low commercial property values do impact adversely on the viability of development where new provision is required. It is understood from previous work undertaken in the area^c that, under current market conditions, speculative development of office and industrial space in Tees Valley generally requires some level of gap funding to be financially viable.

FIGURE 7.11 AVERAGE COST OF PRIME OFFICE SPACE (EXCL. LONDON)



Source: BNP Paribas, 2016

Free Trade Zone Proposals

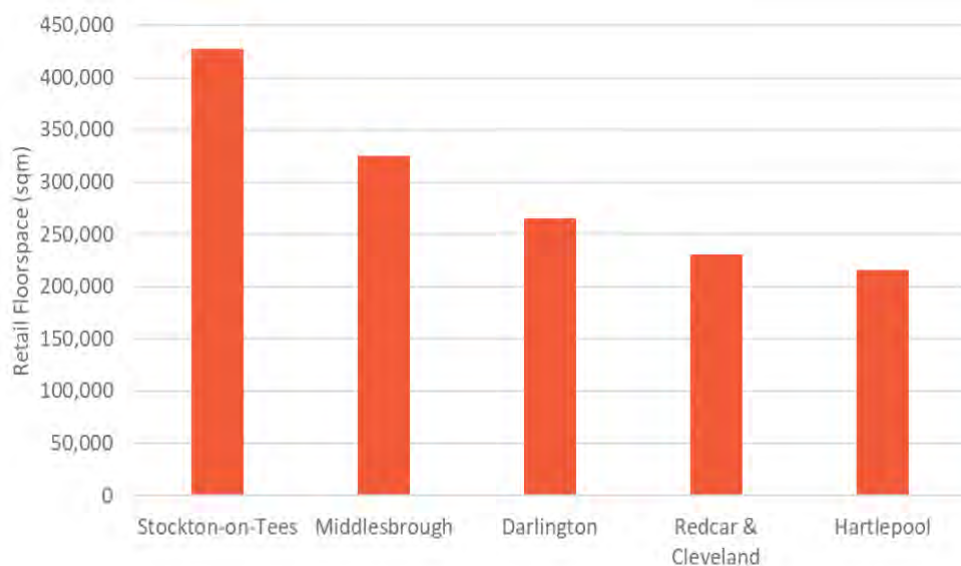
- 7.26 Tees Valley Combined Authority has an ambition to establish the UK's first Free Trade Zone (FTZ) using the South Tees site as a test case. This can provide a means to accelerate the growth potential of the Development Corporation site and strengthen the area's proposition to (domestic and international) inward investors.
- 7.27 In support of this ambition, FTZ options were presented to government in April 2019, underpinned by analysis contained within *A proposal for a national Free Zone (2019)*. The document calls for a regionally targeted industrial policy response to address some of the barriers to trade, investment and regional equality that exist at the national level. Within this context, it highlights that FTZs have been used internationally to promote investment in sectors which involve international supply chains. Successful FTZs combine investment in hard and soft infrastructure with fiscal and financial incentives, whilst branding and marketing is also critically important.
- 7.28 Analysis contained with *A proposals for a national Free Zone (2019)* estimates that a successful FTZ in Tees Valley could create £2 billion of GVA and 32,000 jobs both directly and within local supply chains after 25 years. These benefits could reduce by half when deadweight and displacement effects are taken into account, although these effects and associated risks could be mitigated through careful incentive design and appraisal of applicants.

Culture and Leisure

Retail Provision

- 7.29 Town and city centres often serve as the focal point for the provision of retail, culture and leisure facilities in a local economy. The quality and vibrancy of an area's centres, therefore, can play a key role in supporting growth in economic output – by underpinning an attractive inward investment offer and by attract additional tourists and tourism expenditure to an area.
- 7.30 Data relating specifically to the culture and leisure offer of a locality is not readily available in a format that can be benchmarked against the performance of other areas. Such data is, however, available with respect to retail provision and provides a proxy measure of the overall strength of a centre. Those locations with a high volume of retail floorspace and strong representation of major, national multiples, for instance, are likely to have higher overall levels of footfall and dwell times and be capable of supporting a stronger culture/leisure/food and drink offer.
- 7.31 Data from the Valuation Office Agency (Figure 7.12) indicates that Tees Valley contains 1,465,000sq.m. of retail floorspace. No single authority emerges from the analysis as the dominant retail centre for the wider conurbation, which is consistent with the polycentric nature of Tees Valley's economic geography.
- 7.32 Stockton-on-Tees accounts for the largest share of floorspace with 428,000sq.m. (29%). However, this reflects the presence of Teesside Retail Park in addition to the scale of provision within Stockton town centre. In addition, it can be seen from Figure 7.13 that Darlington and Middlesbrough are considered to be 'stronger' town centres when the range and quality of the offer is taken into account.

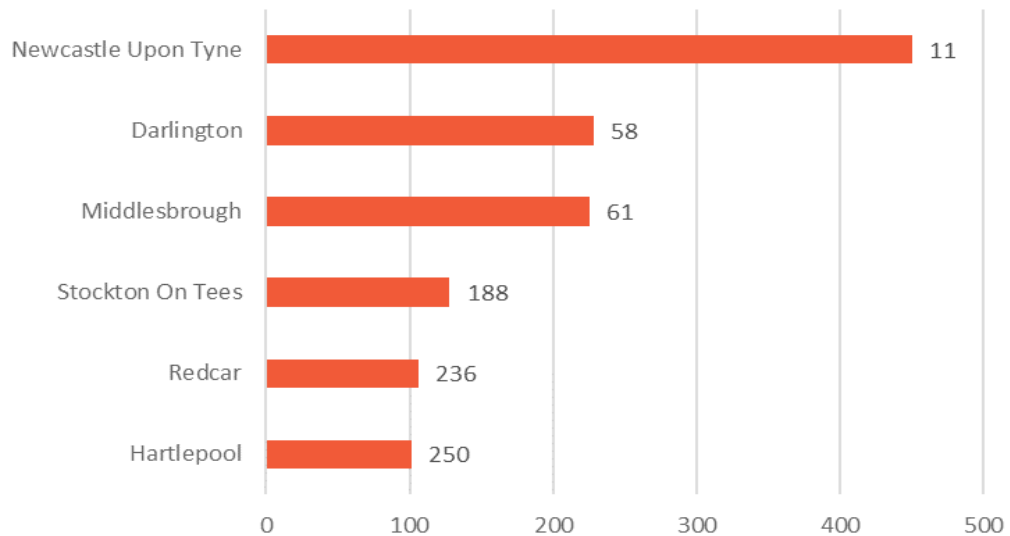
FIGURE 7.12 RETAIL FLOORSPACE STOCK



Source: Valuation Office Agency, 2016

7.33 Figure 7.13 is based upon data from Javelin VenueScore, which ranks locations according to the provision of (anchor, fashion and non-fashion) multiple retailers and foodservice outlets in order to understand the positioning of each within the wider local/national hierarchy of centres. This indicates that Darlington (ranked 58th out of over 400 council areas nationally) and Middlesbrough (ranked 61st nationally) are the strongest individual retail centres in the local area.

FIGURE 7.13 VENUESCORE FOR MAIN TEES VALLEY RETAIL CENTRES (CENTRE RANKING IN BRACKETS)



Source: Javelin VenueScore, 2016

7.34 Stakeholder consultation undertaken as part of the development of the LIS identified the need to maintain a network of vibrant and successful town and city centres, whilst acknowledging the challenges that they face from out of town retail parks and the rapid growth of online shopping. It was generally accepted, that town and city centres need to reposition themselves through the development of an experience-led offer. This is consistent with recent research^{ci} which recommends that locations such as Tees Valley's main centres should look to extend the range of uses beyond retail by incorporating more leisure and cultural activity (including markets and festivals) as well as the growth of the evening and night time economy. Encouraging the temporary use of vacant units and adopting a flexible approach to the conversion of excess office space for residential is also recommended.

7.35 A number of these measures are already being successfully applied in Tees Valley, but stakeholders generally felt that more could be done moving forwards to strengthen the draw of the area's town and city centres.

Cultural Attributes

7.36 The cultural infrastructure of Tees Valley comprises of a small number of successful arts and cultural venues. This includes:

- 18 art and sculpture galleries, with the most notable being the Middlesbrough Institute of Modern Art (MIMA). MIMA is a partnership between Teesside University and Tate Plus;
- 22 cultural performance venues, including nationally recognised producing theatres in Stockton ARC and Theatre Hullabaloo in Darlington; and
- 14 museums, which collectively present the area's rich maritime and railway heritage. Head of Steam (the Darlington Railway Museum) and the National Museum of the Royal Navy, in Hartlepool, represent key assets.^{cii}

7.37

The above assets are supported by a burgeoning programme of festivals and events. Whilst numbers fluctuate year on year, it is estimate that there are approximate 140 regular events (i.e. those that take place each year). Many of the events attract a mainly local audience. Some of the higher profile events, however – such as the Festival of Thrift (45,000 visitors), Stockton International Riverside Festival (65,000 visitors), Hartlepool Waterfront Festival (15,000 visitors) and the Middlesbrough Art Weekender – are widely recognised as drawing audiences from a catchment that extends beyond Tees Valley.^{ciii}

Events Programme

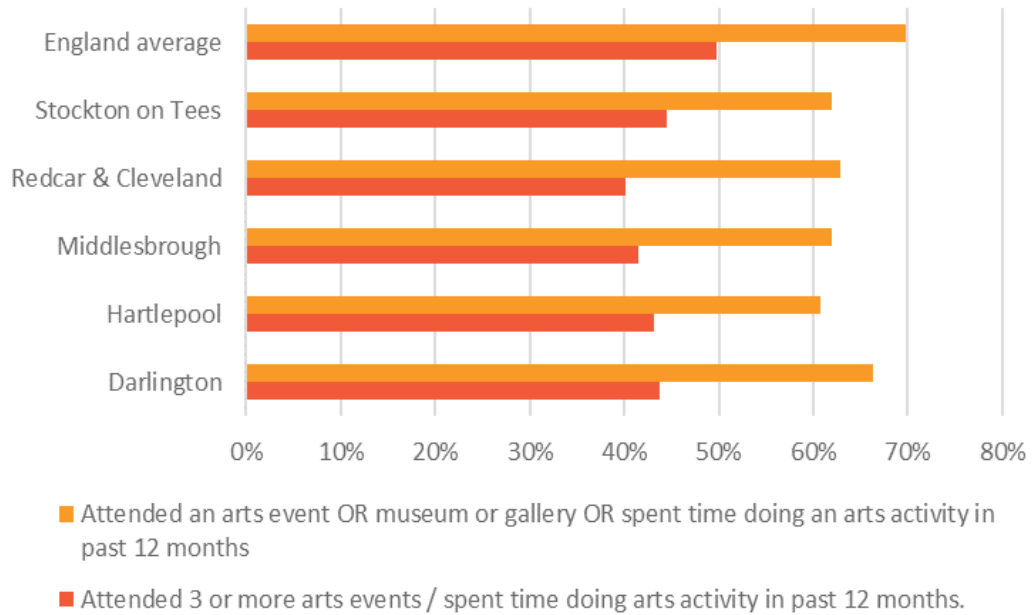
Tees Valley has a burgeoning programme of festivals and events including Kirkleatham's Festival of Thrift and the Stockton International Riverside Festival. In 2019, BBC Radio One's Big Weekend festival took place in Middlesbrough. Looking forwards, the area is confirmed as a host venue for the 2021 Rugby League World Cup whilst the Railway Bicentenary and bid to become UK City of Culture 2025 provide further opportunities to boost the local economy and elevate the profile of Tees Valley nationally.



7.38

Local engagement with the arts is lower than the national average. This is highlighted in the Figure below. The data shows that the proportion of residents attending art events, museums and galleries (or participating in an arts activity) in each of Tees Valley's five authorities was significantly below the corresponding figure for England.

FIGURE 7.14 TEES VALLEY ARTS ENGAGEMENT



Source: Active Lives Survey, 2017

- 7.39 The cultural assets outlined above are supplemented by a number of sporting facilities and attractions. This includes the Riverside Stadium (home of Middlesbrough Football Club) and championship golf courses at Rockliffe Hall, Seaton Carew and Wynyard Hall.
- 7.40 *Tees Valley Combined Authority Culture and Visitor Sector Analysis and Baseline Insights* acknowledges that the area has been successful in attracting a range of national level competitions in different sports:
- The 2018 European ITU Sprint Distance Triathlon Qualifier (a qualifier for the European Championships) was held on Redcar seafront;
 - The 2016 British Cycling National Road Championships were held in Stockton; and
 - The Middlesbrough Municipal Golf Centre has hosted the national schools golf championships and regular pro-am events.^{civ}
- 7.41 In addition, the area is confirmed as a host venue for the 2021 Rugby League World Cup and will host the Great City Games athletics event from 2019.

Tees Valley Watersports

Tees Valley benefits from a number of watersport facilities and attractions. The Olympic standard white water rafting and kayaking course at Tees Barrage, the paddleboarding and yachting at Hartlepool Marina, the surf school at Saltburn and FlowRider at Redcar & Cleveland Leisure and Community Heart combine to form a 'thematic cluster' and a key part of the local tourism offer.



Visitor Economy

- 7.42 The *Tees Valley Combined Authority Culture and Visitor Sector Analysis and Baseline Insights* includes an analysis of the latest STEAM data for Tees Valley. This shows that the area attracted 19.85 million visitors in 2018 – an increase of 0.5% on the previous year. The majority of visitors (89.4%) were day visitors, with just 10.6% staying overnight.
- 7.43 The STEAM data indicates that the total economic impact of tourism in Tees Valley was more than £960 million in 2018 – an increase of 4.2% when compared to 2017. This is comprised of direct tourism expenditure of almost £710 million, with a further £250 million in indirect expenditure.
- 7.44 STEAM data presented within the *Tees Valley Combined Authority Culture and Visitor Sector Analysis and Baseline Insights* indicates that those visiting Tees Valley support 12,000 jobs, with a further 2,500 employed in the cultural sector. The report does acknowledge, however, that – in overall terms – the tourism and culture sector employs far higher numbers of employees (closer to 30,000 on the basis of data from the Business Register and Employment Survey (BRES) published by ONS).

Enjoy Tees Valley

Tees Valley visitor economy attracted 20 million visitors in 2017 – a growth rate of 6% on the previous year. The launch of the 'Enjoy Tees Valley' destination marketing offer in 2018 provides a platform for promoting the area further. Continuing to develop and grow the visitor economy in Tees Valley will create jobs in the tourism industry. In addition, by improving perceptions of the area as an attractive place to invest, work, live and visit, it can also contribute to the attraction of talent and a stronger inward investment proposition.



Natural Capital and the Economy

- 7.45 Natural capital – the elements of nature that directly or indirectly produce value to people – underpins wellbeing and prosperity, as well as economic growth. Natural capital can impact on productivity through a number of channels, including:
- Helping to improve natural resources and aid the delivery of carbon reduction targets;
 - Building economic and infrastructure resilience (e.g. adapting to climate change); and
 - Increasing an area's appeal as a healthy place to live and work – boosting its attractiveness as a location for both UK and international investment.
- 7.46 Tees Valley has a number of unique natural assets – distinctive components of natural capital – that act to support sustainable growth in the area. These include:
1. RSPB Saltholme;
 2. Roseberry Topping;
 3. Guisborough Forest and Walkway (walking and cycling);
 4. Rivershack, Preston Park (river cruises and rowing boats);
 5. Tees Barrage, Stockton (white water rafting, paddle boarding and power boating);
 6. Hartlepool Marina (jet skiing, paddle boarding and seafaris);
 7. Tees & Hartlepool Yacht Club (sailing, power boating and jet skiing);
 8. Saltburn (surfing);
 9. Greatham Creek (seal watching); and
 10. Various parks (see below).

- 7.47 The area benefits from a variety of parks, including:
- Stewart Park and Fairy Dell in Middlesbrough;
 - South Park in Darlington;
 - Preston Park and Wynyard Woodland Park in Stockton on Tees;
 - Ward Jackson Park and Summerhill Local Nature Reserve in Hartlepool; and
 - Locke Park and Saltburn Valley Gardens in Redcar and Cleveland.

Summary

- 7.48 Key issues highlighted within the preceding paragraphs are summarised below:
- 1 The settlement pattern in Tees Valley is polycentric, with no single town centre acting as a focal point for the employment, retail, leisure and cultural offer of the conurbation;
 - 2 The Tees Valley labour market is characterised by high levels of self-containment, with 87% of those residents in employment working in the area;
 - 3 Employment within the area is principally concentrated on large business parks and industrial locations, rather than in and near to town centres;
 - 4 The area benefits from a cost competitive housing and business accommodation offer; and
 - 5 Tees Valley has growing visitor economy, underpinned by a burgeoning festival and events programme.

8.0 Future Position of Tees Valley

- 8.1 The Tees Valley SEP, refreshed in 2016, sets out a vision of future success for the area. It aims to deliver 40,000 new residents, 25,000 new jobs, 2,000 new businesses and £2.8bn of additional GVA between 2016 and 2026, whilst reducing the environmental impact of Tees Valley's industrial base. In order to do so, the SEP identifies the following targets:
- 10% increase in business density;
 - 55% increase in employment density;
 - 30% increase in GVA per hour;
 - 20% increase in residents qualified to NVQ Level 4; and
 - 25% reduction in CO₂ emissions.
- 8.2 These targets reflect many of the key productivity challenges facing the area, as outlined within the preceding sections. As such, whilst the LIS is underpinned by its own evidence base, which considers the local economy specifically through the lens of productivity, many of the constraints and opportunities that the LIS considers are consistent with and complementary to the overarching vision set out in the SEP.
- 8.3 These constraints and opportunities point towards a series of key priorities facing the Tees Valley over the period to 2030, which are outlined below.
- 1 Ensure that the area's existing cluster of energy intensive industries can operate as efficiently as possible. There is a shift towards such industries increasingly clustering around a smaller number of globally competitive locations. Access to competitively priced raw material and feedstocks; access to competitively priced energy and utilities; integration; and an efficient logistics infrastructure are critical to an area's proposition. Tees Valley is faced with a choice: address these issues (through industrial decarbonisation and other initiatives) to underpin an established sector strength; or see the area's competitive advantage in the field eroded;
 - 2 The UK and global economies are on the cusp of a fourth industrial revolution – driven by digital data, connectivity and robotics^{cv}. Tees Valley, with its existing strengths in advanced manufacturing and an established digital sector should look to fully embrace the opportunities presented by industrial digitalisation as a means of moving businesses up the value chain. Failure to do so risks continued decline and sluggish productivity growth in the advanced manufacturing sector;
 - 3 Develop the business base to increase business density and continue the transition away from the area's legacy of large-scale corporate industry and foreign ownership. Successfully growing the indigenous business base offers the potential to deliver greater sectoral diversity (hedging against the impact of economic shocks); and ensures that firms are more effectively embedded in the area;
 - 4 Harness the full potential of the existing innovation ecosystem to maximise opportunities to land inward investment spin-outs and support indigenous businesses to increase their R&D intensity. This will need to be supported

by a range of interventions aimed at both facilitating cultural change and ensuring access to the necessary finance and support;

- 5 Address the skills and labour market issues currently constraining business and productivity growth. This includes ensuring that businesses have access to the pipeline of talent required to address existing gaps and replacement demand challenges, as well as supporting people into entry level employment by addressing issues related to lower level skills and low aspiration;
- 6 Ensure that people can move around Tees Valley as easily as possible, whilst also improving external connectivity/linkages. This will help to address issues of low labour market participation (by connecting those out of work with employment opportunities) and deliver business/productivity growth by extending the geographical reach of labour markets in order to better match jobs with the requisite skills; and
- 7 Explore opportunities to support the continued growth of critical economic infrastructure including Port of Tees and Hartlepool and Durham Tees Valley Airport in order to maintain the area's exporting strengths.

-
- ⁱ *Industrial Strategy: Building a Britain fit for the future*, HM Government (November 2017)
- ⁱⁱ *Local Industrial Strategies: Policy Prospectus*, HM Government (October 2018)
- ⁱⁱⁱ Note that five of the Enterprise Zone Sites identified in this graphic have now ceased to be. The remaining seven are identified in section 7.18
- ^{iv} *Benchmarking Skills and Productivity*, Smart Specialisation Hub (November 2018)
- ^v *Tees Valley: Opportunity Unlimited*, The Rt Hon the Lord Heseltine of Thenford CH (June 2016)
- ^{vi} *Tees Valley: Opportunity Unlimited*, The Rt Hon the Lord Heseltine of Thenford CH (June 2016)
- ^{vii} *Tees Valley: Opportunity Unlimited*, The Rt Hon the Lord Heseltine of Thenford CH (June 2016)
- ^{viii} *Tees Valley: Opportunity Unlimited*, The Rt Hon the Lord Heseltine of Thenford CH (June 2016)
- ^{ix} Vince Cable, MP
- ^x Department for Transport, Port Table 0101. Based upon total outward freight (tonnes)
- ^{xi} <https://www.ecb.europa.eu/explainers/tell-me-more/html/growth.en.html>
- ^{xii} Based upon analysis of Innovate UK data and ONS Job Density data
- ^{xiii} Higher Education Business and Community Interaction Survey (2015/16)
- ^{xiv} Smart Specialisation Hub, LEP Profiles (Tees Valley)
- ^{xv} *Tees Valley Economic Assessment (2018)* – based upon analysis from the Smart Specialisation Hub
- ^{xvi} *Tees Valley Combined Authority: Specialist data requirements to inform the Local Industrial Strategy*, Professor Richard Harris, Durham University Business School (2019)
- ^{xvii} R&D stock per unit of sales
- ^{xviii} Northern Powerhouse Chemical and Process Sector Science and Innovation Audit (2018)
- ^{xix} It should be noted that sample sizes vary by sector
- ^{xx} Source: Higher Education Business and Community Interaction Survey (2015/16)
- ^{xxi} ONS Job Density data shows there are 293,000 jobs in Tees Valley
- ^{xxii} *What does the 2.4% of GDP R&D Expenditure Target Mean for Places?* Smart Specialisation Hub (January 2019)
- ^{xxiii} *Delivering change: Supporting links between universities and high-growth firms in cities*, Centre for Cities (April 2014)
- ^{xxiv} *Digital Sector Action Plan*, Tees Valley Combined Authority (June 2018)
- ^{xxv} £10 million of direct funding is available from ERDF, with the remainder comprised primarily of private sector match funding
- ^{xxvi} *Benchmarking Skills and Productivity*, Smart Specialisation Hub (November 2018)
- ^{xxvii} ONS, Annual Population Survey, 2018 data
- ^{xxviii} Department for Education (2017/18)
- ^{xxix} ONS Annual Population Survey, 2017 data
- ^{xxx} DfE Employer Skills Survey 2017
- ^{xxxi} ONS Annual Population Survey (2018)
- ^{xxxii} ONS Annual Population Survey (2018)
- ^{xxxiii} *Tees Valley Economic Assessment (2018) Section 7.1a*
- ^{xxxiv} *Tees Valley Economic Assessment (2018) Section 7.1a*
- ^{xxxv} *Tees Valley Economic Assessment (2018) Section 7.1b*
- ^{xxxvi} *Tees Valley Economic Assessment (2018) Section 7.1b*
- ^{xxxvii} Department for Education, 2018 data
- ^{xxxviii} *Tees Valley Economic Assessment, Section 7.4*
- ^{xxxix} Higher Education Statistics Agency
- ^{xl} *Tees Valley Higher Education (December 2018) Section 14*
- ^{xli} *Tees Valley Higher Education Report*, Tees Valley Combined Authority (December 2018)
- ^{xlii} *Advanced Manufacturing Sector Action Plan*, Tees Valley Combined Authority (March 2018)
- ^{xliii} HMRC Regional Trade Statistics
- ^{xliv} ONS, UK Trade in Goods
- ^{xlv} Analysis presented within this paragraph comprises of HMRC and ONS data. The two datasets are not directly comparable due to underlying methodological differences, but represent a 'best fit' due to data availability limitations
- ^{xlvi} *ScaleUp Insights*, ScaleUp Institute (March 2019)
- ^{xlvii} *Annual ScaleUp Review*, ScaleUp Institute (November 2018)

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- lxviii Annual ScaleUp Review, ScaleUp Institute (November 2017)*
- lxix Tees Valley Combined Authority: Specialist data requirements to inform the Local Industrial Strategy, Durham University Business School (2019)*
- l SME Innovation, Exporting and Growth ERC White Paper No 5, Enterprise Research Centre (2013)*
- li Source: Durham University Business School (2019)*
- lii Source: Durham University Business School (2019). Based upon data from the ONS Annual Business Survey, Secure Access (9th Edition)*
- liii Source: Tees Valley Economic Assessment (2018) Section 4.6.*
- NB – data regarding the export of services is only available at the regional level and has been excluded from the analysis within this document*
- liv Tees Valley Combined Authority: Specialist data requirements to inform the Local Industrial Strategy, Durham University Business School (2019)*
- lv Opportunities for the Tees Valley Bioscience Sector, Teesside University (2019)*
- lvi Opportunities for the Tees Valley Bioscience Sector, Teesside University (2019)*
- lvii Opportunities for the Tees Valley Bioscience Sector, Teesside University (2019)*
- lviii Tees Valley Combined Authority: Specialist data requirements to inform the Local Industrial Strategy, Durham University Business School (2019)*
- lix It should be noted that data for the biosciences sector is not directly comparable with other sectors (due to definitional issues) and is based upon research from Durham University which does not provide full coverage of GVA. Further, the figure relates to the North of England, rather than Tees Valley due to sample size issues.*
- lx Whilst Marlow Foods' HQ is located just outside of Tees Valley, all manufacturing expertise is based on Tees Valley sites*
- lxi The Clean Growth Strategy: Leading the way to a low carbon future, HM Government (October 2017)*
- lxii What is the Industrial Clusters mission? HM Government*
- lxiii What is the Industrial Clusters mission? HM Government*
- lxiv Designing the Industrial Energy Transformation Fund, HM Government (2019)*
- lxv Process, Chemicals and Energy: Sector Action Plan, Tees Valley Combined Authority (2018)*
- lxvi Tees Valley Combined Authority: Low carbon industrial cluster sector research, KPMG (September 2018)*
- lxvii Designing the Industrial Energy Transformation Fund: Informal Consultation, Department for Business, Energy and Industrial Strategy (2019)*
- lxviii Process, Chemicals and Energy Sector Action Plan, Tees Valley Combined Authority (2018)*
- lxix Offshore Wind Opportunities in Tees Valley: An Overview, Tees Valley Unlimited*
- lxx <https://teesvalley-ca.gov.uk/business/key-sectors/energy-and-renewable/>*
- lxxi Offshore Tees Valley: A World Class Offshore Sector, Tees Valley Combined Authority*
- lxxii Decommissioning Insight, Oil and Gas UK (2017)*
- lxxiii Mapping Circular Economy Activity in the UK, Smart Specialisation Hub (January 2019)*
- lxxiv The UK chemicals and process supply chain for battery manufacture, UK Advanced Propulsion Centre (2018)*
- lxxv Based upon a literature review undertaken by as part of a confidential exercise. Further details available upon request*
- lxxvi Source data as follows:*
- Ultrafast and Superfast broadband coverage: thinkbroadband.com*
- Average speed on local 'A' roads: Department for Transport*
- Average journey to work time: Labour Force Survey*
- Travel to work by mode: Office for National Statistics*
- lxxvii Source: ONS*
- lxxviii Census 2011 data, as presented in Connecting the Tees Valley: Strategic Transport Plan, Tees Valley Combined Authority (2019)*
- lxxix Tees Valley Economic Assessment (2018) Chart 8.2*
- lxxx Congestion and Reliability Statistics, Department for Transport*
- lxxxi Strategic Transport Plan, Transport for the North*
- lxxxii Quick Wins for the North's Transport Network, IPPR (March 2019)*
- lxxxiii Congestion and Reliability Statistics, Department for Transport*
- lxxxiv Strategic Transport Plan, Transport for the North*

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- lxxxv Connecting the Tees Valley: Rail Strategy, Tees Valley Combined Authority (2019)*
- lxxxvi Connecting the Tees Valley: Draft Rail Strategy, Tees Valley Combined Authority (2019)*
- lxxxvii Office of Rail and Road, 2016/17*
- lxxxviii Quick Wins for the North's Transport Network, IPPR (March 2019)*
- lxxxix Connecting the Tees Valley: Draft Strategic Transport Plan, Tees Valley Combined Authority (2018)*
- xc Connecting the Tees Valley: Rail Strategy, Tees Valley Combined Authority (2019)*
- xcI Connecting the Tees Valley: Freight Strategy, Tees Valley Combined Authority (2019)*
- xcii Department for Transport Freight Statistics, as presented in the Tees Valley Economic Assessment (2018)*
- xciii Delivering Digital Infrastructure, World Economic Forum (2013)*
- xciv Liveanomics: Urban liveability and economic growth, Economist Intelligence Unit (2011)*
- xcv UK Total Office Occupancy Costs, BNP Paribas Real Estate (September 2016)*
- xcvi Tees Valley Economic Assessment (2018) Table 9.1*
- xcvii Active Lives Survey (January 2018)*
- xcviii <https://www.southteesdc.com/about-us/about-us/>*
- xcix UK Total Office Occupancy Costs, BNP Paribas Real Estate (September 2016)*
- c Stockton-on-Tees Employment Land Review, Lichfields (October 2016)*
- ci The Future of our Town and City Centres, Key Cities*
- cii Tees Valley Combined Authority Culture and Visitor Sector Analysis and Baseline Insights, Amion Consulting (2019)*
- ciii Tees Valley Combined Authority Culture and Visitor Sector Analysis and Baseline Insights, Amion Consulting (2019)*
- civ Tees Valley Combined Authority Culture and Visitor Sector Analysis and Baseline Insights, Amion Consulting (2019)*
- cv <https://innovateuk.blog.gov.uk/2017/03/28/what-does-the-fourth-industrial-revolution-4ir-mean-for-uk-business/>*

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TEES VALLEY LOCAL INDUSTRIAL STRATEGY JULY 2019

LOCAL DRAFT



TEES VALLEY
COMBINED
AUTHORITY

TEES VALLEY MAYOR

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EXECUTIVE SUMMARY

1. The draft Tees Valley Local Industrial Strategy sets out an ambitious plan to transform the economic performance of the area and drive an increase in productivity. It builds on the distinctiveness of the local economy and responds to the opportunities and challenges that flow from this. It centres around our niche offer in relation to clean energy, low carbon and hydrogen – aspects of the Clean Growth agenda.
2. Our platform for growth focuses on Tees Valley's strengths and challenges in relation to the 'foundations of productivity' identified in the Industrial Strategy: ideas; people; business environment; infrastructure; and place. These are positioned alongside the role and economic contribution of our priority sectors for growth: clean energy, low carbon and hydrogen; chemicals and process; advanced manufacturing; bioscience; digital; culture and tourism; business and professional services; logistics; and construction.
3. The Local Industrial Strategy identifies an overarching ambition, that: *Tees Valley will be a global leader in clean energy, low carbon and hydrogen. The area will achieve a net zero carbon industrial cluster by 2040, providing good jobs with long-term prospects that local people can access.* This ambition sits at the heart of our framework for growth.

Platform for growth

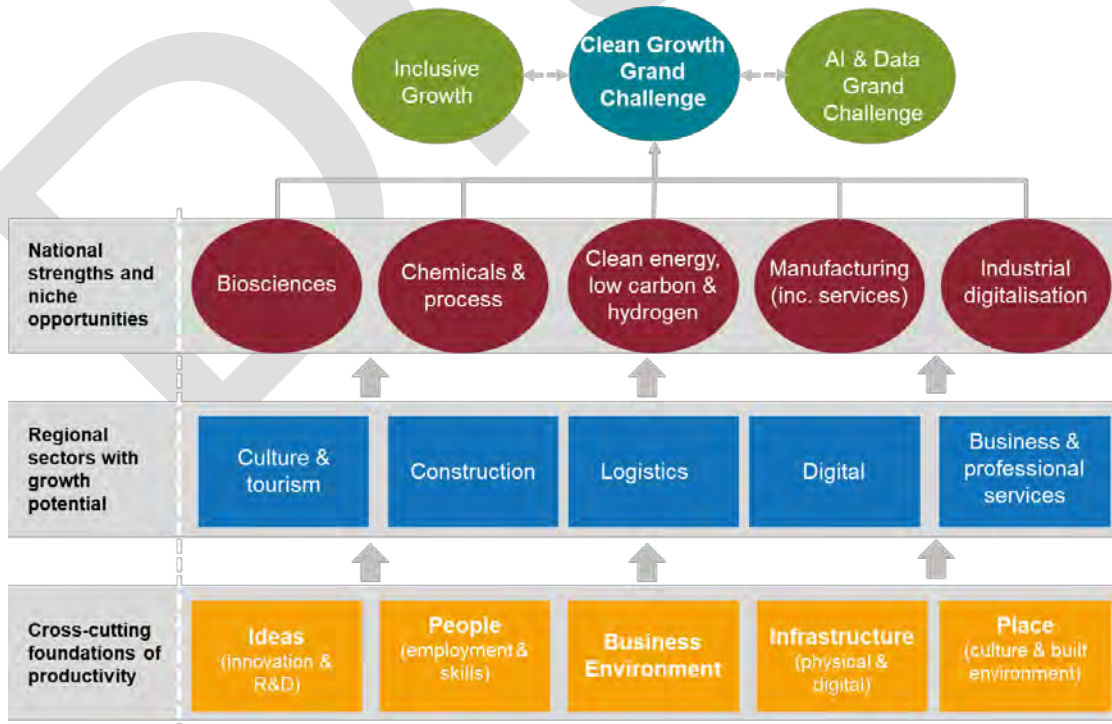
4. Tees Valley is a £13.1bn economy, with a £206m trade in goods surplus. Although the region is relatively small, we have economic assets of national significance: we are home to the UK's largest chemical complex, the UK's largest port for outward tonnage and one of the UK's leading higher education institutions for working with business (Teesside University). We have global strengths in the process chemicals and advanced manufacturing sectors, and our productivity performance exceeds national averages in process chemicals and digital. In many respects, the scale of our economic impact and influence is disproportionately large.
5. Our established industrial strengths are supported by:
 - i. Internationally excellent industrial innovation and research institutions;
 - ii. A well-established, geographically concentrated and highly integrated industrial ecosystem;
 - iii. South Tees Development Corporation area - one of the UK's greatest development opportunities; and
 - iv. A strong export-facing transport infrastructure, including the Port of Tees & Hartlepool; and Durham Tees Valley Airport.
6. Whilst the Tees Valley economy provides a strong platform for growth, a number of economic challenges exist. It is critical that these are addressed to realise our

ambitions for success, and also to retain the competitiveness of our key sectors in the future.

- i. Without solutions to decarbonise the high CO₂ emitting industries (our globally significant sectors) they will not be able to remain competitive and be sustainable in the UK;
- ii. The Tees Valley business base is under-developed relative to the size of the population and scale-up performance is weak;
- iii. Despite the presence of leading innovation and research organisations, and high levels of Innovate UK funding awards, levels of R&D activity among the local business base remain low;
- iv. Low levels of participation in the labour market and underperformance in relation to education and skills continue to impact on economic performance; and
- v. External perceptions of the area are influenced by our industrial past, and do not reflect realities of life in many parts of Tees Valley.

Core proposition

7. A 'core proposition' focused on delivering Clean Growth through clean energy, low carbon and hydrogen has been developed to achieve our ambitions for the Tees Valley economy. Our core proposition also responds to government's aim to have one net-zero industrial cluster by 2040. Our ambitions are underpinned by a breadth and depth of assets in Tees Valley, which mean that the area is uniquely well-placed to pilot and demonstrate the benefits of clean energy, low carbon and hydrogen on productivity and supply chain integration.



8. Our industrial legacy, infrastructure and geology mean that the main sources of clean energy available in the UK are already in use or can be deployed at scale in Tees Valley – for example, we already produce over 50% of the UK’s hydrogen; and significant recent investments, such as Sirius Minerals polyhalite (multi nutrient fertiliser) project, demonstrate the strength of the region’s assets. We also have an established, geographically concentrated and highly integrated cluster, which is supported by proximity to: offshore wind; decommissioning growth potential; access to carbon capture and storage; hydrogen infrastructure and expertise; and innovation specialisms.
9. Successful implementation of our core proposition will provide a renewed platform for growth, driven by inward investment, reshoring and a vibrant business base. In addition, our ambition provides an opportunity for Tees Valley to make a significant contribution to carbon emissions reductions at the national level, with the potential to deliver reductions of 80MtCO₂ over the period to 2050.

Inclusive Growth

10. Successful implementation of our core proposition will be defined not just by increasing productivity, but by ensuring that the growth of our economy is inclusive. Delivering inclusive growth will mean providing more good quality jobs with long-term prospects – jobs that local people can access. This is central to the overarching ambition for the area and will be underpinned by a series of interventions designed to create more good jobs and support more people to access good jobs with long term prospects.

Delivering the ambition

11. Interventions to deliver our ambition have been organised around five interlinked themes:
 - i. Lead the way as an exemplar region for clean energy, low carbon and hydrogen;
 - ii. Develop pioneering capabilities in industrial digitalisation and ensure implementation of digital applications at scale;
 - iii. Leverage the full potential of our innovation ecosystem in support of building innovation capability, R&D capability, commercialisation, business creation and growth;
 - iv. Grow and widen the pipeline of talent to support our competitive advantages and help more people into good jobs with long-term prospects; and
 - v. Attract investment and establish a global reputation for Tees Valley as a vibrant and thriving place to be, with world leading opportunities in clean energy, low carbon and hydrogen.
12. Further detail on the interventions is set out below.

Lead the way as an exemplar region for clean energy, low carbon and hydrogen

13. This theme focuses on developing the technology, infrastructure and supply chain linkages needed to maximise the impact of clean growth and industrial decarbonisation in Tees Valley. It seeks to ensure that the regulatory framework is fit for purpose and strengthen relationships and synergies with key national and international clusters. Priorities include:
14. Position Tees Valley as the UK's Hydrogen Capital
- i. Pursuing an ambition to establish a nationally-recognised Research and Development Centre for Hydrogen in Tees Valley. This will build on our skills, infrastructure and existing innovation assets to develop, demonstrate, and deploy new hydrogen applications
 - ii. Supporting partner bids and activity that could see the region play a critical role in delivering the first fleet of hydrogen-powered passenger trains and hydrogen fuelled vehicles.
15. Establish Tees Valley as the pioneer region for Carbon Capture, Utilisation and Storage (CCUS) and clean growth technologies
- i. Pursuing an ambition to be designated as the UK's first net-zero industrial cluster, and working with government to achieve a fully decarbonised cluster by 2040
 - ii. Working with government to pilot a CCUS financing mechanism and business models
 - iii. Seeking government support for the Oil and Gas Climate Initiative Clean Gas project to achieve financial close
 - iv. Maximising the potential allocation of Industrial Energy Transformation Fund and Industrial Strategy Challenge Funding streams to support decarbonising clusters
 - v. Developing skills and education provision for CCUS, hydrogen and other clean technologies, and working with wind, biogas and nuclear sectors to develop local capability
 - vi. Building on commitments set out in the Offshore Wind Sector Deal, supporting the further development of the existing Tees Valley cluster and supply chain links to the wider North East region
 - vii. Harnessing the strengths of our world-leading chemical sector to build and enhance our role in the electric vehicle supply chain through the production of component parts for vehicle batteries
 - viii. Prioritising Hartlepool Power Station site as a preferred location for the development and deployment of new commercial scale nuclear technologies
 - ix. Hosting a series of Industrial (and 'Open to the World') showcases of the demonstrators and pilots developed for CCUS and clean growth technologies in Tees Valley, to further cement our position as a pioneer region in both.

16. Working with government to establish the region as a Centre for Excellence in Decommissioning for offshore oil and gas
17. Cementing Tees Valley's position as an exemplar region for industrial decarbonisation and clean growth by adopting a broader approach to develop the infrastructure and regulatory environment, and through place promotion that presents a compelling and cohesive case to investors. Priorities include:
 - i. Working with government to evolve the regulatory framework in support of standalone energy projects
 - ii. Continuing to make the case to establish a Free Trade Zone
 - iii. Working with the Department for International Trade to develop an aligned and targeted approach to attract Foreign Direct Investment.

Develop pioneering capabilities in industrial digitalisation and ensure implementation of digital applications at scale

18. This theme is focused on creating the necessary conditions to accelerate the innovation and diffusion of industrial digitalisation technologies, including the development of test-bed projects and a co-ordinated package of advocacy, support, advice and funding. Growth in the digital sector will help enable this ambition, and activity will support achievement of our clean growth ambitions, whilst simultaneously supporting the growth and development of a thriving digital sector in the region.
 - i. Pursuing a Made Smarter Pilot – supporting businesses to increase productivity through the adoption of 'Made Smarter' principles and technologies, as well as up-skilling and retraining of the workforce to support Industry 4.0
 - ii. Developing proposals for a sectoral 5G Test-bed and Trials Programme, with a focus on technology testing for businesses in Tees Valley's priority sectors
 - iii. Future Mobility Zone – develop proposals for a new data driven approach which will utilise live data to develop new system approaches to manage traffic flows, enhancing regional connectivity and the role of the logistics sector in Tees Valley
 - iv. Confirming a commitment to longer term support for the Growth Hub Programme. This will simplify the business support environment in Tees Valley and provide a targeted approach for businesses of different sizes, including a focus on digitalisation and building digital capacity.

Leverage the full potential of our innovation ecosystem in support of building innovation capability, R&D capability, commercialisation, business creation and growth

19. This theme will ensure that Tees Valley accelerates growth and builds R&D capacity to deliver tangible economic and societal impacts. Interventions harness the potential of the region's national innovation assets, alongside a local business base that demonstrates specialisms in clean energy, low carbon, hydrogen, industrial

digitalisation and bioscience (including biologics and bio-processing). This builds on the region's internationally competitive innovation centres, namely the Centre for Process Innovation, Materials Processing Institute and TWI.

20. Tees Valley Combined Authority will lead a cross-sector, whole system approach to R&D and innovation. This will be particularly focused around achieving our ambition to be a global leader in clean energy, low carbon and hydrogen.
- i. An Industrial Collaboration Board will broker more effective partnership working between business, higher education and research institutes. The Board will have a remit to ensure that local strategy, programme and project development actively encourages and creates opportunities that stimulate R&D and innovation activity, and that more national innovation resource is directed towards opportunities in Tees Valley
 - ii. A Collaborative Networks Programme will focus on supply chain support and programme consortia development – supporting groups of businesses and organisations to jointly deliver pilot / demonstration projects related to industrial digitalisation and circular economy solutions
 - iii. A Memorandum of Understanding between the Combined Authority and UK Research and Innovation (UKRI) will ensure that national innovation resources are aligned with programmes and opportunities in Tees Valley
 - iv. The Combined Authority will commission bespoke research to better understand the successes, barriers and opportunities for firms innovating in Tees Valley
 - v. We will pursue the ambition for Teesside University to be recognised as a University Enterprise Zone – supporting sustainable business growth through innovation and scale-up activity
 - vi. We will seek to increase post-study work visas for international students, helping to address short-term skills shortage vacancies in key sectors
 - vii. Tees Valley, together with government will confirm a commitment to longer term support for the Growth Hub Programme, with activity focused around: start up support, growth and innovation, skills support and access to finance.

Grow and widen the pipeline of talent to support our competitive advantages and help more people into good jobs with long-term prospects

21. Develop an education and skills system for business growth
- i. Work with government to enhance the role of a Skills Advisory Panel in Tees Valley
 - ii. Work with government to co-design and pilot technical education routeways from age 14, and an appropriate 'Transition Offer' for young people in Tees Valley not immediately able to progress to a T Level at age 16.

22. Overcome business workforce planning challenges in relation to current and future skills gaps and skills needs

- i. Produce Tees Valley Sector Skills Action Plans to include detailed analysis of the current and future skills needs for identified sectors
- ii. Build on the success of the devolved Adult Education Budget and the DWP Innovation Pilot, including ring fencing the overall size of the national AEB budget
- iii. Develop and pilot a number of tailored Tees Valley retraining programmes, including comprehensive packages of personalised 'in-work' support
- iv. Any 'unutilised' Apprenticeship Levy in Tees Valley be devolved to the Combined Authority
- v. Work with Tees Valley employers and providers to consider the approach to the Industrial Placement requirements of T-Levels, creating practical and meaningful experiences in key sectors and providing opportunities that would not be available otherwise.

23. Careers education - government to devolve the Tees Valley element of both the National Careers Service and Careers and Enterprise Company budgets to Tees Valley in order that we can develop an all-age place-based programme.

24. Ensure access to learning and work through an effective and affordable transport system.

Attract investment and establish a global reputation for Tees Valley as a vibrant and thriving place to be, with world leading opportunities in clean energy, low carbon and hydrogen

25. This theme is fundamental to achieving our overall priorities as set out in the Local Industrial Strategy. It is focused on a set of interlinked priorities, based around enhancing the infrastructure, perceptions and working environment of Tees Valley as a place for inward investment and international trade. Interventions include:

- i. Maximising the potential of the South Tees Development Corporation site, with a focus on clean energy, low carbon and hydrogen. Alongside public sector commitments, a business plan will aim to secure substantial private sector investment
- ii. Continuing to make the case for establishing a test-bed for Free Trade Zone status at the South Tees Development Corporation site
- iii. Working collaboratively with the Department for International Trade to attract inward investment – developing and promoting global sales pitches in key sectors where the area has a globally competitive edge, and with a focus on Tees Valley as the UK's leading location for clean energy, low carbon and hydrogen
- iv. Implementing plans to increase the role and impact of Durham Tees Valley Airport

- v. Pursuing a Future Mobility Zone, with a data driven approach to manage traffic flows, particularly freight consignments, and enhance regional connectivity
- vi. Delivering priority transport schemes for the area, as set out in the Tees Valley Strategic Transport Plan and identified by Transport for the North: improvements at Darlington Station and Middlesbrough Station; a New Tees Crossing; Darlington Northern Link Road; and Northallerton to Teesport Rail Gauge Enhancement
- vii. Ensuring that Tees Valley businesses in flood risk areas are protected, and that natural infrastructure defences are in place to maximise productivity potential – working with the Environment Agency, Northumbrian Water and Local Authorities in the North East to support a fully integrated approach to flood risk management
- viii. Building capacity, ambition and creative talent through investment to promote a thriving culture and tourism offer within Tees Valley that supports a highly-productive economy and increases attractiveness for business. This includes co-investment with the Arts Council to maximise the potential of cultural development and cultural opportunity for all people in Tees Valley; and pursuing ambitions to establish a Tourism Action Zone
- ix. Establishing Tees Valley as exemplar region for delivering Social Value in procurement.

1. Introduction

The Tees Valley Local Industrial Strategy sets out an ambitious plan to transform the economic performance of the area and drive an increase in productivity. A plan that builds upon the distinctiveness of our local economy and responds to the opportunities and challenges that flow from this. Our approach is framed around the five foundations of productivity identified in the Industrial Strategy, aligning with government's vision to deliver economic transformation at the national level:

- Ideas
- People
- Infrastructure
- Business Environment
- Places.

Our focus will be on delivering productivity growth centred on clean energy, low carbon and hydrogen, by improving performance across each of the five foundations, and helping more local people into good jobs with long-term prospects. To achieve this, we will:

- Nurture and develop strengths in sectors with growth potential including clean energy, low carbon and hydrogen, bioscience and digital; and
- Maintain our existing competitive advantages (in the chemicals and process industries and advanced manufacturing sectors) in a rapidly changing world by positioning Tees Valley at the forefront of clean growth and industrial digitalisation.

As a joint agreement between the Combined Authority and government, the Tees Valley Local Industrial Strategy sets out both local and national commitments to deliver transformational change and increase productivity. It will require sector-specific support, as well as more overarching measures to increase Tees Valley's innovation and business growth performance, ensure a pipeline of skilled workers aligned to business needs, and strengthen and promote our outstanding quality of place offer.

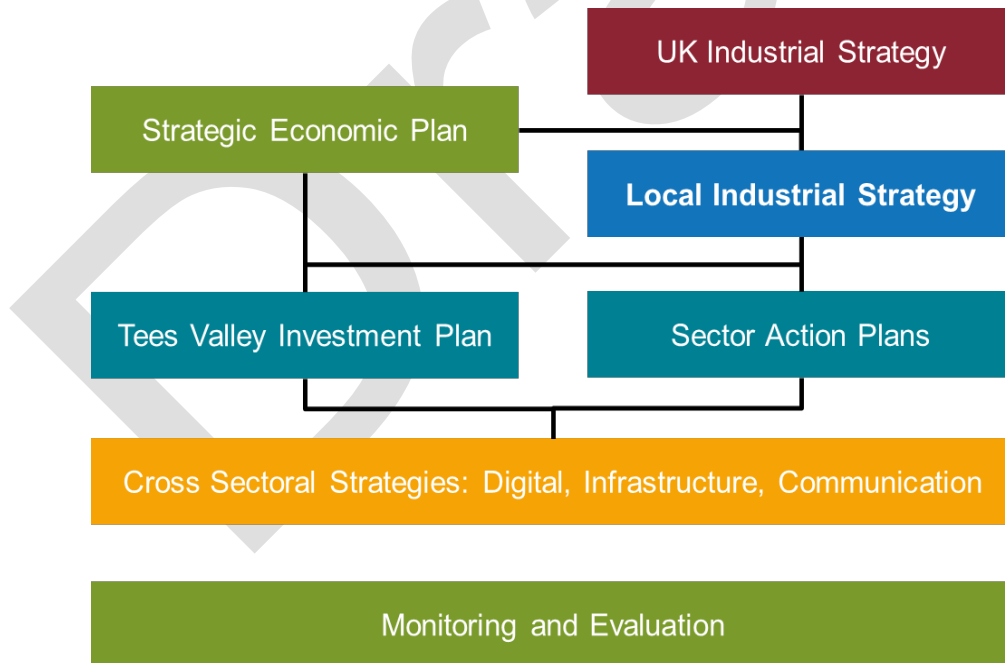
The productivity impact associated with realising our ambitions is significant. It will deliver benefits for residents and businesses in Tees Valley, support the government's vision of a prosperous Northern Powerhouse and the implementation of the Industrial Strategy.

Our approach

The Tees Valley Local Industrial Strategy has been developed by the Combined Authority working in partnership with the Tees Valley Local Enterprise Partnership (LEP), the five local authorities, government and other local stakeholders (including local businesses, sector organisations, innovation centres, academic and other partners). An extensive programme of engagement has brought together a shared ambition and priorities for success.

The strategy sets out a series of shared commitments that respond to the specific local circumstances of Tees Valley to maximise our contribution to improving productivity and delivering inclusive growth. In setting out our ambition, and the steps we must take to achieve it, the Local Industrial Strategy provides a long-term framework within which local and national partners can work collaboratively. The strategy is underpinned by a detailed and comprehensive evidence base¹ that provides a detailed understanding of our economy and its key drivers.

The Local Industrial Strategy is not a standalone document. It builds upon existing policy and strategy documents published by the Combined Authority in recent years (including the Tees Valley Strategic Economic Plan). The diagram below illustrates how the Tees Valley Local Industrial Strategy interrelates with other policy and strategy documents.



The Local Industrial Strategy sets out:

- Our **platform for growth**, with a focus on our opportunities and challenges in relation to: ideas; people and skills; business; infrastructure; and places, and the role and economic contribution of our priority sectors (section 2.0)
- **Our ambition** for Tees Valley to be a global leader in clean energy, low carbon and hydrogen (section 3.0)
- A plan for **delivering our ambition**, with interventions organised around five core themes (section 4.0):
 1. Lead the way as an exemplar region for clean energy, low carbon and hydrogen
 2. Develop pioneering capabilities in industrial digitalisation and ensure implementation of digital applications at scale
 3. Leverage the full potential of our innovation ecosystem in support of building innovation capability, R&D capability, commercialisation, business creation and growth
 4. Grow and widen the pipeline of talent to support our competitive advantages and help more local people into jobs with good long-term prospects
 5. Attract investment and establish a global reputation for Tees Valley as a vibrant and thriving place to be, with world leading opportunities in clean energy, low carbon and hydrogen.
- The **productivity impact** that the Local Industrial Strategy will deliver for: local people; local businesses; the Northern Powerhouse; and the Industrial Strategy (section 5.0).

2. Platform for growth

With a £13.1bn economy, £206m trade in goods surplus and established, globally-recognised expertise in the chemicals and process industries and advanced manufacturing sectors, Tees Valley makes a major contribution to the UK economy. Although a relatively small region, the area contains economic assets of national significance: we are home to the UK's largest chemical complex, the UK's largest exporting port and one of the UK's leading higher education institutions for working with business (Teesside University). In many respects the scale of our economic impact and influence is disproportionately large.

Our established industrial strengths are supported by:

- **Internationally excellent, industrial research institutions with a strong commercial focus** including the Centre for Process Innovation (a High Value Manufacturing Catapult Centre) and the Materials Processing Institute. Key areas of research interest include: advanced materials; low carbon energy; bioscience; and industrial digitalisation
- **A well-established, geographically concentrated and highly integrated industrial ecosystem.** We are home to the second largest chemical complex in Europeⁱⁱ with key sites situated in close proximity to each other and connected via a network of pipeline corridors. This allows for easy movement of products and feedstocks between businesses. The chemicals and process industry is also supported by local attributes that underpin a wider clean energy proposition: an established offshore wind supply chain with construction and decommissioning strengths; a cluster of clean energy producers; and high volumes of hydrogen production (Tees Valley produces more than 50% of all UK hydrogen) alongside operational distribution infrastructure
- **South Tees Development Corporation area - one of the UK's greatest development opportunities** – the site covers approximately 4,500 acres of land to the South of the River Tees, and once fully developed, has the potential to see 20,000 jobs created and add an additional £1bn per annum to the local economy
- **A strong, export-facing transport infrastructure.** The Port of Tees and Hartlepool transports England's greatest volume of commodities by sea to other ports globally. It is the UK's 7th largest port in overall terms, and a major international trade gateway for the Tees Valley, the Northern Powerhouse and beyond. Tees Valley Combined Authority has recently acquired Durham Tees Valley Airport and is committed to developing passenger and freight routes to further enhance our international connectivity. At a national level, the East Coast Mainline provides rail access to most major UK cities, with funding committed to address existing capacity issues. The A19 and A66 are key road connections, linking Tees Valley to the Major Route Network.

This Local Industrial Strategy provides a framework for delivering productivity growth and enhanced economic performance across Tees Valley – whilst helping more local people into good jobs with long-term prospects. Maintaining and building upon our established industrial strengths will play a key role and it is critical that we respond to the changing environment in

which they operate. At the same time, we will harness new opportunities and develop areas of emerging strength.

The clean growth and industrial digitalisation agendas will be fundamental in shaping successful industrial economies for the next 20 years (and beyond) and Tees Valley is uniquely placed to establish itself as an exemplar location with respect to each, building upon the strengths outlined above.

In recognition of this, the ambition at the heart of this Local Industrial Strategy is for **Tees Valley to be a global leader in clean energy, low carbon and hydrogen, achieving a net zero carbon industrial cluster by 2040 and providing good jobs with long-term prospects**. Tees Valley has a strong heritage of adapting to change and embracing innovation – from steam to steel and the development of a globally competitive chemicals cluster. We will display this same flexibility and dynamism in pursuit of this ambition.

The ambition will drive opportunities that support, and extend beyond, our traditional industrial strengths of advanced manufacturing and the chemicals and process industries. It looks to harness our capabilities in digital industries (reflecting emerging business strengths and the role of Teesside University) as well as recent investments in strategic innovation and training facilities (at the Centre for Process Innovation's National Biologics Manufacturing Centre and Teesside University's National Horizons Centre) which provide a platform for growth in biosciences. A major opportunity exists to explore value creation in the spaces located in between, or at the intersection, of these sectors – chemicals and process, advanced manufacturing, clean energy, low carbon and hydrogen, digital and biosciences. By doing this, we will future-proof the local economy and position Tees Valley to add greater value through innovation.

Whilst our economy provides a strong platform for growth, a number of challenges exist that the Local Industrial Strategy seeks to address. Failing to respond to the challenges our existing industries face risks: constraining our ability to deliver our ambition and the resultant economic benefits; and undermining the continued competitiveness of these sectors in the face of global pressures.

There are 17,230ⁱⁱⁱ businesses in Tees Valley. However, our private sector business base is underdeveloped, relative to the size of our population – a reflection of our traditional reliance upon a small number of capital-intensive industries dominated by large businesses – and scale-up performance is weak. Recent growth in the business base has been strong, supported by strong levels of entrepreneurialism, but further progress is required.

The area is home to leading research institutions and attracts high levels of Innovate UK funding. Assets such as the Centre for Process Innovation, the Materials Processing Institute and TWI provide innovation services to businesses from across the UK and draw funding into Tees Valley as a result of their world leading expertise. Levels of R&D activity amongst the local business base, however, remain low. Just 28% of projects undertaken by our research organisations were delivered in partnership with local businesses, whilst Business Expenditure on R&D within Tees Valley stands at 40% of the average across the LEP network. We need to explore ways of better connecting our private sector businesses with our research and technology organisations, our academic institutions, and strengthening collaboration between our key sectors to drive higher levels of innovation.

More generally, low levels of labour market participation and underperformance in relation to education and skills continue to impact on our economic performance. Additionally, whilst our established industrial strengths are underpinned by an adaptable and technically strong employee base, our workforce is ageing, and recruitment challenges persist. These challenges must be addressed to maintain one of our key competitive advantages.

Skills and employment-focused interventions are in place, through the devolution of the Adult Education Budget and the launch of a new Education, Employability and Skills Strategy, but the impacts will not be felt in the immediate term. Further work is required to ensure a pipeline of talent that meets the needs of our priority sectors and provides the opportunity for all residents to access good jobs with long-term prospects. This is critical in allowing all residents to share in the future economic prosperity of Tees Valley – ensuring that our growth is inclusive.

External perceptions of the area are influenced by our industrial past and do not reflect the realities of life in many parts of Tees Valley. This must be addressed to better position the area to attract Foreign Direct Investment, skilled workers and visitors. The quality of life offer in many parts of Tees Valley is already excellent – costs of living are low, our culture and tourism offer is growing (with a vibrant programme of festivals and events) and our compact geography means that both spectacular countryside and dramatic coastline lie within easily reach of vibrant market towns and urban areas. Significant investment has been earmarked by the Combined Authority to build upon and better promote these assets over the next 10 years.

This section summarises the evidence which has informed and shaped the development of the Tees Valley Local Industrial Strategy. Further detail is contained within the Evidence Base Report.



Overview of the Tees Valley Economy



Key Economic Headlines



£13.1bn

Gross Value Added generated (2017)



£206m

Trade in goods surplus (2017)



1st

Home to the UK's largest chemical complex



17.4m tonnes

Port of Tees and Hartlepool accounts for England's greatest volume of commodities transported by sea to other ports globally



27%

Growth of business base has exceeded UK average of 24% (2012-2018)

Key Opportunities



50%

Over 50% of UK's hydrogen is produced in Tees Valley



4,500 acres

The UK's largest single development site at South Tees Development Corporation



£40bn

Potential economic dividend from industrial decarbonisation (to 2050)



£1,020

Innovate UK funding per worker - four times the LEP network average (2019)



£45m

Committed funding for rail capacity improvements (Darlington and Middlesbrough)

Key Threats



192%

Tees Valley's CO₂ emissions per capita is almost double the national rate (2017)



68%

Low proportion of working age residents in employment (2018)



27%

Skills shortage vacancies are more prevalent than at the national level (2017)



9,500

Additional Tees Valley businesses required to close the 'enterprise gap' to the UK (2018)



1.4% p.a.

Low growth in scale-up businesses (2014-2017)



28%

Tees Valley has real strength in terms of innovation and research organisations attracting funding, but less than a third of projects were delivered in partnership with local businesses (2017/18)

Foundations of Productivity

The distinctive strengths and challenges of the Tees Valley are the basis for the interventions set out in this Local Industrial Strategy. They are based on an analysis of each of the foundations of productivity and the drivers of growth in Tees Valley.

Ideas

The Tees Valley economy has key strengths in the chemicals and process industries and advanced manufacturing, where we compete in global markets. Innovation, in its various forms, is fundamental to ensuring that these industries remain competitive – whilst also helping to move all of our sectors up the value chain to drive productivity growth.

The area benefits from a strong network of **established innovation assets**, which reflect our current and emerging sector strengths, including:

- Centre for Process Innovation: the national Catapult Centre for the UK chemical and bioscience sectors and a member of the High Value Manufacturing Catapult;
- The Materials Processing Institute: an internationally recognised research facility focussing on the development of materials and the commercialisation of technologies for industrial processes; and
- TWI: a global leader in materials research and engineering processes, with hydrogen supply chain expertise.

Teesside University is well integrated into the regional innovation system, particularly in relation to the digital and bioscience sectors (through DigitalCity and the National Horizons Centre respectively), and more generally through academic-business knowledge exchange.

Significant recent investment has **strengthened our innovation capabilities in biosciences**. This will create a platform from which to accelerate the growth of this emerging sector specialism moving forwards and includes the delivery of:

- The Centre for Process Innovation's National Biologics Manufacturing Centre: supporting the growth and development of the UK bioscience industry and supply chain, with a focus on the commercialisation of emerging technologies; and
- Teesside University's National Horizons Centre: a state-of-the art education, training, research and innovation facility based on partnership with the Centre for Process Innovation and FUJIFILM Diosynth Biotechnologies.

These investments build on the innovation focus that has been at the core of the region's economy for over 100 years. Our established and emerging innovation assets continue this tradition and are reflected in Tees Valley's strong performance in accessing Innovate UK funding in recent years^{iv}. The area ranks third nationally when compared to other LEPs (on the basis of £ per job) driven by specialisms in 'Manufacturing and Materials' and 'Health and Life Sciences'.

Looking to the future, one of the key challenges we face is in better leveraging our innovation assets to: land the commercialisation opportunities that they create; and

encourage greater levels of innovation within the local business base. It is estimated that less than a third (28%) of R&D projects undertaken by our innovation assets are delivered in partnership with local firms^v.

People and skills

The Combined Authority has a key role to play in ensuring that there is a skilled and available workforce to facilitate the creation of 17,000 new and 116,000 replacement jobs that will be available in Tees Valley by 2024 and in supporting a vibrant, diverse economy that is inclusive for all.

We want Tees Valley to be a place where everyone benefits – economically, personally, socially and culturally – from the opportunities available in the region. **Skills and workforce development** are vital to achieving this.

This reflects the fast-evolving nature of our economic landscape, with new technologies introduced at an increasing rate. This is particularly true with respect to new opportunities in emerging sectors such as clean energy, low carbon, hydrogen, bioscience and industrial digitalisation. We must ensure that we respond to the skills and development needs of the individual, the employer and the wider economy to support our growth.

Over half of the new jobs to be created in Tees Valley will require higher level technical, science and digital skills, with 45% of these in more senior and managerial roles.^{vi} At present, more than half of all local skills shortages are concentrated in high skilled occupations (despite low levels of absolute demand). With low demand for graduate level qualifications, this may result in people with no qualifications being further displaced from the labour market.^{vii}

Replacement jobs will be across a range of levels, including entry level jobs offered as part-time opportunities and apprenticeships^{viii}. For many people, these provide much needed first-time entry or re-entry to the labour market. Increasing the productivity of low-paid workers is a key route to progressing to higher value roles in the future.

Low skills remain a significant barrier to employment in Tees Valley. Achievement and participation in **academic education** is lower than average and 12% of residents have no formal qualifications. Unless there is a significant change, the proportion of people with no qualifications is projected to be twice the national average by 2030.^{ix}

Employment in Tees Valley is low, with 68% of residents in employment. **Inactivity is high** (27% of the local population) and the proportion of inactive residents who want a job is low (16%). Health and disability are significant barriers to work – rates of employment among people with disabilities are low and rates of long-term sickness among the economically inactive are high.

Another significant barrier for people in Tees Valley is that of **disconnection**. Almost 65% of deprived neighbourhoods are classified as disconnected (which could indicate poor transport links or a skills mismatch).^x Creating new employment opportunities and providing efficient and affordable transport links to these opportunities, is needed to tackle low educational participation and low employment in these areas.^{xi}

Creating more 'good' jobs and increasing the number of people in work is critical to improving productivity in Tees Valley. However, it is not enough to tackle unemployment, under-employment and create a strong workforce, capable of sustaining economic activity and growth. We will also prioritise the provision of timely and accurate Labour Market Information and careers education and connect people to appropriate education, employment and training opportunities. Through this, we will create an environment of **life-long learning and progression** – for people who are unemployed/facing redundancy, beginning their careers or looking to improve their career prospects.

Devolution of the Adult Education Budget AEB from 1 August 2019 will enable Tees Valley to align skills funding streams for a more effective and joined-up system that addresses local skills gaps and seizes opportunities to improve outcomes for residents and businesses. The Department for Work and Pensions Innovation Pilot, Tees Valley Routes to Work – a major new approach to support those most distant from the labour market to prepare for and to access work; and the Tees Valley Careers.Com initiative – the first of its kind in the UK, working hard to ensure all young people in the region have the skills they need to flourish and undertake successful and rewarding careers, represent fantastic opportunities for Tees Valley to build upon.

This Local Industrial Strategy identifies a range of measures designed to support increased productivity in Tees Valley through its people and there is enormous potential to strengthen the overall education and skills system in Tees Valley and grow a workforce to meet economic demand and ensure local people can have the careers they want and achieve their full potential in Tees Valley.

Business

Tees Valley has a dynamic and export-oriented business base. We are one of the few areas in the UK to run a trade in goods surplus and our business base has grown at a faster rate than the UK average in recent years. Teesside University is recognised as “*one of the best universities for businesses in Britain*”^{xii} and a key strength of the local business environment.

Those sectors where Tees Valley is currently globally competitive (advanced manufacturing and the chemicals and process industries) are characterised by high levels of **foreign-ownership**. This presents opportunities (the ability to import managerial and technical best practice) as well as challenges (our capacity to influence investment decisions and the development of a 'branch plant' economy). In delivering productivity growth we will explore opportunities to encourage our foreign-owned businesses to undertake more R&D and value-adding activity locally. This will be pursued by better leveraging our innovation assets and taking a lead on emerging clean growth and industrial digitalisation technologies.

Our economy is **export-facing**, with a balance of goods trade surplus of £206m in 2017. Exports are dominated by chemicals and process industries and advanced manufacturing. Supporting the growth of these sector strengths and enabling more businesses to sell into international markets can help to reduce the UK's trade deficit. Additionally, 'domestic exports' from the chemical and process industries play a key role in supporting the sustainability of manufacturing at the national level, with downstream impacts observed across 90% of all UK manufacturing^{xiii}.

A key challenge facing Tees Valley is the size of our **business base**, which is under-developed relative to our population. There are 415 enterprises for every 10,000 working age residents in the area – two thirds of the UK average. In part, this reflects our industrial heritage and a traditional (but diminishing) reliance upon a small number of large employers.

This is compounded by weak **scale-up performance**, where we lag behind other LEP areas with respect to both density and growth. The Local Industrial Strategy seeks to address the identified barriers to improved scale-up growth: access to available talent; workers' leadership and development capabilities; and access to new markets (including corporate supply chains).^{xiv} Many companies that work with our innovation assets successfully scale-up outside of Tees Valley. Part of the challenge we face is in creating an environment where more of these companies are anchored in the local area.

We have made good progress in addressing these issues. Through the LEAP 50 initiative, launched by the Combined Authority and Teesside University, we have “*responded positively*”^{xv} to improving scale-up performance. Our business base expanded by 27% between 2012 and 2018 – outstripping UK performance (24%) – and has been driven by high start-up rates. Teesside University is currently amongst the top 10 performing universities nationally in terms of graduate start-ups, with 143 active graduate start-ups turning over £20.8m^{xvi}.

Despite these successes, further progress is required. Local engagement indicates that key constraints to business growth include issues related to: recruitment and skills (of existing staff); cash flow and access to finance (including the absence of a formalised network of angel investors); and difficulties in accessing new markets/supply chain opportunities.

The Local Industrial Strategy identifies a range of measures designed to grow the business base. It is intended that these will supplement and work alongside existing assets, including: Tees Valley Growth Hub, providing funding and support to facilitate business growth; and Teesside University, a finalist in the Outstanding Entrepreneurial University Category at the 2018 Times Higher Education Awards.

Infrastructure

Tees Valley's strategic infrastructure assets make the area an excellent place to do business. Recent and planned investments will further strengthen our proposition, including better links with the Northern Powerhouse through enhanced east-west road and rail connectivity. Our East Coast Mainline station at Darlington provides connectivity to most major UK cities, with London, Edinburgh and Manchester all accessible in under two and a half hours. The Port of Tees and Hartlepool is a major deep-sea complex and an international trade gateway for Tees Valley and beyond. The Combined Authority's recent acquisition of Durham Tees Valley Airport will be supported by a strategy to deliver growth in commercial and freight services, repositioning the airport at the heart of our economic future.

The quality of our environment (and natural capital) is another important part of Tees Valley's offer. Key assets such as the River Tees and its estuary, as well as our high quality rural and coastal environments make a significant contribution to our quality of life and sense of place and are considered further in the 'place' foundation. Analysis by the Environment Agency identifies an increasing flood risk in key employment locations over the time horizon

of the Local Industrial Strategy. The necessary flood defences must be put in place so that Tees Valley remains resilient to climate change.

Most of travel to work journeys are by car and traffic is able to move well on the **local road network** on the whole. Average journey to work times and average speeds achieved on local 'A' roads both outperform national averages (although average speeds are falling across the area, and in some areas at a faster rate than nationally). Congestion pinch points exist on the strategic routes of the A19 and A66 – and on other parts of our key route network – that risk constraining future competitiveness. Transport for the North's Strategic Transport Plan recognises the need to address these to improve internal and external connectivity and unlock the economic potential of Tees Valley and the Northern Powerhouse.

The **East Coast Mainline** station at Darlington is vital to our connectivity at the national level both now and in the future – with the potential to integrate into Northern Powerhouse Rail and HS2. This will be supplemented by proposals to establish a direct route between Middlesbrough and London from 2021. Major works are required at both stations, however, to address capacity and operational flexibility issues and maximise the impact of future route development opportunities by integrating them more fully with their respective town centres. Tees Valley Combined Authority has committed £45m of funding to deliver an initial phase of works, but further funding and support is required over the medium term.

Digital connectivity is critically important to modern businesses and, in general terms, is a key strength of Tees Valley's offer. The proportion of residential and commercial properties with access to ultrafast broadband, at 90.1%, is significantly higher than the national average (55.6%) whilst we have the highest take-up of the fastest broadband speeds (>30mbit/s) of any LEP. Despite our strong headline performance, however, pockets of poor digital connectivity persist at a more localised level. We must ensure that our digital infrastructure remains fit for purpose into the future. This is essential if we are to position ourselves at the vanguard of the industrial digitalisation movement. In accordance with the Artificial Intelligence Sector Plan, our Digital Catapult will work at a national level to implement digital policies and identify needs in emerging technologies.

The **Port of Tees and Hartlepool** has been one of the UK's top ten ports (by tonnage handled) for almost 50 years, demonstrating its importance as a major trade gateway for Tees Valley, the Northern Powerhouse and Scotland. The volume of tonnage handled has declined since 2017 due to fluctuations in key markets (crude oil and dry bulk) and the closure of SSI. During the last seven years, however, the Port has experienced strong growth (12% year on year) in container traffic and invested £120m in developing and enhancing capacity. This includes: the development of a new rail terminal to reinforce the Port's position as a leading provider of port-centric logistics; and redevelopment to provide one of the deepest general-purpose quays in the UK (and the deepest on the East Coast). This recent investment leaves the port well positioned to grow, but we must continue to explore opportunities to build upon this.

The Tees Valley Combined Authority has recently purchased **Durham Tees Valley Airport**. Our aspiration is to re-establish the Airport as a major economic asset for the area, providing national and international connections for business and leisure visitors and supporting a

stronger inward investment and tourism proposition. This will be pursued via a growth strategy focused on: strategic route development; enhanced freight services; and establishing the Airport as an Enterprise Zone. Whilst passenger numbers have recently fallen to 131,500, the Airport attracted around 912,000 passengers in 2006, highlighting the potential for growth. Airport development will also link with growth in the biotechnology sector. Sustainable aviation fuel production (fuel from hydrogen) is a major aspiration for the Tees Valley biotech sector, which will play a key role in delivering clean growth. Success with this technology would attract routes to take advantage of this world-leading project.

Place

Tees Valley has a strong and distinctive sense of place. It reflects our industrial heritage, our geographical location and our compactness. The Local Industrial Strategy acknowledges, builds on and develops this. Each of our five boroughs and main towns has **distinct economic assets and opportunities** which lend themselves to particular investments. It is essential that we can unlock these in a way that benefits all our residents.

Tees Valley Spatial Portrait

Darlington is the gateway to Tees Valley, with direct connections to the A1(M) and the East Coast mainline. Improvements to the station are critical for both north-south and east-west connectivity and provide major regeneration opportunities. The town is home to major engineering and specialist services companies (Cleveland Bridge, Magnet, Cummins and Wood) including subsea and seabed companies (Deep Ocean and Modus). Central Park, (home to the Centre for Process Innovation's National Biologics Manufacturing Centre and Teesside University's National Horizons Centre) is the ideal location for bioscience development. With its proximity to the A1(M) the borough is a growing location for logistics distribution centres. With a rich heritage including the first railway from Darlington to Stockton (with a bicentenary in 2025) and a strong cultural offer including the newly renovated Hippodrome Theatre and a nationally renowned children's theatre group (Theatre Hullabaloo) the town has further opportunities to grow the visitor offer.



Darlington Station

Hartlepool has a rich maritime heritage and is home to the National Museum of the Royal Navy. Plans are in place to develop the Waterfront to create a mix of civic, cultural, leisure and visitor attractions that complement the wider Hartlepool Marina area. The town is home to the Northern School of Art, the leading provider of specialist creative art and

design in the north. It is central to the opportunity to create the biggest film studios outside London on the former council depot site, which will put Hartlepool at the centre of film making in the north. The town offers excellent opportunities for port-related industries with more than 300 acres at the Port of Hartlepool providing deep water access, warehousing and open storage. Major engineering companies include Heerema, Liberty Steel and Able, and Seaton Port offers one of the largest dry dock facilities in the world and an internationally significant recycling facility (currently decommissioning the Shell Brent Delta platform). The chemicals industry remains important to the town and clean energy production at EDF's Nuclear Power Plant generates 60GW (2% of GB's peak electricity demand).



Hartlepool Marina

Middlesbrough continues to diversify its economy. It has strengths in engineering and advanced manufacturing, including internationally renowned research capabilities at TWI and world-class research and commercial premises at TeesAMP. The digital cluster (focussed on the Boho area) is nationally recognised and has a critical role to play in driving the adoption of industrial digitalisation. Middlehaven continues to develop as a mixed-use regeneration site with leisure (Middlesbrough FC and a proposed snow centre), offices, innovative residential developments and education facilities. Centre Square will provide modern Grade A office developments and events space and the recent upgrade of the Town Hall facility provides a cultural venue with access to a new range of bars and restaurants including the quirky Bedford and Baker Street. Home to Teesside University, the development of modern student facilities and proposed student village will further integrate the role of the university within the town. The town is also home to Tees Valley's largest employer (South Tees NHS Trust). The introduction of direct rail services to London and improvements at the station and the surrounding area will form the stimulus for independent businesses in the Historic Quarter linking the centre to the Boho area.



Boho One

Redcar & Cleveland is home to Wilton International, one of the UK's most important locations for process manufacturing including global companies Sabic, Sembcorp Utilities, Ensus, Lotte Chemical, Huntsman and Falck. The South Tees Development Corporation is the single biggest development opportunity (4,500 acres) in the UK, and is run by the only Mayoral Development Corporation outside London. This presents a unique opportunity to develop the Tees Valley's strength in clean growth. With the combination of assets including large scale sites, deep access port facilities, global companies and innovation organisations including the Materials Processing Institute and the Centre for Process Innovation, the area can become the clean growth centre of the UK. The borough is still home to a significant steel industry and mining and processing of minerals is growing with Boulby mine (one of the deepest in Europe) and the new £2.3bn polyhalite mine under construction in North Yorkshire (with processing to take place at Wilton). Outdoor pursuits and a wide range of culture activities are available across the borough in the countryside, the North York Moors National Park, the heritage coastline, the beaches and the towns. These include festivals (such as The Festival of Thrift) and events. The provision of new cultural venues including Kirkleatham will continue to grow the visitor offer.



Wilton International

Stockton is home to a mix of retail and visitor opportunities including Teesside Park and market towns such as Yarm, whilst a vision for a repurposed Stockton High Street is being created. This will focus on culture, leisure, heritage and events (including SIRC and Great North City Games) to appeal to more visitors. This vision will strengthen links to the river – one of the borough and Tees Valley's greatest assets. The river offers enormous leisure and development potential with ten miles of tidal controlled river frontage and successful attractions including the Olympic-standard International White Water Course at the Tees Barrage, the Air Trail ropes course and Preston Park. The borough's economy is diverse, including biosciences with Fujifilm Diosynth Biotechnologies and Johnson Matthey, heavy industries including the expansion of the SUEZ UK energy from waste site, and a growing digital sector including fast growing Visualsoft. A range of office and industrial business accommodation is available, such as Wynyard Business Park, Teesside Industrial Estate and Belasis Business Park, together with the industrial areas of North Tees and Seal Sands, plus incubation facilities. Numbers of overseas students in the area continue to grow with Durham University's new International Study Centre.



Tees Barrage

Spectacular countryside (such as Roseberry Topping and the North York Moors National Park) and dramatic coastline (including Hartlepool Headland (part of the Durham Heritage Coast) and the Victorian Pier at Saltburn) are readily accessible from our vibrant market towns and urban areas. Our **rich and varied environments** provide the backdrop for public art of national significance – ‘Bottle of Notes’, ‘Train’ and ‘Temenos’ – as well as a variety of cultural, sporting and visitor attractions and a growing programme of festivals and events.

The area benefits from a range of **cultural and sporting attractions**. Notable cultural facilities include: the Middlesbrough Institute of Modern Art – a partnership between Teesside University and Tate Plus; the nationally recognised producing theatres of Stockton ARC and Theatre Hullabaloo in Darlington;^{xvii} and the Globe Theatre in Stockton. These are supplemented by sporting assets such as the Riverside Stadium (home of Middlesbrough Football Club) and championship golf courses at Rockliffe Hall, Seaton Carew and Wynyard Hall. In addition, there are 14 **museums** in Tees Valley, which collectively present the area’s maritime and railway heritage. Key assets include Head of Steam (the Darlington Railway Museum) and the National Museum of the Royal Navy in Hartlepool.

Our burgeoning programme of **festivals and events** (140 regular, annual events) underpin our continued work to develop and promote Tees Valley’s quality of place. Whilst some attract a primarily local audience, many have developed reputations that extend beyond the area and draw audiences into Tees Valley: Festival of Thrift; Stockton International Riverside Festival; Hartlepool Waterfront Festival; and the Middlesbrough Art Weekender^{xviii}. In 2019, Middlesbrough hosted Radio One’s Big Weekend, attracting 64,000 visitors from across the UK. Looking to the future, further opportunities to attract visitors into Tees Valley will be provided by the 2021 Rugby League World Cup (the area is confirmed as a host venue) and the Railway Bicentenary.

The above strengths are reflected in Lonely Planet identifying Tees Valley as the, “*most exciting, beautiful and friendly region in England.*”^{xix}

The ‘place’ offer of Tees Valley – and the culture, leisure and tourism sectors in particular – make an important **contribution to our economy**, both directly and indirectly. Almost 20 million people visited the area in 2018, with tourism contributing £960m to our economy and supporting 12,000 jobs. It is estimated that the cultural sector supports 2,500 jobs, although there is likely to be some overlap with the tourism data.^{xx}

The development and effective promotion of a strong sense of place is also critical – through raising Tees Valley’s profile and enhancing perceptions of the quality of life offer available – in shaping our ability to attract and retain the workforce and inward investment needed to

drive future growth. Within this context, Tees Valley's broader sense of place is also characterised by its **cost competitiveness** and the availability of a **plentiful supply of land** for employment development.

Our Enterprise Zone comprises of 460 hectares of land across 12 sites, with opportunities suited to a range of employment sectors. The South Tees Development Corporation site – the first Special Economic Area and the single biggest development opportunity in the UK – is another key employment location. Premises costs for 'Grade A' office space are lower than in other major northern cities, whilst average wages are also competitive. Despite this, the area remains an affordable location for workers, with the cost of buying or renting a home comparatively low in Tees Valley.

Whilst we benefit from several key strengths, there remains a clear need to reposition and strengthen Tees Valley's place-based proposition. **External perceptions** of the area are influenced by our industrial past and we must continue to work to raise the profile of our many assets – both individually and collectively. Lord Heseltine, in his independent review of Tees Valley in 2016, *Tees Valley: Opportunity Unlimited*, stated that:

“Too little is made of these assets, and as such the Tees Valley remains a well-kept secret, rather than a place that draws visitors from the UK and abroad and a place which can attract inward migration and skills from other parts of the country and internationally.”

This is reflected in the low number of overnight visits (10% of total visitor numbers) captured by Tees Valley, which translates to low levels of visitor expenditure.

Significant investment has been earmarked by the Combined Authority to address these issues. The *Tees Valley Investment Plan (2019-2029)* has identified £60m to be invested in culture and tourism over a 10-year period. This includes major capital investment focused on Hartlepool Waterfront and the Stockton and Darlington Heritage Railway as well as destination marketing (through EnjoyTeesValley.com) and the continuation of a strong festivals and events programme. The investment will create 3,000 new jobs and £126m of Gross Value Added, attract 23 million new domestic and international visitors and **increase the length of stay and visitor expenditure.**^{xxi}

Priority Sectors for Growth

The Tees Valley business base is diverse and comprises of a range of sectors characterised by different levels of maturity, productivity and labour intensity.



Our sectors can broadly be characterised according to three categories:

- **Globally Competitive Sectors:** well-established sector strengths where the Tees Valley is widely regarded as benefitting from world class expertise and a business base comprised (largely) of globally-significant firms. Collectively, these sectors account for 14% of Tees Valley's GVA. Local concentrations of employment and economic output are typically high in these sectors, reflecting the presence of high volumes of activity;
- **Regional Sector Strengths with Growth Potential:** sectors where the Tees Valley is not currently recognised as being globally competitive, but where the conditions are in place locally – or could be established – to drive growth moving forwards. This includes areas such as clean energy, low carbon and hydrogen where Tees Valley can drive growth nationally by exploiting its unique industrial cluster, research and innovation assets, and by maximising synergies between existing sector specialisms; and
- **Enabling Sectors:** job rich sectors that account for high volumes of employment – as well as 34% of Tees Valley's GVA – and which play an important role in supporting the effective functioning of the wider economy through the goods or services that they provide. The logistics sector, for example, supports the efficient movement of raw materials and finished products, which is beneficial to all parts of the economy.

All of these sectors have a critical role to play in what makes the Tees Valley economy unique. These are explored in more detail below.

Globally Competitive Sectors

Chemicals and Process Industries

Tees Valley is home to the largest integrated chemical complex in the UK and the second largest in Europe. The sector is over-represented locally in terms of its share of businesses, jobs (5,445) and economic output (£802m), demonstrating the strength of our offer.

The average chemicals and process worker in Tees Valley generates £131,450 of GVA per annum – making the sector 2.5 times more productive than the local economy overall and 25% more productive than at the national level. The sector is a major contributor to UK exports and provides base products to support the UK's wider downstream manufacturing industry.

The former ICI sites at Billingham and Wilton are now occupied by local and international chemicals and process businesses including Huntsman, Lotte and Sabic. The evolution of these sites demonstrates both our rich heritage as a globally competitive location and our ability to respond to market shifts over time. This strategy responds to current and emerging challenges (including a growing trend for investment to focus on a smaller number of globally competitive clusters) to position Tees Valley as a location where chemicals and process businesses can continue to thrive.

Our existing network of internationally excellent innovation assets, including Centre for Process Innovation, the Materials Processing Institute and TWI will have a critically important role to play in working with industry to: future proof our chemicals and process proposition; and embed businesses within the local area.

Advanced Manufacturing

Tees Valley is home to a large, successful cluster of advanced manufacturing and engineering businesses operating across a range of industries. The sector has higher concentrations locally of economic output, jobs (18,910) and businesses (2,790). This highlights the strength and importance of the sector in the area, which is in large part due to the excellent existing infrastructure and assets that the area has to offer businesses here. Strengths in the automotive sector include: Cummins in Darlington (engine manufacturer delivering new engines to meet increasingly stringent legislation limiting vehicle emissions and part of the US-owned firm's global network of technical centres); NIFCO in Stockton on Tees (plastics manufacturer with the Japanese firm's only R&D facility outside of the Asia Pacific region. Collaborating with major automotive OEM's to develop new products to improve fuel efficiency in internal combustion engines and new products to support further developments in electric vehicles); and Elring Klinger in Redcar (specialising in lightweight solutions, e-mobility, sealing and shielding technology for automotive manufacturers).

There are similar opportunities being explored for our chemicals and process industries to support the automotive sector with the development of the upstream composites supply chains to enhance the supply of carbon fibre for further light weighting of vehicles. This demonstrates the overlap between the sectors within Tees Valley.

Tees Valley is also ideally positioned for servicing the offshore industries (renewables and decommissioning). Investment in innovation crossovers between digital and advanced manufacturing in offshore has established local firm Modus Ltd as a world leader and first mover in the operation of hybrid Autonomous Underwater Vehicles (AUVs), providing subsea surveying and inspection activities across the offshore wind, oil and gas sectors.

CASE STUDY: Wilton Engineering

Based on a 54 acre site at Port Clarence, Wilton Engineering provides multi-discipline engineering services. The firm specialises in the fabrication and construction of very large complicated structures, as well as services to the onshore and offshore energy industries including subsea and wind.

Wilton Engineering has a diverse portfolio of work, including several significant export contracts and received a 2019 Board of Trade Award from the Department for International Trade. The award, which celebrates innovative businesses and their contribution to UK prosperity, reflected the firm's internationally excellent work in the energy sector (a key priority for Tees Valley).



Regional Strengths with Growth Potential

Clean energy, low carbon and hydrogen

Tees Valley is in the vanguard of the transition to a UK economy built around clean energy and specifically low carbon hydrogen as a major energy vector for the future, delivering opportunities for achieving clean growth at an affordable and declining cost. The area is geographically concentrated and has a highly integrated and well-established industrial ecosystem, which underpins activity through energy production and use across our key industrial sites, such as energy intensive industries at Wilton, Billingham and Seal Sands that are connected via pipeline corridors.

Internationally significant, locally-based innovation assets such as the Centre for Process Innovation, TWI and the Materials Processing Institute are pioneering research focussed on low carbon energy and circular economy principles including how to reduce carbon emissions and re-use waste in industrial processes.

The Clean Gas Project and our CCS Cluster are core to delivering a net zero cluster by 2040. Our existing engineering capability and research & innovation specialisms support this and would provide the technology and engineering know how for deploying both CCUS and hydrogen production at scale and developing a UK supply chain.

The increasing pressure to recycle plastics provides a real opportunity for the Tees Valley's substantial waste and resources processing sector to use hydrogen, its transport infrastructure and (bio) processing technology skills to lead polymer recycling and reuse as part of a wider circular economy opportunity.

We are the UK's largest producer of hydrogen and have significant expertise in operating hydrogen systems at scale. We are also developing activity to support hydrogen transport across road and rail.

Seaton Port is Europe's most advanced disposal facility (providing a platform for growth in decommissioning) and we have clusters of activity related to:

- Biomass, biofuel, bioethanol and energy from waste plants;
- Clean energy producers (including EDF and SUEZ); and
- Offshore wind supply chain companies and deep-water port access to offshore wind developments. Tees Valley has been designated by government as a Centre for Offshore Renewable Engineering.

The sector is over-represented locally in terms of its share of businesses, jobs (7,760) and economic output (£727m). It is a key priority in the SEP and been actively promoted by the Teesside Collective in recent years, as well as being acknowledged by Rt Hon Lord Heseltine in his independent review of the Tees Valley economy.

The potential opportunity associated with clean energy, low carbon and hydrogen is significant. Government expects the clean growth sector to increase four times faster than the economy as a whole in future. [i] Established industrial locations will be important in positioning the area to capitalise on this growth. So too will the South Tees Development Corporation site – which we will work with the Department for International Trade to promote as a leading location for environmentally sustainable industrial growth and is already attracting strong interest from occupiers in clean energy and related sectors.

CASE STUDY: Able UK

Able UK has developed from an innovative demolition specialist to a major player in the demolition, decommissioning, site reclamation and port development sectors. The firm own and operate several marine facilities on the River Tees and have invested heavily in these to compete successfully for major contracts in the offshore wind sector and in the decommissioning and recycling of offshore structures.

Able Seaton Port (ASP) in Hartlepool is one of the company's key assets. The site boasts probably the strongest quay in Europe, as well as significant crane capacity and has been constructed to meet the requirements of the heavy fabrication industry. This resulted in the site being selected for the Shell Brent Decommissioning Project – 4 platforms totalling almost 90,000t to decommission – the largest single North Sea decommissioning project undertaken to date. In January 2019 the 90th and final shipment of foundations left ASP destined for the 1200MW Hornsea Project One Offshore Wind Farm, which will become the world's largest of its kind. In September 2020 ASP will be the installation port for the Innogy 860MW Triton Knoll wind farm turbine package.



Bioscience

Tees Valley is home to a strong, distinctive and rapidly growing cluster of bioscience companies with significant opportunities for growth.^{xxii} This includes 495 companies across 27 individual industries, 7,975 bio-related jobs (higher than the national average) and sales of £2.5bn.

The area contains multinationals FDB, Marlow Foods and GSK, an integrated chemicals complex and biorefinery, a small but growing biologics base and the South Tees Innovation Hub. Additionally, it is home to some of the UK's foremost assets in biologics and industrial biotechnology R&D and collaboration hubs.

The Centre for Process Innovation is the UK's largest innovation centre working in the biosciences, with the large-scale Biotechnology Centre at Wilton developing process for international companies up to large pilot scale and its National Biologics Manufacturing Centre working closely with companies of all sizes to develop the next generation of biological pharmaceuticals. These two facilities have world leading capability in bioscience innovation and are regularly chosen over other centres outside of the UK to provide innovation services in process definition, scale-up and piloting.

The National Horizons Centre is focused on addressing skills gaps (a major issue for the biosciences). The Centre and partners will work together to develop employees with broad and higher-level skillsets required by a modern biosciences sector; the underpinning digital

skills required to maximise technological potential within industry; and commercial acumen and business relationship skills.

These assets present the opportunity to create a distinctive local bioscience strategy that actively encourages and creates opportunities for cross-sectoral working by direct identification of specific links between individual companies. Using locally adapted “Golden Triangle” principles of industry and research/innovation critical mass, we will develop a long-term vision for a distinctive bioscience cluster.

CASE STUDY: FUJIFILM Diosynth Biotechnologies

A world leader in the development and manufacture of biologics, vaccines and advanced therapies, FUJIFILM has been based in Tees Valley since 1996, employing approximately 700 people and investing around £100m into the local economy over 20 years.

FUJIFILM’s mammalian cell culture manufacturing facility at its UK headquarters in Billingham is the first of its kind in the UK and its £7m state of the art bioscience facility at Wilton demonstrates the confidence of international-scale companies investing in the area.

Further investment is planned by the firm, the importance of which is recognised in the Life Sciences Sector Deal, with funding recently acquired to build a BioCampus in Stockton-on-Tees. This represents a key strand of Tees Valley’s ambitions to grow the bioscience sector locally, alongside recent investments at the National Biologics Manufacturing Centre and the National Horizons Centre.



Digital

Our digital sector is made up of an exciting mix of young, vibrant businesses, including home grown global leaders such as Visualsoft, Clicksco, Cubic and Double Eleven. The sector employs 7,800 people in Tees Valley, with average salaries remaining competitive – in the national and regional context – whilst remaining high value. The average digital worker in Tees Valley generates £103,050 of GVA per annum, making the sector 10% more productive than at the national level and one of the most productive parts of the local economy.

Teesside University is one of the UK’s leading higher education institutions in animation and computer gaming, producing digital talent that is in demand internationally. Each year it hosts the Animex festival, attracting global leaders and showcasing innovation in the

sector. The University and DigitalCity work closely together to provide mentoring and support for entrepreneurs looking to adopt digital technologies.

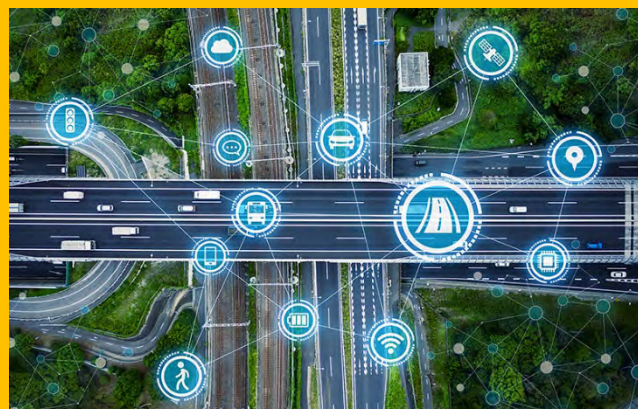
Our digital businesses are characterised by a strong appetite to innovate and grow. The proportion of Tees Valley businesses involved in innovation activity is higher in digital than any other sector of our economy, whilst the R&D intensity of the sector has increased by 145% in recent years. No other LEP saw digital innovation rise at a faster rate. We need to harness this strength to increase the density of businesses and employment in the sector, which are both low.

Increased density will not be driven by the digital sector in isolation, however. Part of Tees Valley's distinctiveness is the combination of a burgeoning digital sector and industrial sectors that are beginning to explore the potential of industrial digitalisation. This presents an opportunity to better integrate the local digital supply chain to increase the size of the local workforce and business base, whilst also driving up productivity.

CASE STUDY: Cubic Transportation Systems

A technology-driven, market-leading provider of integrated solutions to reduce urban congestion and help travellers make the most efficient use of the transport network in real time. Cubic is an international business with a presence in almost 60 countries. Cubic's Global Operations Centre (GOC) is in Stockton and employs 240 people.

The GOC utilises Cubic's latest innovations – including cloud-based enterprise software and advanced analytics. The firm's Transport Management Plan (TMP) – a ground-breaking, fully multimodal congestion management system, which led to Cubic receiving the Innovation Award at the 2019 Teesside Regional North East Business Awards – was developed from Stockton. The TMP is in the process of being rolled out in Sydney, Australia, demonstrating the global significance of the product.



Enabling Sectors

Professional and Business Services

The professional and business services sector is a key source of employment in Tees Valley, with 31,315 jobs across 2,840 businesses. However, concentrations of employment in Tees Valley (relative to the national average) are low across most sub-sectors – except for the Call Centre market.

This reflects the positioning of the Tees Valley as a low-cost location with modern, purpose-built facilities. Teesside University produces many graduates each year, providing valuable skills and expertise for the sector (including disciplines such as management and accountancy) and we must look to increase the number that remain in Tees Valley after graduating.

Significant employers in the sector include RPMI and Lattimer Hinks (in relation to financial and professional services) and Virgin Media, Santander and EE (contact centres and business processing).

In addition to the direct economic contribution outlined above, the technical and administrative services provided by the sector help to support the operation of businesses across the wider Tees Valley economy.

Logistics

Our logistics proposition reflects our strong exporting and industrial heritage. It is underpinned by key assets including the Port of Tees and Hartlepool – providing direct trade routes across the globe – excellent pipeline infrastructure and rail connectivity to key development sites. The Combined Authority's acquisition of Durham Tees Valley Airport – which has previously handled freight services – offers a further opportunity to strengthen our logistics offer.

Logistics is an important sector, supporting 17,090 jobs locally. It also serves as a key enabler of the wider Tees Valley economy, playing a vital role in supporting the success of higher value sectors such as chemicals and manufacturing.

Our position as a leading specialist in port-centric logistics is supported by Teesport Logistics Park – the largest retailer-backed, port-centric logistics park in the UK – with occupiers including Tesco and Asda. Recent investment in a new rail terminal at the Port of Tees and Hartlepool has strengthened our proposition. Tees Valley has also attracted large scale distribution investment elsewhere in the area – including Clipper Logistics and current development by DB Symmetry.

A shift towards increasing automation is expected to increase productivity in the logistics sector and it is vital that the necessary skills and infrastructure are in place locally to capitalise on the opportunities that this presents. Key education assets including the Logistics Academy at Stockton Riverside College and the High Tide Foundation will play an important role in addressing any emerging skills needs.

The importance of east-west transport connectivity is recognised by the Northern Powerhouse, with a growing emphasis on strengthening the UK's import and export routes to international markets through transport investment. The Port of Tees and Hartlepool will complement the new opportunities being developed at Liverpool SuperPort to allow the Northern Powerhouse to offer truly global trade routes.

Construction

The construction sector is an important part of our economy, with an economic output of £840m and 12,100 workers. Particular subsector strengths include: construction of roads and motorways; utilities and civil engineering projects; and test drilling and boring.

Construction also acts as a key enabler of our wider prosperity. It is fundamental to delivering the commercial and industrial premises required by a modern economy, as well as the infrastructure needed to support the effective movement of goods and people.

The productivity of the local construction workforce exceeds the Tees Valley average and innovations such as digitalisation, BIM and offsite construction provide opportunities to improve productivity further. The adoption of these innovations, however, is reliant upon a responsive skills system that supports new working practices.

In addition, a continued – and increasing – commitment to social value and intelligent procurement presents further opportunities to support growth. We will look to ensure that our construction businesses are best placed to identify, respond to and deliver projects coming onstream in Tees Valley.

3. Our ambition

Tees Valley will be a global leader in clean energy, low carbon and hydrogen. The area will achieve a net zero carbon industrial cluster by 2040, providing good jobs with long-term prospects that local people can access.

The Local Industrial Strategy complements and supports existing policy and strategy documents, including the Tees Valley Strategic Economic Plan. This document responds to the Industrial Strategy and the Local Industrial Policy Prospectus, which both emphasise the need to focus on the ability to influence the five foundations of productivity and the Grand Challenges to drive productivity growth.

This section sets out: the rationale underpinning the ambition; why it is important at a local and national level; and the role/local distinctiveness of each key sector in supporting and adding value to the core proposition. The table below summarises a range of key metrics to demonstrate the contribution of each key sector to the Tees Valley economy.

	Productivity (£/worker)	Output	Employment	Businesses
Chemicals and process	£131,450	£802m	5,445	80
	124%	LQ = 2.6	LQ = 2.2	LQ = 1.4
(Advanced) manufacturing	£51,700	£1,090m	18,910	2,790
	75%	LQ = 1.1	LQ = 1.5	LQ = 2.5
Clean energy, low carbon and hydrogen	£81,350	£727m	7,760	385
	77%	LQ = 1.1	LQ = 1.4	LQ = 1.2
Bioscience^{xxiii}	N/A	N/A	7,975	495
	N/A	N/A	LQ = 1.8	N/A
Logistics	£39,500	£784m	17,090	950
	71%	LQ = 0.8	LQ = 0.9	LQ = 0.8
Digital	£103,050	£741m	7,800	750
	110%	LQ = 0.9	LQ = 0.6	LQ = 0.5

Green = 100% or more of England average / Amber = 51% to 100% of England average
Red = Less than 50% of England average

Core Proposition

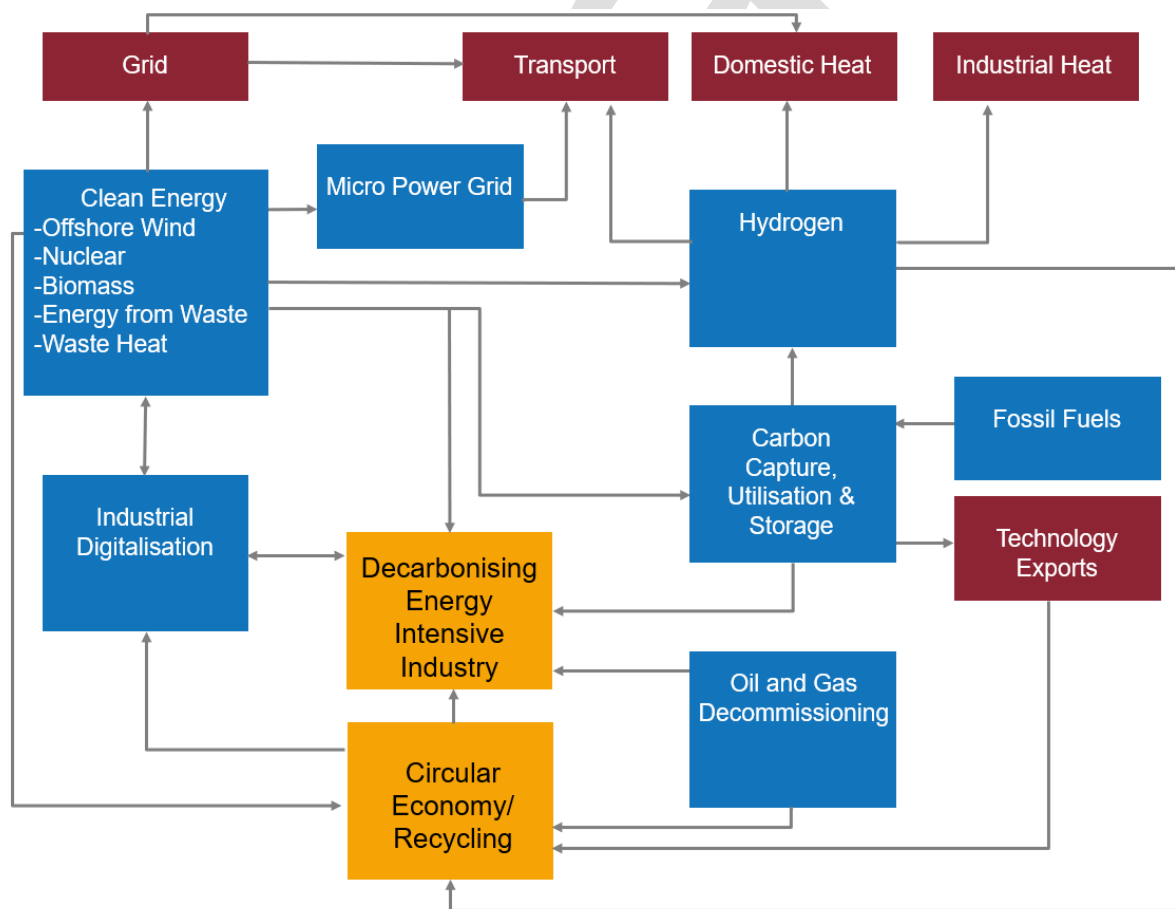
In harnessing the unique strengths and opportunities of the Tees Valley economy, our ambition responds to the government's aim set out in its Industrial Clusters Mission, to have one net-zero industrial cluster by 2040. It is underpinned by the breadth and depth of assets which mean Tees Valley is uniquely placed to pilot and demonstrate the benefits of clean growth, particularly in relation to clean energy, low carbon and hydrogen, on productivity and supply chain integration.

Industrial decarbonisation is a core component of our clean growth proposition. Reflecting the recommendations of our Low Carbon Industrial Cluster Sector Research, this will be pursued through a range of initiatives including: Carbon Capture, Utilisation and Storage (CCUS), clean energy production including using hydrogen as an energy vector (with potential applications linked to industrial heat, domestic heat and transport), and chemical feedstock for low carbon fuels, chemicals and plastics.

Our proposition is broader than this, however, as summarised in the figure below. The drivers extend beyond industrial decarbonisation to include offshore/clean energy¹ generation and decommissioning as part of the application of the circular economy to forge a more sustainable economic future for Tees Valley.

We will also look to pioneer industrial digitalisation technologies. The success of our clean growth ambition will be dependent upon stronger interdependencies, as businesses in one sector rely upon outputs from another as feedstocks. This will require smart, responsive relationships between businesses and industrial digitalisation will be critical in facilitating this.

Our core proposition, therefore, is well aligned with government's Industrial Strategy Challenge Fund – particularly the 'Industrial Decarbonisation' and 'Manufacturing Made Smarter' challenges.



¹ Includes nuclear. The Nuclear Sector Deal recognises that the future success of the industry is central to achieving Government's Clean Growth Grand Challenge

The Tees Valley Opportunity

Our industrial legacy, infrastructure and geology mean that the main sources of low or zero carbon energy available within the UK are already in use or can be deployed at scale by 2040 within Tees Valley (excluding hydropower). A well-established, geographically concentrated and highly integrated industrial cluster is already in situ and is supported by:

- **Hydrogen infrastructure and expertise:** we produce over 50% of the UK's hydrogen, with significant experience of operating hydrogen systems at scale and with an operational distribution infrastructure in place;
- **Access to carbon dioxide capture, utilisation and storage:** we are the location of the world's first gas-powered energy plant to deploy full-chain Carbon Capture Utilisation and Storage at scale through the OGCI project. We are situated close to potential North Sea carbon storage sites and benefit from an established network of pipeline corridors connecting our key industrial sites;
- **Decommissioning growth potential:** major investment by Able UK at Seaton Port (linked to the decommissioning of Brent Delta) has equipped the area with facilities that are unique to the UK. This leaves us well placed to secure further business in an area of growth;
- **Proximity to offshore wind:** we are ideally positioned to connect with and provide deep water port access to large scale offshore wind power developments;
- **Hartlepool Power Station:** facilities already exist to supply nuclear based, low carbon electricity to over 2 million homes. The infrastructure and experience are in Tees Valley to develop and deploy next generation nuclear power; and
- **Existing innovation specialisms:** we benefit from an established network of innovation assets with internationally significant capabilities linked to clean growth and industrial decarbonisation.

Rationale

Tees Valley is ready to embrace the challenges of clean energy, low carbon and hydrogen as part of the next phase of the continued evolution of our economic base. The successful application of industrial decarbonisation, is critical to maintaining and strengthening our competitive position in relation to some of our key industrial strengths by addressing three strategic challenges facing the area:

- **High concentration of Energy Intensive Industries (EIs):** EIs represent a key strength of our local economy and will remain so in future. To facilitate their continued success, whilst complying with the Climate Change Act and supporting achievement of the government's net-zero carbon target by 2050, we must decouple economic growth from CO₂ emissions;
- **De-risk EIs against rising carbon costs:** many of our EIs operate in international markets. They must be price competitive in a global context and this is heavily influenced by energy prices. Electricity prices paid by EIs in the UK are amongst the

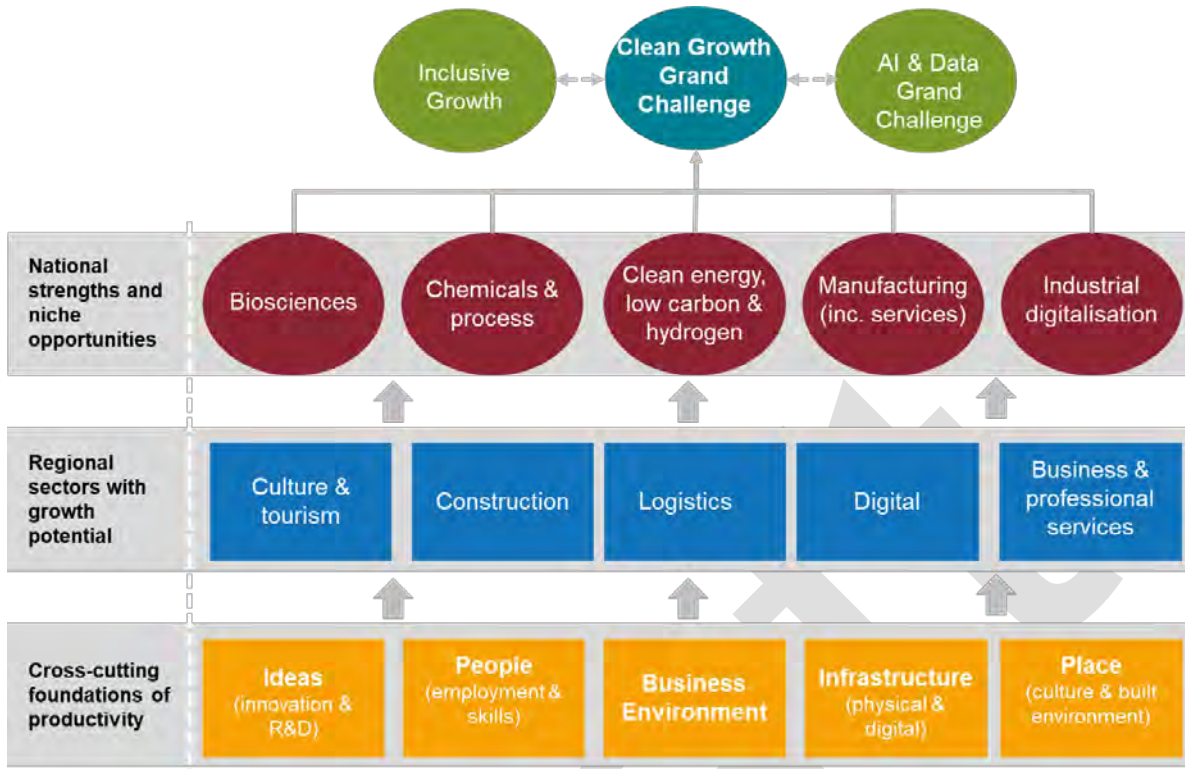
highest in Europe and the prospect of rising costs of CO₂ emissions represent a key competitiveness issue; and

- **Increased international competition:** Tees Valley competes globally for inward investment in the chemicals and process industries. The sector is increasingly clustered around a small number of internationally significant locations – it is critical that we maintain our position as a major European chemicals complex. The characteristics of successful chemicals and process clusters include: availability of feedstock supplies at competitive prices; and energy and utilities at competitive prices. Clean growth can help to underpin both.

Our ambition to establish Tees Valley as a globally-competitive clean energy, low carbon and hydrogen economy is not simply a response to these strategic challenges. Successful implementation – and our ability to establish ‘early mover’ advantage – will provide a renewed platform for growth, driven by inward investment, re-shoring and a vibrant indigenous business base:

- It will help to establish Tees Valley as the location of choice for global businesses looking to reduce their exposure to future CO₂ emissions costs, supporting existing branch plants, and the ambitions of global businesses seeking to invest;
- It will create a stronger platform for testing and commercialisation of new technologies at scale, which will significantly enhance the manufacturing and long-term productive capacity of the economy;
- It will act as the catalyst for the development of new product bases, by exploring the potential to exploit synergies within and between our national strengths and niche opportunities (shown in red on the diagram overleaf); and
- It will create new opportunities within our regional sectors with growth potential (shown in blue on the diagram overleaf). These sectors benefit from growth in the local economy more generally, which creates additional demand for goods and services. By establishing ourselves as an exemplar region for clean energy, low carbon and hydrogen, there is also an opportunity for these sectors to develop niche services tailored to the evolving needs of clean growth businesses, which can ultimately be exported beyond Tees Valley to other locations.

In addition, our ambition provides an opportunity for Tees Valley to make a significant contribution to carbon emissions reductions at the national level. The area has the potential to deliver reductions of 80MtCO₂ over the period to 2050.



Chemicals and process

The importance of the chemicals and process industries to the Tees Valley economy – and the need to retain existing businesses and support the growth of the sector by responding to strategic challenges – is a key driver of our clean growth ambition.

The scale, clustering and integration of our chemicals and process industries are fundamental to the strength of our clean growth proposition. They provide a critical mass of activity, as well as a strong pipeline network which links our major industrial locations and can facilitate the easy movement of materials, feedstocks and waste products.

Investment in resource efficiency and circular economy principles – to support the shift to clean growth – represents a significant opportunity to re-shore activity in the sector and build new product bases through the use, re-use and remanufacture of raw materials and products. In addition, it can help to reverse the current fragmentation of supply chains by increasing interdependencies between businesses across the sector and the wider Tees Valley economy. This will help to embed businesses within the area.

Clean energy, low carbon and hydrogen

As one of the UK's most significant sources of CO₂ emissions, Tees Valley has a vital role to play in meeting the government's net zero emissions target by 2050. The Committee on Climate Change has identified that this is possible but only with deployment at significant scale of CCUS technology and low carbon hydrogen as an energy vector.

The Tees Valley has been identified by the Oil & Gas Climate Initiative as uniquely placed to enable the first deployment of CCUS technology to energy production. With a tight cluster of industrial emitters supporting deploying CCUS technology on their assets and easy access

to vast subsea storage for the CO₂ in the southern north sea, the region provides a low cost solution to eliminating industrial and power generation emissions in the 2020s. The CCUS infrastructure would support further CCUS deployment along the east coast industrial clusters, with opportunities for shipping of emissions from other emitters to ensure reliable operation.

With appropriately sized transport and storage infrastructure the Tees Valley will be able to attract growing energy intensive investment despite the emissions target, and provide the materials needed to deliver the clean economy of the future. This is particularly important if the UK is to retain its position at the forefront of decarbonising heat (industrial and domestic) and transport through the use of hydrogen at scale and exploit the opportunities this will provide for a UK supply chain. This is essential as the electricity grid is incapable of supporting our ambitions without incurring excessive costs.

Given the need to achieve rapid decarbonisation large volumes of decarbonised hydrogen are needed at low cost and this can only be achieved quickly enough using natural gas coupled with CCUS. Renewable electricity can then be included to make hydrogen as it becomes increasingly available beyond 2030. Again, the Tees Valley's proximity to the Dogger Bank puts it in prime position to host both production routes and to provide low carbon electricity and hydrogen to the UK energy system.

Other opportunities for decarbonising energy are linked to using a CCUS infrastructure to create negative emissions from the second largest UK biomass power plant at Tees Dock, to capture CO₂ from the production of biofuels (bioethanol and biodiesel) and to include nuclear power perhaps from Small Modular Reactors at existing nuclear installations.

Manufacturing

Tees Valley's manufacturing and engineering sector benefits from excellent existing infrastructure and assets which have led to new investments in advanced materials – these will form the future of manufacturing in the UK and support the clean growth agenda. The area is home to key businesses active in both the upstream and downstream composites industry. For example, Liberty Metals have developed speciality metal powders research expertise (supported by the Material Processing Institute) capable of developing and manufacturing new speciality alloy metal powders for additive manufacturing applications. The market for this capability is set to be worth more than £1bn by 2026.

There is an increasing demand to build renewable energy assets and Tees Valley is fast emerging as an energy powerhouse. Our concentration of industry along the coastline perfectly places the region as the go-to location for green energy schemes. Companies such as Wilton Engineering and JDR Cables are adapting to demand as we lead the way in building a greener economy.

A growing number of our advanced manufacturers are already developing products that align with the clean growth agenda in the automotive sector. This includes: MCIS-UK (founded to undertake commercial production of formulated electrolyte – a key component of the lithium ion batteries); Nifco UK (working with OEMs on the design of new products to support further development in the production of electric motor vehicles); and Cummins

(delivering new automotive engines to meet increasingly stringent legislation regarding vehicle emissions).

Biosciences

In shifting reliance from fossil-based to renewable resources and delivering low-carbon bio-based products and processes, the biosciences sector in Tees Valley has a fundamental role to play as a driver of clean growth. Development of bio-based materials, such as chemicals and plastics, is both important in supporting the economic viability of biorefineries and best-placed to reduce emissions globally.

Tees Valley's inherent strengths as a 'bio-cluster' have consistently been acknowledged. Tees Valley is regarded as a centre of biorefining & biomass manufacture expertise, with strengths in the food, drink & chemical markets poised for maximizing industrial biotechnologies & techniques. The specific focus of bioscience expertise in Tees Valley is advanced biotech manufacturing, critically positioned around the advanced biorefinery centre in Redcar, the Ensus bioethanol plants at Wilton, and a globally-competitive industrial base. There are considerable opportunities to disperse biopharmaceutical and bioprocessing expertise and technologies across other science-based sectors.

The greatest opportunity lies in the adoption of biotechnological techniques in industrial manufacturing, particularly for medium-high value products such as speciality chemicals. Supported by industrial and public R&D (notably in the Centre for Process Innovation) this will result in cost-effective production processes alongside reduced fossil-based dependency and increased product sustainability.

The strength of the Tees Valley integrated chemicals complex presents a significant advantage for the development of the biosciences, both as a supply source for the manufacture of products, in GMP expertise (in biopharmaceuticals) and in the key characteristics it shares, particularly in the area of industrial biotechnology, which cuts across pharmaceutical, good and industrial process sectors. Of the process industries, chemicals and food and drink are identified as prime contenders for the disruptive application of industrial biotechnologies.

The UK national bioeconomy strategy identifies the significant clean growth potential of the biosciences in "using renewable biological resources to replace fossil resources in innovative products, processes and services". Tees Valley's strong industry base and industrial biotech expertise, coupled with established collaborative networks such as NEPIC, an innovation ecosystem and significant assets in the form of the Centre for Process Innovation and the National Horizons Centre, key industry players such as FDB, Ensus, Marlow Foods and GSK, put it in prime position to help drive clean growth through bioscience developments. The adoption of bio-based production processes for fuel, food and pharma, facilitated by concerted cooperation and integration between all players in the value chain, will directly support the growth of a low-carbon, high-productivity Tees Valley economy.

Industrial digitalisation

Aspects of industrial digitalisation are already being embraced by those sectors that underpin our clean growth ambition. The chemicals and process industries are already

dependent upon high levels of automation for process control, whilst the visualisation (amongst other technologies) of manufacturing operations has proved effective in training staff, operating and maintaining plant.

Significant opportunity exists to drive productivity gains by further embedding industrial digitalisation practices within our economy. The use of AI technologies and data analytics within chemical and bio manufacturing industries as part of an Internet of Things approach, are key to maximising the efficiency and safety of industrial processes to mitigate supply chain risk and improve productivity. Experiences in the process sector in Tees Valley have shown relatively simple applications of sensors and real time data analysis have led to significant energy cost savings and improved productivity. In the offshore wind market, we can see how advanced data simulation at the engineering stage for foundations reduce installation costs. At the same time, environmental data can inform development and maintenance alongside trend modelling to support active management of the contribution the sector can make to the National Grid. In the pharmaceutical sector blockchain and Internet of Things are supporting greater traceability and more bespoke tailored drugs that can be produced in smaller batches opening up new markets as well improving productivity due to a lower reliance on paper-based systems, which often result in downtime due to checking and cross-referenced.

In overall terms, the delivery of our clean growth ambition will be underpinned by strong supply chain linkages within and between our key sectors, enabling outputs from one process to be harnessed as feedstocks in another. Industrial digitalisation will be critical in facilitating this, with the analysis of big data supporting more effective, real-time monitoring of processes and products to inform upstream and downstream supply chain partners.

Cross-Cutting Theme: Inclusive Growth

The successful implementation of our core proposition will be defined not just by increasing productivity, but by ensuring that the growth of our economy is inclusive – creating the necessary conditions to enable all Tees Valley residents to benefit from our future prosperity. Delivering inclusive growth will mean providing more good quality jobs with long-term prospects – jobs which can be accessed by local people. This is central to the overarching ambition for the area identified through the Local Industrial Strategy process and will be underpinned by a series of interventions designed to:

- Create more 'good' jobs; and
- Support more local people to access 'good' jobs.

Each of the five foundations of productivity has a role to play in supporting inclusive growth and this is reflected in its identification as a cross-cutting theme. The following paragraphs consider the relationship between inclusive growth and each of the foundations.

Inclusive growth will be pursued for, and by, our **people**. We will look to provide greater access to training for those in work – enabling people to upskill and creating opportunities for progression – and those seeking routes to work. This will be delivered through greater partnership working with our businesses – increasing employer engagement in training and ensuring that provision is tailored to business needs.

In addition, we will work to improve levels of educational attainment and improve the performance of our secondary schools, by implementing our Education, Employment and Skills Strategy – ‘Inspiring Our Future’. This will be supported by initiatives to raise the expectations of our young people that they can have their career of choice in Tees Valley, building upon the early success of TeesValleyCareers.com to provide meaningful work experience.

By focusing on new **ideas**, we are seeking to deliver a step change in innovation and R&D activity. This is critical to moving our existing businesses up the value chain and creating new business opportunities in high value sectors. In this way, we can create more ‘good’ employment opportunities. Universities will also have an important role to play – helping to drive the innovation agenda and providing access to a talented, highly skilled workforce.

The development of a stronger **business environment** will support higher rates of business growth and the creation of more employment opportunities. In part, this will be pursued through support for start-ups and scale-ups. Opportunities also exist, however, to adopt a more targeted and co-ordinated approach to procurement (and supply chain development) in order to: facilitate the growth of local firms; and place greater emphasis on the impact of social value.

Ensuring that the **infrastructure** of Tees Valley is fit for purpose will support inclusive growth by enabling all residents to easily access employment and learning opportunities. This must be underpinned by strong digital connectivity, an affordable and effective public transport system and a resilient road network. We will work with partners to progress our priority transport schemes, whilst also looking to establish Tees Valley as a Future Mobility Zone.

We will look to develop our culture and leisure offer to improve our sense of **place** and enhance awareness and perceptions of the Tees Valley offer – harnessing the power of the ‘Enjoy Tees Valley’ campaign. This will help to create employment opportunities at all skill levels – both within the culture and leisure sectors, but also across the economy more broadly by strengthening our inward investment proposition. An improved culture and leisure offer will also help us to attract and retain more talented people and acting as a pathway to raising aspirations amongst our population.

Case Study: Grangetown Hub

The Grangetown Training and Employment Hub originated from out of an under-used community centre, and now provides support to residents who are out of work or looking for a better job. The Hub works closely with employers to meet their recruitment needs and offers services that include:

- Facilities for recruitment events, job fairs, interviews
- Publicising job opportunities
- An extensive CV database of highly skilled, semi-skilled and unskilled individuals
- CV sifting, shortlisting and selection process
- Upskilling residents to meet employers needs

Based within the heart of the community, the Hub has been a huge success, and in February 2019 had helped over 1000 people into new employment. It is delivered through a

partnership between, Redcar and Cleveland Borough Council, Jobcentre Plus, Beyond Housing, Work Programme providers, training providers and individual projects such as the Youth Engagement Initiative and the Tees Valley Routes to Work Project. The model has been recognised nationally as best practice, winning Best Service Delivery Model at the 2018 Local Government Chronicle Awards.

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4. Delivering the ambition

Lead the way as an exemplar region for clean energy, low carbon and hydrogen

A key priority for Tees Valley Combined Authority is to establish the area as a leading business location for clean energy, low carbon and hydrogen, including the application of industrial decarbonisation and clean growth technologies. A unique combination of inter-related sector specialisms and infrastructure assets mean that Tees Valley is an ideal location to pilot and demonstrate the benefits of clean growth. These include:

- An established industrial ecosystem anchored by the second largest chemicals complex in Europe;
- High levels of integration, with pipeline corridors connecting key industrial locations;
- Proximity to potential North Sea carbon dioxide storage sites and offshore wind power developments;
- Infrastructure and expertise to operate Hydrogen systems at scale; and
- A network of innovation assets with internationally significant capabilities in related disciplines.

These factors also mean that Tees Valley is ideally placed to make a major contribution to meet the government's commitment to net zero carbon emissions by 2050.

Industrial decarbonisation and clean growth will decouple economic growth from CO₂ emissions and provide reliable, cost-competitive access to energy and feedstocks for industrial occupiers. This will help to establish Tees Valley as the location of choice for energy intensive industries within an increasingly competitive global investment marketplace. It will also create opportunities to drive local innovation and productivity, through exploring the opportunities that exist – in bridging the spaces between the individual sectors that underpin the clean growth proposition – to deliver new products and processes.

This theme focuses on: developing the technology, infrastructure and supply chain linkages needed to maximise the impact of clean energy, low carbon, hydrogen and industrial decarbonisation in Tees Valley; ensuring that the regulatory framework is fit for purpose; and strengthening relationships and synergies with key national and international clusters. The successful implementation of these priority actions will help to strengthen the performance of Tees Valley with respect to the 'Ideas' and 'Business Environment' foundations of productivity, as well as the Clean Growth Grand Challenge.

Position Tees Valley as the UK's Hydrogen Capital

Tees Valley is the UK's largest producer of hydrogen, responsible for over 50% of the UK's production. Hydrogen is more than just an industrial feedstock, paired with CCUS and renewable energy, it represents a low carbon fuel for homes, vehicles, and industry. As a leading hydrogen producer, with a well-developed CCUS project, and links to large offshore wind farms, Tees Valley has an ambition to be the UK's low carbon hydrogen fuel production centre, with a focus on deployment and commercial applications.

We propose to work with government to establish a nationally-recognised Research and Development Centre for Hydrogen in Tees Valley. This will build on the skills, infrastructure, and existing innovation strengths to develop, demonstrate and deploy new hydrogen applications. This will include specific support for developing innovative technologies to address other key hurdles in the overall decarbonisation challenge. The Centre will enhance the vital national role we will play to increase the use of hydrogen as a clean energy source – for transport, industry and communities.

Focus of the Hydrogen Centre's activity will include:

- Development of new processes for making products such as net zero carbon aviation fuels through a hydrogen-based bio centre using CO₂ as a main feedstock, supported by the availability of low carbon hydrogen and the region's growing biotech capability at the Centre for Process Innovation and elsewhere;
- Exploring biotechnology approaches using hydrogen to provide a potential solution to the problem of recycling and reusing polymers, which Tees Valley is ideally situated to develop and deploy at scale;
- Building on the hydrogen refuelling stations already under development, at the Material Processing Institute and Teesside Advanced Manufacturing Park, to expand transport applications within the region, and specifically working with Northern Rail on the deployment of hydrogen trains, which could see Tees Valley play a critical role in delivering a new generation of clean energy transport through the maintenance and fuelling of Hydrogen Multi Unit Trains in the area; and
- Exploring the use of hydrogen applications in industry and supporting the development of the hydrogen in homes safety case by identifying community pilots.

It is estimated that in realising our ambitions, the hydrogen sector could add up to £7bn to the region's economy between 2018 and 2050 and create around 1,000 jobs.

Establish Tees Valley as the pioneer region for CCUS and clean growth technologies

Carbon Capture Utilisation and Storage

Tees Valley is one of the most carbon intense regions of the UK, with emissions per capita over twice the national average.

CCUS is essential to decarbonise the economy at least cost, the UK cannot achieve its carbon targets without employing the technology, particularly in its industrial clusters where limited opportunities to significantly cut emissions exist. Recognising the opportunity CCUS brings, the government's policy is to have the option to deploy CCUS at scale during the 2030s. The action plan set out by government is for the first facility to be commissioning by the mid-2020s. Cost is a key barrier to deploying the technology, and Tees Valley proposes to work with government to inform the most appropriate financing mechanism to take this technology forward.

Working closely with industry, the Combined Authority has presented the business case for a CCUS network capable of handling significant volumes of UK emissions in the region. Over

the past year we have seen a group of six major oil and gas companies, who are part of the Oil & Gas Climate Initiative (OGCI), develop proposals for what will be the world's largest CCUS equipped gas fired power station - the Clean Gas Project - in the Tees Valley. In addition, we have witnessed one of the world's largest chemical company's substitute by-product hydrogen for natural gas in their process for making ethylene, significantly reducing CO₂ emissions as a result. The region's energy intensive industries can also adapt to use hydrogen as a fuel, given the right economics. This would be made possible with the deployment of CCUS at scale, which the power project above could provide. The infrastructure would support further decarbonisation opportunities for both heat and transport and is essential if the Committee on Climate Change's carbon budgets are to be met.

What is now required is a concerted effort between the Combined Authority, local industry, the Clean Gas project, the finance community and the government to take these plans into reality. To achieve this, firstly, Tees Valley will pursue an ambition to be designated as the UK's first net-zero industrial cluster by 2040, secondly, government support is sought for the OGCI Clean Gas project to achieve financial close, and thirdly, it is proposed that government and industry pilot the CCUS financing mechanism and business models in Tees Valley, including a mechanism to support deployment of hydrogen into the energy system. This could result in the world's largest power, industry and hydrogen CCUS network in operation by the mid-2020s, in line with the government's ambitions to tackle climate change.

Industrial Energy Transformation Fund (IETF) and Industrial Strategy Challenge Funding (ISCF) streams are key to decarbonising clusters, and as a leading industrial cluster, Tees Valley intends to maximise the benefits of these, and other resources through the delivery of local projects. The Combined Authority proposes to work with government to achieve this, harnessing the role of the cluster to co-ordinate available funding to develop and invest in large and small-scale projects, develop business cases, and co-ordinate industry investment to deliver greater impact from these funds. This can support a greater return on investment, through taking a cluster-based approach.

In addition, the Combined Authority will ensure the cluster is ready to employ new innovative technologies by developing skills and education provision for CCUS, hydrogen and other clean technologies, and will work with process, wind, biomass energy, biogas and nuclear sectors to develop local capability. Further detail regarding our approach to skills development can be found in the paragraphs outlining how we will *Grow and widen the pipeline of talent to support our competitive advantages and help move local people into good jobs with long-term prospects.*

Offshore Wind

Building on commitments set out in the Offshore Wind Sector Deal, Tees Valley Combined Authority will support the further development of the existing cluster that exists in the area, with supply chain links extending into the wider North East region. This will capitalise on existing assets and provide sector leadership to create more opportunities for growth and investment.

Nuclear Energy

Nuclear energy is key to a low-carbon energy future, and the Nuclear Sector Deal recognises that the future success of the industry is central to achieving government's Clean Growth Grand Challenge. The Hartlepool Power Station provides the infrastructure, facilities, and decades of skills and experience to help realise the government's ambition to ensure that nuclear energy continues to power the UK for years to come through major innovation, cutting edge technology and a highly skilled workforce. The Combined Authority therefore proposes that the Hartlepool Power Station is prioritised as a preferred location for the development and deployment of new commercial scale nuclear technologies.

Battery Production

Tees Valley will harness the strengths of our world-leading chemical sector to build and enhance our role in the electric vehicle supply chain through the production of component parts for vehicle batteries.

The UK will require several giga-factories to meet the replacement demand for electric vehicles over the coming years, which will lead to increased demand for chemical manufacture. The scale of this market will be significant, with a recent report^{xxiv} estimating the value for upstream chemicals will be £4.2bn by 2030. Tees Valley is ideally placed to benefit from this, and a proactive approach will be taken to attract inward investment and work with existing businesses to inform their future growth and investment plans. This will be aligned with a joined-up approach to support R&D and innovation activity, skills development and business growth in the battery supply chain.

International Showcase

Tees Valley's position as an exemplar region will be cemented through a pioneering approach locally, coupled with national and international awareness raising of regional activity. A series of Industrial (and 'open to the world') Showcases of the demonstrators and pilots developed for CCUS and clean growth technologies will take place in Tees Valley. Activity will be led by local stakeholders, and it is proposed that government supports capacity building, promoting the strength and uniqueness of our demonstrators nationally and internationally. The aim is to raise the visibility and impact of the technologies developed and reach out to new stakeholders to develop the value chain.

Establish a Centre of Excellence in Decommissioning for offshore oil and gas

Tees Valley Combined Authority proposes to work with government to establish the region as a Centre for Excellence in Decommissioning for offshore oil and gas. Over the longer term, this will deliver a cost-effective solution that maximises the return to the UK in delivering (and with strong potential to exceed) the government's mandated requirement of 35% cost return in off shore disposal.

Tees Valley is the ideal location to develop national capacity for decommissioning, building upon existing skills and supply chain linkages, and harnessing the unique infrastructure assets that exist in the region.

Our approach will include:

- Development and management of a rolling strategic plan for Tees Valley decommissioning and marine environment remediation;
- Targeting marketing and PR that raises the profile of Tees Valley as a decommissioning centre, and to attract inward investment;
- Supporting the development of key sites and ensure a package of support is available, as part of a wider inward investment offer, to facilitate new business development and growth in Tees Valley that can contribute towards a decommissioning cluster. This will include initial testing of business case potential for development at the South Bank Quay and other industrial sites / facilities that are no longer in operation. It will also involve exploration of sites and premises for multi-user centre of excellence offices; and
- Exploring policy options that will increase the competitiveness of the UK decommissioning market, particularly in relation to European centres. This will aim to ensure that UK plc undertakes a greater share of the de-segregation of off-shore facilities currently commissioned by government, increasing the productivity and turnover of UK business in related industries.

This will result in increased economic output and business growth opportunities in a growing market. Forecasts for decommissioning suggests an anticipated market value of £2bn p.a. to 2025, with £17bn - £20bn expenditure forecast in the UK Continental Shelf during this time. Potential exists for Tees Valley to capture around 25% of the market², which could result in an annual baseline throughput of around £500m.

Infrastructure, regulatory environment and place promotion

Tees Valley's position as an exemplar region for industrial decarbonisation and clean growth will be cemented by a broader approach to develop the infrastructure and regulatory environment, and by undertaking place promotion to ensure the region's holistic offer presents a compelling and cohesive case to investors.

Evolving the regulatory framework

Tees Valley Combined Authority proposes to work with government to evolve the regulatory framework in support of standalone energy projects that can meet the needs of key industrial sectors such as chemical process and advanced manufacturing. It is proposed that the government initiates a review of the National Planning Policy Framework relating to the threshold for Nationally Significant Infrastructure Projects, particularly as it relates to the development of electricity power stations over 50MW.

As a highly industrialised area, Tees Valley businesses require high levels of power and continuity of supply. These demands are only likely to increase as development plans for the South Tees Development Corporation area and other key investment projects are realised. Alongside this, other industrial sites will continue to evolve, driven by growth in internationally significant sectors (including chemical processing and advanced manufacturing). Tees Valley is a prime location to understand the requirements for timely land-based power stations to be deployed, as part of a wider framework to deliver growth through major industrial developments.

A planning framework that reflects the changing nature of industrial energy requirements, aligned with strategies for local economic growth has the potential to increase investment and economic output in new energy sectors. It can ensure a proactive approach to meet anticipated energy needs in a timely and streamlined way that aligns to a wider business support and investment offer.

Support for micro power grids, which enable localised control of electricity, are also a key priority for Tees Valley, in meeting the energy needs of business at key sites going forward. For example, at Wilton International and the South Tees Development site.

Making the case to establish a Free Trade Zone

The Combined Authority will build upon the existing sector strengths of our globally-facing export infrastructure, by making the case to establish a Free Trade Zone (FTZ), using the South Tees Development Corporation site as a test case that can inform the future direction of national policy. The scale of the development opportunity at the South Tees site is currently unrivalled in the UK, particularly as it relates to developing industrial infrastructure to deliver local and national ambitions for Clean Growth, and the site therefore provides a unique opportunity to accelerate the pace at which these ambitions are delivered. Tees Valley Combined Authority will continue to explore the optimal configuration for an FTZ and intends to work with government to understand the impact of economic modelling and suite of interventions that can support delivery of the Industrial Strategy. The economic impact of establishing an FTZ could be significant, including: increased inward investment, with the potential for £25bn expected capital flows for land development over 25 years; the potential for 16,000 additional jobs in Tees Valley because of investment; and additional public revenues, which could potentially increase by £1bn once the FTZ is complete. Our modelling shows that if 5 pilot sites were rolled out across the UK, potential to generate £4bn GVA and 70,000 jobs^{xxv}

Our approach to develop a test-bed for FTZ status is considered further in relation to our proposals to: *Attract investment and establish a global reputation for Tees Valley as a vibrant and thriving place to be, with world leading opportunities in clean energy, low carbon and hydrogen.*

A targeted approach to attract Foreign Direct Investment

As part of the wider approach to attract investment and establish a global reputation for Tees Valley as an area with world leading opportunities in clean energy, low carbon and hydrogen, the Combined Authority proposes to work with the Department for International Trade to target foreign direct investment. Together, we can lead a collaborative approach involving local industry and other stakeholders to map existing supply chains and target strategic priorities for international engagement, including for clean energy, low carbon, hydrogen and decommissioning. As part of this strengthened approach to joint working, it is proposed that the Department for International Trade works with Tees Valley Combined Authority to ensure that regional priorities are aligned with opportunities emerging globally.

This will involve a key focus on the South Tees Development site. Also recognising the key role that biosciences have in delivering our core proposition, our approach will include

working with government to pursue Life Sciences Opportunity Status for Tees Valley, focused on promoting the opportunities at Central Park to inward investors.

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Develop pioneering capabilities in industrial digitalisation and ensure implementation of digital applications at scale

At a global level, the fourth industrial revolution is taking shape, with a focus on developing and integrating digital technologies to deliver process and supply chain improvements. With globally competitive industrial sectors and established digital expertise, Tees Valley is ideally positioned to be at the vanguard of industrial digitalisation.

Initiatives such as DigitalCity and the Material Processing Institute's 'Future Steel Factory' digital demonstrator are already setting an ambitious direction of travel for Tees Valley businesses. Tees Valley also has outstanding and unique European biotechnologies facilities at the Centre for Process Innovation, enabling industries to benefit from R&D and reach into new markets. Building upon this, and other locally-led initiatives, Tees Valley will continue to develop, demonstrate and embed digital approaches across the regional economy.

Tees Valley can take a national lead on elements of Industrial Digitalisation relating to manufacturing and the chemical and process industries, supporting growth in clean energy, low carbon and hydrogen. Coupled with this, the potential to develop a national test-bed for a Free Trade Zone can serve to pilot new trade tech solutions in an industrial environment at scale, to support trade and increase levels of export.

Industrial Digitalisation will play a critical role in delivering the potential of the Tees Valley economy. It will be fundamental to maintain and reinforce the area's competitive advantage and export competitiveness with respect to manufacturing and the chemical and process industries, driving productivity improvements by moving businesses up the value chain. In addition, the size of the local industrial base – coupled with the opportunity to export digital solutions to businesses outside of Tees Valley – can provide a platform for the growth for the local digital sector.

This theme is focused on creating the necessary conditions to accelerate the innovation and diffusion of Industrial Digitalisation technologies, including the development of test-bed projects and a co-ordinated package of advocacy, support, advice and funding. Its successful delivery will help to strengthen the 'Ideas' and 'Business Environment' foundations of productivity, whilst also contributing towards the 'Artificial Intelligence and Data' Grand Challenge.

Tees Valley will pilot a cohesive, digital ecosystem to accelerate the innovation and diffusion of industrial digitalisation technologies that can support achievement of our Clean Growth ambitions, whilst simultaneously supporting the growth and development of a thriving Digital sector in the region.

Made Smarter Tees Valley Pilot

The concentration of advanced manufacturing firms in Tees Valley is the highest in the country at around two and a half times the national average, creating significant opportunities to test and deploy new approaches to industrial digitalisation.

Tees Valley proposes to work with government to deliver a Made Smarter pilot, which will provide an awareness raising programme, develop test-beds and demonstration resources

to businesses to understand the challenges and opportunities created by digitalisation. Support will be provided for businesses to undertake digital audits and develop tech roadmaps for their business from which businesses can develop action plans and access financial support to implement and build skills within the business. Where supply chains face particular challenges, collaborative open innovation models will be used to work together to overcome these or maximise opportunities. Finally, as the workforce of smart manufacturers grows, retraining opportunities will be developed, and young people supported into the sector.

The productivity impact of potential activity is highlighted in the government-commissioned Made Smarter review, which identified a positive impact of £455bn for UK manufacturing over the next decade through increased digitisation, predicting manufacturing sector growth of between 1.5 and 3% a year, the creation of 175,000 jobs and a 4.5% reduction in CO₂ emissions. The review predicted that digitisation can improve industrial productivity by more than 25% by 2025. Whilst global total labour productivity growth was negative 0.2% between 2010 and 2014, the embrace of digitisation has the potential to allow levels to recover to 2%.^{xxvi}

5G Test-bed and Trials Programme

To ensure that Tees Valley is at the forefront of new developments to support industrial digitalisation, there is a need to 'future proof' Tees Valley businesses and infrastructure. The Combined Authority proposes to work with central government, Digital Catapult, public sector bodies, Teesside University, Durham University and local businesses, to develop sector focused 5G Test-bed and Trials. This will focus on:

- Technology testing and application in key sectors to build and support development of supply chain linkages;
- Technology testing for equipment manufacturers, network operators and network planners (testing new or existing 5G technology to assess the impact of a variety environmental, topographical, built environment and human factors on signal transmission);
- Active promotion of 5G solutions to digitally immature sectors or those operating in a hazardous environment (micro and SMEs in traditional industries); and
- Supporting commercialisation of new products/processes emerging from the application of 5G solutions (in particular the use of big data).

The programme will enable the roll out of 5G technologies across a range of industries, with a focus on chemicals and process; manufacturing and logistics. Tees Valley and the Wilton site was identified in the Heseltine Review, as a key place to test new approaches to sustainability. Having one of Europe's largest integrated industrial complexes, targeted investment in Tees Valley could help maintain the future of existing industries and to develop new economic opportunities, particularly in relation to clean growth. The Wilton site also benefits from being fibre enabled, meaning that the area is in a ready position to deploy a 5G test-bed. The port also provides an opportunity to test the deployment of new technology

solutions that can support supply chain development and increase trade through enhanced mechanisms to enable customs and trade.

A new data driven approach to increase productivity in the logistics sector and improve overall connectivity

Tees Valley Combined Authority will improve the live data collected from the existing road network and the logistics sector to develop new system approaches to manage traffic flows, particularly freight consignments, enhancing regional connectivity and the role of the logistics sector in Tees Valley. This forms part of our ambition to establish a Future Mobility Zone in the area.

The approach to traffic management will be expanded beyond the current role of Urban Traffic Management and Control (UTMC) by using advanced Intelligent Transport Systems to create a live environment in which to capture data and foster collaboration between producers and users of freight data across different modes with a focus on:

- Using real time data for users to improve the flow of traffic, particularly freight movements serving key trade and employment assets at the ports of Tees and Hartlepool; and
- Providing better intelligence to transport planners.

Activity has the potential to promote optimisation of the movement of freight within the supply chain and to create a new freight brokering marketplace – increasing productivity through enhanced ways of working in the logistics sector. Increases in productivity will also be demonstrated because of less congestion and delays overall on the road network.

Full Fibre

We will aim to aggregate the opportunities created through industrial digitalisation testbeds, Future Mobility Zone and other publicly-led digital infrastructure projects, to work with the private sector to accelerate full fibre roll out across Tees Valley. This will seek to maximise the impact of our investments and ensure the future competitiveness of Tees Valley businesses.

Tees Valley Growth Hub

The Tees Valley Growth Hub plays a critical role in supporting business development and growth. The Combined Authority intends to work with government to confirm a commitment to longer term support for the Growth Hub Programme. This will continue to simplify the business support environment in Tees Valley and provide a targeted approach for businesses of different sizes, including a focus around digitalisation and building digital capacity.

The Tees Valley Growth Hub, branded as “Business Compass” provides a single gateway for business to connect with support, finance and funding designed to assist local businesses with growth aspirations to scale-up and achieve their potential. The Growth Hub has demonstrated significant success in directly assisting more than 1,400 businesses since it was established, with a combination of Information, Diagnostics and Brokerage alongside

grant funding designed to encourage business growth and access to improved digital connectivity.

Alongside a wider suite of support, the future focus of activity will enable companies in Tees Valley to maximise the potential of digital. This includes:

- Targeted start-up and scale-up programmes for digital businesses. Providing support to digital leaders to grow their businesses within a supportive and challenging peer led programme. This will align with complementary support in the area, including University-led programmes and a pilot of the US Babson Programme;
- Development of supply chain approaches to overcome common digital challenges or opportunities in key sectors such as manufacturing, process and logistics;
- Focusing on key emerging technologies such as immersive tech and artificial intelligence and machine learning. Helping innovation embed within businesses and enable them to compete globally; and
- Aligning with skills programmes to develop a digital talent pipeline and workforce for a fully digital economy.

Activity will increase business density and increase levels of economic output among Tees Valley businesses. Department for Business, Energy and Industrial Strategy figures indicate that Growth Hubs have created 29,020 private sector jobs nationwide, and safeguarded 17,540 more, while increasing GVA by £434m.

Leverage the full potential of our innovation ecosystem in support of building innovation capability, R&D capability, commercialisation, business creation and growth

Tees Valley's innovation ecosystem is anchored by a number of internationally-excellent research and technology organisations with complementary specialisms in current and emerging sector strengths. This includes: clean energy, low carbon and hydrogen; chemicals and process; advanced materials (including graphene and printable electronics); biosciences and industrial digitalisation.

In addition, major recent investment in the National Biologics Manufacturing Centre and the National Horizons Centre provide a strong platform for the development of innovation activity linked to the emerging bioscience sector.

Reflecting the area's heritage of manufacturing excellence, and unique international pilot capabilities (for example at the National Industrial Biotechnology Facility), innovation in Tees Valley is largely focused on demonstration, pilot production and scale-up activity – readying products to move towards commercialisation.

At present, much of the R&D activity undertaken by Research and Technology Organisations in Tees Valley is commissioned by, or done in partnership with national and international organisations, with spin-out business opportunities being 'repatriated'. Moving forwards, a clear opportunity exists for Tees Valley to adopt a more agile and co-ordinated approach to targeting and landing commercialisation opportunities. This includes better connecting local firms with the existing innovation ecosystem to drive up the R&D intensity of the business base and help firms grow or move up the value chain. Such activity must also be supported – as part of a whole-system approach – with greater innovation funding and mechanisms to more fully embed innovation within the local business culture.

In pursuing the above, this theme will help to strengthen the performance of Tees Valley with respect to the 'Ideas' foundation of productivity and support achievement of the government's 2.4% R&D target. Our approach will centre around the region's national innovation assets, alongside a local business base that demonstrates specialisms in clean energy, low carbon and hydrogen, industrial digitalisation and bioscience (including biologics and bio-processing). It will enable Tees Valley to realise its full R&D potential for local and national benefit, including commercialisation of new technologies at scale.

Tees Valley Combined Authority will lead a cross-sector, whole system approach to R&D and innovation

To drive a step change in innovation activity in Tees Valley, an Industrial Collaboration Board will broker more effective partnership working between business, higher education and research institutes. It will include representation from Research and Technology Organisations in Tees Valley, alongside Durham and Teesside Universities, UK Research and Innovation (UKRI) and the Department for International Trade. The Board will have a remit to ensure that local strategy, programme and project development actively encourages and creates opportunities for cross-sectoral working that stimulates R&D and innovation activity – and that this translates into commercialisation. It is proposed that the involvement of UKRI and the Department for International Trade will ensure national innovation resources

are aligned with programmes and opportunities in Tees Valley. To ensure that Tees Valley maintains and further develops its competitive edge in key sectors, activity led by the Board will have an emphasis on supporting the innovation in clean energy, low carbon, hydrogen, bioscience and industrial digitalisation.

The Industrial Collaboration Board will also provide leadership and oversee implementation of the Tees Valley Collaborative Networks Programme. This £1.7m, three-year programme will involve two key strands of activity:

- Supply chain support focused on key sectors for Tees Valley, building knowledge and brokerage and developing a manufacturing support service; and
- Programme consortia development, focused on supporting groups of businesses and organisations to jointly deliver pilot / demonstration projects related to Industrial Digitalisation and Circular Economy solutions (delivering Clean Growth).

A key innovation challenge for Tees Valley is to ensure that local and national innovation strengths, for example Research and Technology Organisations, make a tangible difference to local companies. To support the achievement of this, it is proposed that a Memorandum of Understanding be agreed between the Combined Authority and UKRI to ensure that Tees Valley businesses benefit from the activity funded and undertaken by innovation bodies both locally and nationally. There will be a particular focus on activities that support the achievement of clean energy, low carbon and hydrogen ambitions. The MoU can align to Growth Hub activity in Tees Valley, and will facilitate ways of working that increase business access to available funding, as well as the development of a High Value Manufacturing Catapult 'hub and spoke' model, which can maximise the benefits of national High Value Manufacturing Catapult expertise for local business growth and sustainability, particularly in the manufacturing sector.

Alongside this, the Combined Authority will commission bespoke research to better understand the successes, barriers and opportunities for firms innovating in Tees Valley, and particularly experiences in accessing innovation funding. The Combined Authority intends to work with government to maximise the value of this research, connecting the region with lessons of good practice from elsewhere.

Activity will lead to increased economic output because of more Tees Valley firms engaging in innovation activity, recognising that highly productive economies are associated with efficient innovation systems.^{xxvii}

Tees Valley will pursue the ambition for Teesside University to be recognised as a University Enterprise Zone

A University Enterprise Zone can build upon, and further cement the University's role to promote and support sustainable business growth through innovation and scale-up activity. The University's role is instrumental in enabling the development of a vibrant tech sector, and in building the propensity of our SMEs to innovate and grow, particularly in target sectors.

DigitalCity sits at the cornerstone of our University Enterprise Zone proposal. This has and will continue to be critical in supporting industrial digitalisation by delivering an increased

pipeline of high-growth start-ups and providing direct access for business to facilities and expertise that can help them to innovate and commercialise.

Activity will deliver increased university start-ups and higher levels of business density.

Increasing post-study work visas for international students

Recognising the importance of enterprise and entrepreneurship in relation to innovation, R&D and business growth, Tees Valley Combined Authority, Durham University and Teesside University propose to work with the Department for Education to understand the demand for post-study Start-up Visas in the region, based upon anticipated economic benefits in key growth sectors, and with a view to increasing the quota of post study 'Start-up' Visas for International Students in Tees Valley. A collaborative approach will seek to ensure that an appropriate number of Visas are available via Durham and Teesside Universities going forward, aligned to the growth priorities for the Tees Valley economy.

This will support Tees Valley to address short-term skills shortage vacancies in key sectors including chemicals & process, advanced manufacturing, clean energy, low carbon and hydrogen, at the same time as encouraging companies to see Tees Valley as a place to find higher-level skills that meet their business needs.

A commitment to longer term support for the Growth Hub Programme

The Tees Valley Growth Hub plays a critical role to simplify the business support environment in Tees Valley and provide a targeted approach for businesses of different sizes, focused around: start up support; growth and innovation; skills support; and access to finance.

The Tees Valley Growth Hub, branded as "Business Compass" provides a single gateway for business to connect with support, finance and funding designed to assist local businesses with growth aspirations to scale-up and achieve their potential. The Growth Hub has demonstrated significant success in directly assisting over 1,400 businesses with a combination of information, diagnostics and brokerage alongside grant funding designed to encourage business growth, innovation through new product development, enhanced energy efficiency and access to improved digital connectivity.

We are committed to the Growth Hub model in Tees Valley and are continually developing the offer to align with the changing needs of Tees Valley businesses. Moving forward we intend to continue to focus upon themes of start up support, growth and innovation whilst widening the scope of Growth Hub activities to incorporate:

- Skills support – assisting businesses to identify and address skills gaps, building leadership, management and operational capacity to drive improved productivity and growth;
- Access to finance – supporting businesses to focus upon financial strategy and development of financial planning, systems and controls to ensure they are ready to take on investment when needed. Additional signposting and brokerage support will also be added to ensure businesses are positioned to take on the most appropriate type of

finance to support their growth plans and their chances of successfully securing funds are maximised; and

- Start-up/scale-up – providing support as a means of driving innovation, focussed on businesses in Tees Valley’s priority sectors. This will support business at different stages of development, working closely with Teesside University to build upon the strong number of graduate enterprises, and proactively working with eligible businesses to realise their scale up potential through programmes including Babson Fellowship and LEAP50.

Activity will increase business density and increase levels of economic output among Tees Valley businesses. Department for Business, Energy and Industrial Strategy figures indicate that Growth Hubs have created 29,020 private sector jobs nationwide, and safeguarded 17,540 more, while increasing GVA by £434m.

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Grow and widen the pipeline of talent to support our competitive advantages and help more local people into good jobs with long-term prospects

This theme is focussed on developing and delivering a skilled and available workforce to meet economic demand in Tees Valley, now and in the future. Working in partnership with key sectors and maximising existing devolved powers and funding, Tees Valley will develop an agile and responsive education and skills system that meets the needs of all local people and businesses, recognising that these are inextricably linked to the future economic success of Tees Valley.

Access to globally competitive skills and expertise is at the heart of Tees Valley's existing strengths in manufacturing and chemicals and process industries and is critical to maintaining competitive advantage moving forwards. The success of emerging, knowledge-intensive sectors such as digital and bioscience will also be shaped by the availability of a skilled, dynamic and flexible workforce. However, existing enabling sectors, which for many people, provide essential entry to employment and in-work development and progression opportunities, should not be overlooked and have an equally important role in this agenda.

Skills and workforce development have a vital role to play in moving businesses up the value chain but it is the people, our current and future workforce, who are at the heart of the significant opportunities that exist locally to increase economic output and reduce the productivity gap.

Ensuring that future economic growth is inclusive is key to the success of this theme and will only be achieved by recognising and enabling the economic contribution of every individual in Tees Valley, irrespective of their level of educational achievement.

To strengthen the 'People' foundation of productivity within Tees Valley we will prioritise connecting local people with economic opportunities, increasing access to and engagement in the labour market through robust sector skills pathways and raise expectations of gaining and sustaining good quality work in Tees Valley.

Develop a skills system for business growth

We want to create a high quality, demand-led, responsive education and skills system that takes a sector skills routeway approach. It will be a system where employers, individuals and providers inform and shape the policy, design the skills programmes and, as a result, is more responsive and flexible to meet needs, thereby ensuring more prosperous careers for Tees Valley residents.

The Tees Valley Education, Employment & Skills Partnership Board will take on the role and functions of the Tees Valley Skills Advisory Panel. The Tees Valley Skills Advisory Panel will work jointly with government, in particular Department for Education, Department for Work and Pensions and the Institute for Apprenticeships and Technical Education. It is proposed to develop an enhanced relationship that formally recognises the Tees Valley Skills Advisory Panel as a 'statutory consultee body' contributing towards the shaping and co-production of future education, employment and skills policy, including the UK Shared Prosperity Fund.

The Combined Authority proposes to work with the Department for Education and the Department for Work and Pensions to support cross-departmental Data Sharing that will provide access to data which is not readily available e.g. Apprenticeship Levy/employer data and characteristics of the unemployed (including skills levels). This enhanced relationship will enable us to better understand the current and future skills needs and labour market challenges in Tees Valley.

Tees Valley will develop sector skills routeways that will align both academic and technical qualifications, including the new T Levels. These will enable the unemployed, economically inactive and economically active Tees Valley residents to develop, and/or further develop the work-based skills and competencies required by the local economy. The skills routeways will be directly linked to growing and high demand sectors and through collaborative working will address the current and future skills required. Activity, funding and information across providers and stakeholders, will be aligned to increase the coherence of skills provision to deliver the skills routeways. This approach will support the provision of skills for both inward investment and business growth, alongside supporting Tees Valley residents to identify, access and achieve industry standard skills routeways to access the jobs of the future.

For those in employment, but in low skilled, low paid jobs, it is important to ensure they are given opportunity and support to progress into higher skilled, better paid jobs, thus creating vacancies in entry-level jobs for new recruits. It is essential that the education and skills system includes re-training opportunities that support local people to navigate and access the changing labour market and optimise their career paths.

For those people who are unemployed and economically inactive the education and skills system must provide them with appropriate up-skilling or re-skilling. This cohort of people are a potential pool of labour from which our businesses can find much needed future recruits.

Despite Tees Valley enjoying above average primary education attainment, the comparative secondary education attainment is poor. Raising attainment and outcomes in secondary education is acknowledged as critical to local inclusive growth and economic development. Tees Valley Combined Authority proposes to work jointly with government, the Department for Education and the Institute for Apprenticeships and Technical Education, to co-design and pilot technical education routeways from age 14, and an appropriate 'Transition Offer' for young people in Tees Valley not immediately able to progress to a T Level at age 16. We also propose to work with the Education and Skills Funding Agency to develop and implement a Tees Valley apprenticeship model that will maximise the use of the Apprenticeship Levy in Tees Valley and will look at the support needed for employers who do not pay the Levy.

Overcome business workforce planning challenges in relation to current and future skills gaps and skills needs

Productivity and competitiveness of businesses in Tees Valley are dependent upon the skills of the workforce and the challenges facing many of our sectors should not be underestimated. Up-to-date skills, at all levels, are essential if employers are to maximise their productivity and growth potential. It is becoming increasingly important that education and

skills provision must focus even more closely on those skills that underpin economic growth and support high value-added employment, including progression to it.

Many employers want to influence and shape the education and skills landscape, welcoming the opportunity to work closely with the Combined Authority and key partners to provide an invaluable industry perspective. However, too often the biggest barrier is time – employers need to keep tight control on time spent out of the workplace that does not directly contribute to their business. Getting genuine input from employers is a challenge, but one that we have to overcome if we are to effectively address current and future workforce planning challenges and be able to effectively articulate skills needs.

To support this ambition, Tees Valley Skills Advisory Panel proposes to work jointly with government to develop an enhanced relationship that formally recognises the Tees Valley Skills Advisory Panel as a ‘statutory consultee body’, contributing towards the shaping and co-production of future education, employment and skills policy. We will produce Tees Valley Sector Skills Action Plans to include detailed analysis of the current and future skills needs for identified sectors to inform the development of appropriate routeways, at all levels.

We will build on the success of the devolved Adult Education Budget and the Department for Work and Pensions Innovation Pilot - Tees Valley Routes to Work, with the priority being to continue to increase the number of skilled Tees Valley residents and improve literacy and numeracy to support even more unemployed people to progress into and remain in employment.

To maximise the impact of devolved Adult Education Budget (AEB), it is proposed that Tees Valley AEB allocation is not adversely affected by the overall size of the national AEB, should this be reduced by HMT in the future. The Tees Valley devolved value as a minimum should be ring-fenced at that of the 2019/20 Academic Year budget.

In addition, for those currently outside of the labour market, we will explore transitional employment opportunities by maximising the Innovation Pilot flexibilities to utilise existing funding to support the development and implementation of transitional employment programme.

For those in employment, we will develop and pilot tailored Tees Valley retraining programmes which draw on the analysis undertaken by the Tees Valley Skills Advisory Panel and Sector Skills Action Plans and align that retraining to Local Industrial Strategy key sectors, particularly to support our ambitions for clean energy, low carbon and hydrogen. This will include: developing and delivering comprehensive packages of personalised ‘in-work’ support that is relevant to the Tees Valley economy, in order to promote and support in-work progression, particularly for those in low-paid/low skilled employment, for those in priority sectors where there are significant skills gaps and skills shortages; increasing the skills levels of employed people from the existing level to at least the next level, to encourage progression in employment; and supporting the alignment of existing and new funding streams to support the sector skills action plans. As part of this work, we will make the fullest and best use of existing and new Technical Education opportunities, Apprenticeships and T Levels and maximise the opportunity to support growth via public procurement and local supply chain development.

Work will be undertaken to explore additional appropriate solutions to create Apprenticeships at all levels, including Degree Apprenticeships, and sector-based approaches, alongside the opportunity for Levy-paying employers to transfer a proportion of their Apprenticeship Levy. As part of this work, we will review performance of the devolved Apprenticeship Grant for Employers and subsequent Apprenticeship Support for Employers programmes in Tees Valley.

We propose to work with the Department for Education Skills Advisory Panel (SAP) Programme Team to utilise and further develop the SAP Toolkit to access/receive information/data relating to Tees Valley Levy-paying employers. We propose that government identifies businesses in Tees Valley with 'unutilised' Apprenticeship Levy, this should include national Levy-paying businesses with satellite bases in Tees Valley. It is proposed that unutilised resource is then devolved to the Combined Authority for redistribution to non-Levy paying businesses in priority sectors. This work will also enhance the work with Tees Valley employers and providers to develop the approach to the Industrial Placement requirements of T-Levels, creating practical and meaningful experiences in key sectors and providing opportunities that would not be available otherwise.

Careers education

Notwithstanding the above, our future economic success most importantly requires everyone to understand the new jobs and opportunities that will be created so that our local workforce has the skills that employers require. Industrial digitalisation across all sectors will require Tees Valley to develop a digital talent pipeline and workforce that is suitably skilled for a fully digital economy.

It is vitally important that people in Tees Valley are fully aware of all the opportunities available to them and to make sure they have access to and are given appropriate and relevant information, advice and guidance to make well-informed decisions about education, employment and training choices.

To achieve this, it is proposed that government devolve the Tees Valley element of both the National Careers Service and Careers and Enterprise Company budgets to Tees Valley in order that we can develop an all-age place-based programme, locally directing the use of the funds and in doing so, build on the success of the TeesValleyCareers.com programme and Careers Hub to support more employers to engage with schools and providers to better prepare young people and adults to achieve better long term outcomes, improve destinations and progression.

Ensure access to learning and work through an effective and affordable transport system

Alongside the measures outlined above, there is also a more basic need to ensure that our residents can readily access the learning and employment opportunities that are available. This requires the provision of a fit for purpose transport infrastructure, whilst the importance of digital connectivity will continue to increase over time.

Access to opportunities is important for all, but particularly for those that are furthest from the labour market, where barriers regarding the cost or ease of travel will be felt

disproportionately. In recognition of this, we will also work to ensure the provision of effective and affordable public transport – as well as walking and cycling routes – which connect residents with key employment locations, as well as learning and training providers.

Our priorities in relation to transport provision, which will act in support of the above, are set out elsewhere in this document.

Draft

Attract investment and establish a global reputation for Tees Valley as a vibrant and thriving place to be, with world leading opportunities in clean energy, low carbon and hydrogen

Tees Valley has extensive development sites, opportunities and financial incentives including the UK's first Special Economic Area at the South Tees Development Corporation, together with seven Enterprise Zones. Recent and planned investment in key rail and road infrastructure and the airport will enhance Tees Valley's national and international connectivity moving forwards. The quality of life, business and employer offer in many parts of Tees Valley is also excellent, with the area benefiting from low business costs, alongside low costs of living, short commuter journey times, excellent employers and access to a diverse range of high quality rural, coastal and urban environments. These qualities can help attract investment and create opportunities for the talented workers needed to drive future productivity growth.

Tees Valley has a strong offer as a premier location for inward investment and international trade. However, greater external recognition of the area's strengths is required – alongside continued investment – to promote Tees Valley and position it as a leading destination for investment across a wider range of sectors.

Alongside this, Tees Valley has an on-going commitment to be an inclusive economy. An economy that provides a supportive business environment, with good jobs that have long-term prospects, and where the opportunities and benefits of growth are shared by all.

This theme is fundamental to achieving our overall priorities set out in the Local Industrial Strategy. It is focused on a set of interlinked priorities, based around enhancing the infrastructure, perceptions and working environment of Tees Valley as a place to locate, invest and grow. Achievement will be pursued through investment in the area's economic and transport infrastructure – to ensure that key sites are developable, protected and well connected internally and externally – and in delivering a thriving cultural offer. These interventions will be supported by pro-active marketing of the local area, along with a supportive business and employment offer.

This theme offers an opportunity to strengthen the 'Place' and 'Infrastructure' foundations of productivity within Tees Valley. It also forms a critical element of delivering our cross-cutting theme of inclusive growth.

South Tees Development Corporation

The South Tees Development Corporation is the UK's single biggest development opportunity and the country's first ever Special Economic Area. The site which covers 4,500 acres of the former SSI Steelworks is of significant national importance, closely aligned with government's Industrial Strategy.

Following £137m of government funding, land remediation, decontamination and keep safe works are well under way. 1,420 acres of land was acquired in early 2019 which included 1.3km of prime river frontage, adjacent to Teesport and Redcar Bulk Terminal – the northern gateway for global shippers and the deepest quay on the east coast of England respectively.

A further 870 acres is under negotiation through compulsory purchase proceedings which will bring together a developable land mass of almost 2,300 acres.

Phase one is actively being marketed, highlighting its key benefits including prime transport infrastructure, developer-ready land and a £14m government fund to support further infrastructure improvements. From summer 2019, a strategic private sector land, property and investment partner will proactively promote the whole site to global investors.

The Development Corporation Masterplan will create a world leading industrial heart focused on advanced manufacturing, clean energy and a circular economy through industrial symbiosis.

The focus on environmentally sustainable industrialisation requires close collaboration on ensuring maximum supply chain value retention from Offshore Wind Supply Agreements; a strong commitment to Carbon Capture, Utilisation and Storage; gaining maximum leverage from our expertise and experience in the hydrogen driven economy and ensuring that the benefits of the micro power grid, a key part of our energy intensive business proposition, are fully supported moving forward.

To maximise the economic potential of the site, direct discussions continue to take place with a range of potential occupants/investors; an investable information memorandum is in place that can secure substantial private sector investment based on the market opportunity that exists; and a shared marketing approach is proposed with the Department for International Trade. This can ensure a co-ordinated approach to promote the Tees Valley as a leading location to invest for clean energy, low carbon, hydrogen and environmentally sustainable industrial growth.

Developing a test-bed for Free Trade Zone status

To further enhance and accelerate growth potential of the South Tees Development Corporation, Tees Valley Combined Authority will explore options to establish the UK's first test-bed for a Free Trade Zone (FTZ) across the site. FTZ options were presented to Government in April 2019, setting out proposals that provide a compelling case to attract inward investment.

An FTZ policy for the UK would not just be a signal to the world that we are open for business, it would herald a new age for regional development, building on devolution to put some of the country's most in-need communities at the forefront of rebalancing our economy.

The policy would involve benefits targeted specifically to businesses which may otherwise choose not to invest at all, or to invest outside of the UK, and builds on the strength of the opportunities across the Development Corporation site.

With strong links to the priority for pioneering capabilities in industrial digitalisation, a Free Zone test-bed would enable the Combined Authority to work with industry and government to explore the emergence of newer technologies such as blockchain and distributed ledgers, augmented with 'smart' or 'data driven' contracts for commercial purposes and to facilitate

supply chain management. It will also support moves to create a 'smart port', the foundations for which Tees Valley is already exploring through the development of our Future Mobility Zone proposals.

Analysis commissioned by the Combined Authority suggests a successful FTZ could create £2bn of additional annual GVA, along with 32,000 jobs at Teesport and in local supply chains after 25 years. This includes and builds on the expected results of the South Tees Development Corporation Master Plan. If other sites can be as successful as the Tees Valley, a wider roll out of free zones to five other sites chosen for their port and existing comparative advantage could mean 70,500 jobs, and a £4.2bn contribution to GDP after 25 years.

Implement plans to increase the role and impact of Durham Tees Valley Airport

In 2018, Tees Valley Combined Authority agreed terms to bring Durham Tees Valley Airport back into public ownership, and to secure a long-term, sustainable future for this vital asset in the region.

Tees Valley will now implement plans to maximise the impact of the Airport and will work with government as we realise this ambition, including through the Department for International Trade's inward investment propositions and positioning of the region as a place to invest and grow a business in the region's priority sectors.

The Airport acts as the international gateway for the region to global markets. With multiple daily connections to Amsterdam Schiphol, people of Tees Valley, North Yorkshire and wider North East can access over 200 worldwide destinations. This crucial connectivity is of paramount importance to the region's prosperity, encourages inward investment, tourism and attracts foreign direct investment – safe in the knowledge that you can conduct global business from Tees Valley. Connectivity to emerging markets within the Middle East, Far East, Africa and South America are crucial to key sectors of Tees Valley such as advanced manufacturing and chemical processing.

Our region plays a critical role in the North Sea oil, gas, offshore and renewables sector and as such is well served by daily connections to Scotland, its Highlands and Islands as well as onward connectivity to Scandinavia. As Tees Valley increasingly plays a pivotal role within this sector, this connectivity enhances the region's super-cluster status.

In addition, there is the consideration of regional pride and identity, which many residents of the Tees Valley associate with the Airport. Having a thriving international asset in the region affects the reputation and image of the Tees Valley, beyond the immediately identifiable impact on GVA.

A number of key objectives to achieve critical success include:

- The attraction of 10 additional routes by 2022
- The attraction of a low-cost carrier by 2022
- An Increase in passenger volume to 1.4 million by 2023

- The increase of freight tonnage to 500 tonnes per annum by 2023
- Develop the land and property opportunities to create a logistics, aeronautical and business park.

Pursue a Future Mobility Zone, with a data driven approach

Tees Valley Combined Authority will improve the live data collected from the existing road network and the logistics sector to develop new system approaches to manage traffic flows, particularly freight consignments, enhancing regional connectivity and the role of the logistics sector in Tees Valley.

The approach to traffic management will be expanded beyond the current role of Urban Management Transport and Control (UTMC) by using advanced Intelligent Transport Systems to create a live environment in which to capture data and foster collaboration between producers and users of freight data across different modes with a particular focus on:

- Using real time data for users to improve the flow of traffic, particularly freight movements serving key trade and employment assets at the ports of Tees and Hartlepool; and
- Providing better intelligence to transport planners.

Freight Data produced by the public sector is currently fragmented and not always sufficiently timely or comprehensive enough to inform transport planning or the development of local investment priorities. The integration of traditional data from freight movements (sea, rail, road, air, etc.) and new modes of freight movement (connected vehicles) will provide improved historical information for planning purposes and real time data for dynamic routing decisions.

Activity has the potential to promote optimisation of the movement of freight within the supply chain and to create a new freight brokering marketplace – increasing productivity through enhanced ways of working in the logistics sector. Increases in productivity will also be seen as a result of less congestion and delays overall on the road network.

Deliver the transport infrastructure to support the efficient functioning of the local economy

Efficient transport infrastructure is critical to support productivity gains, by increasing the potential for trade and also supporting access to labour. Transport priorities for Tees Valley are particularly relevant to meet the needs of businesses in priority sectors, many of which are clustered at key industrial sites. In addition, as a polycentric region, covering five distinct areas, supporting the movement of people across the region to access work, learning and leisure opportunities is essential for future economic success.

Tees Valley has identified priority transport schemes, which have all been included in Transport for the North's Investment Programme as specific interventions that are required before 2027, highlighting not only their local importance, but also their pan-northern and

national significance. The Combined Authority will work with government to secure the successful completion of the following schemes:

- Improvements at Darlington Station
- Improvements at Middlesbrough Station
- New Tees crossing
- Darlington Northern Link Road
- Northallerton to Teesport Rail Gauge Enhancement.

Delivery of these schemes will ensure provision of reliable and resilient transport network across all modes, which is vital to support future growth aspirations and improve productivity. They will play a central role to deliver a diversified, high value, low carbon economy, providing the links for people and goods to connect to the wider economy.

Ensuring natural infrastructure defences are in place to protect key sites and economic assets that are critical for a thriving and productive Tees Valley economy

Tees Valley Combined Authority will ensure that local businesses in flood risk areas are protected, and that natural infrastructure defences are in place to maximise productivity potential, working with partners to enable a fully integrated approach to flood risk management.

The Tees Tidal Flood Risk Management Strategy identified priority schemes to mitigate tidal risk within the Tees Estuary up to the Tees Barrage. These schemes are needed to ensure defences are in place to protect key sites and economic assets that are critical for a thriving and productive Tees Valley economy, both in terms of the risks of annual flood events and for longer-term climate change resilience.

The Strategy identified the economic damage of not progressing the priority schemes to be in excess of £1bn. In addition, consultation with major businesses in the estuary has identified that significant tidal flooding could result in a loss to the national economy of over £2.5bn annually.

Tees Valley Combined Authority will work with Environment Agency, Northumbrian Water and Local Authorities in the North East to support a fully integrated approach to flood risk management. There will be an initial focus on priority schemes, based upon flood risk models completed in 2019. These cells pose a significant risk to the economy and company productivity in Tees Valley, if interventions are not put in place in the next 10 years:

- Portrack – covering the A1046 (Portrack Lane) / A19 junction, North Tees Industrial Estate, the Portrack Interchange Business Park and the Portrack Industrial Estate;
- Teesside Park / A66 – Teesside Park is currently protected to a high standard by existing defences, which are thought to be sufficient to deal with sea level rise. However low points have been identified where the A66 crosses the Old River Tees. This major trunk road is therefore likely to become increasingly at risk with sea level rise. Teesside

Park is also very low and there is a danger that flow routes from the A66 into this retail area could result in significant, very hazardous flooding;

- Greatham North East (Venator Plant and A174) – this flood cell is protected by old flood defences, which require replacement to ensure continued protection of this flood cell now and into the future; and
- Transporter (Middlehaven) and Riverside Park – both these cells become increasingly at risk as sea levels rise.

Failure to invest and deliver the priority schemes identified will have a negative impact on the economy in the event of flooding. Wages and productivity levels will decline as businesses will not be able to trade normally, supply chains will be disrupted and there will be disruption and delay to road transport.

Build capacity, ambition and creative talent to develop a thriving Tees Valley cultural scene and raise the level of investment in Tees Valley culture

The Combined Authority will build capacity, ambition and creative talent through investment to promote a thriving cultural offer within Tees Valley that supports a highly productive economy and increases attractiveness for business.

Alongside locally-led activity to develop a UK City of Culture 2025 bid and further develop the 'Enjoy Tees Valley' brand, we propose to work with the Arts Council to co-invest, and maximise the potential of cultural development and cultural opportunity for all people in the Tees Valley. National Funding can be aligned with local priorities for investment, through a shared approach to developing the Arts Council new 10 Year Strategy. This will seek to ensure the levels of Arts investment in Tees Valley have parity with other parts of the country that have a recognised and thriving cultural offer.

In promoting the region's offer, Tees Valley will work with Visit England to explore national and international markets and ensure that relevant aspects of the Tees Valley offer are included in Visit England's promotional work.

The tourism sector in Tees Valley continues to grow, and building on priorities in the Tourism Sector Deal, we will pursue ambitions to establish Tees Valley as a Tourism Zone. This will focus on the integral role of tourism in delivering increased productivity, by growing skills, improving accessibility, improving job quality and developing our overall tourism offer.

Activity will seek to increase SME growth in the cultural, creative and tourism sectors, at the same time as changing perceptions and increasing visitor spend.

Evidence from the Arts Council suggests that a vibrant arts and cultural scene helps to improve the attractiveness of areas to skilled workers, with NESTA also finding evidence that skilled workers are often prepared to sacrifice higher wages to locate in areas with strong cultural clustering as these contribute to the local quality of life.

Delivering Inclusive Growth through Social Value in procurement

In 2018, the Tees Valley Combined Authority agreed a commitment to increase local impact by delivering responsibilities, using investment and influencing power to maximise economic, social and environmental benefits for all residents and businesses in Tees Valley.

Delivering Social Value in public procurement is critical to this. Social Value is already a core principle of procurement among public sector bodies in Tees Valley. However, we want to ensure that Social Value in procurement increases in emphasis, to ensure that it consistently:

- Provides procurement opportunities accessible to local employers, while ensuring good value for money in public funding;
- Harnesses the local economic impact of new investment, supporting local businesses to secure supply chain opportunities; and
- Supports local people to access good quality jobs.

The Combined Authority, together with partners from the public, private and voluntary sectors in Tees Valley will enhance, promote, implement and monitor a more dynamic approach to Social Value in procurement. This will include:

- Generating momentum to build a Tees Valley commitment to increase Social Value through procurement and support local companies to benefit from public procurement opportunities. We will use our leadership role and take a proactive approach to communications, including: showcases and seminars to promote best practice and encourage employer engagement; and support training and capacity building for local SMEs to access contracts;
- Raising awareness of local supply chains and procurement opportunities. Utilising established mechanisms and providing a streamlined offer of information and support;
- Working with large scale businesses and anchor institutions to understand their procurement approaches – including best practice and issues affecting their ability to buy locally. We will seek to identify gaps in the local supply chain and support business opportunities to address these; and
- Monitoring Impact – developing a baseline of public sector spend and identifying Social Value Champions to manage progress and ensure demonstrable impact.

The Industrial Strategy Green Paper described how public procurement can be used strategically to support key sectors, technology and innovation, noting that the public sector spends around £268bn per year, equivalent to 14% of GDP. Used strategically, this can encourage innovation, increase investment in skills and strengthen the overall business environment.

5. The productivity impact

Our strategy will enhance the productivity performance of Tees Valley and accelerate local economic growth, support the Northern Powerhouse and the national Industrial Strategy. The growth of our economy will be inclusive. We will focus on improving productivity, by creating more good jobs, but also on supporting more local people to access these jobs. Through this approach we will create the conditions to allow all Tees Valley residents and businesses to benefit from our future prosperity.

For Local People

Inclusive growth is a cross-cutting theme of the Local Industrial Strategy. Our aim is to ensure that all our residents and communities share the benefits of Tees Valley's improved economic performance, through improved living standards and enhanced quality of life.

- **As an exemplar region for clean energy, low carbon and hydrogen**, we will materially improve the quality of Tees Valley as a place to live, including through better air quality and enhanced environment.
- **A balanced approach to priority sectors will be adopted in support of inclusive growth.** Our strategy aims to strike the optimal balance between productivity growth – targeting support towards our most productive sectors – and inclusive growth – providing access to employment opportunities across all occupation levels and industries.
- **Productivity improvements will create good jobs for our residents, driving up wages and delivering increased prosperity.** Wages will rise as workers become more productive, helping to enhance living standards.
- **Targeted education, employment and skills interventions will position Tees Valley as a place of opportunity for all residents.** We will raise aspirations and create more pathways to provide those seeking routes to work with the skills they need. We will improve access to training for those in work – allowing them to upskill as our economy evolves and creating opportunities for progression.
- **Improved infrastructure and enhanced connectivity will make it easier for residents to access opportunities to work, learn and play.** Improved physical and digital connectivity will make it easier for residents to access employment and training opportunities, as well as our natural and cultural assets. Addressing congestion on key routes and delivering a more effective local rail network will reduce commuting times, lead to better air quality and improve people's quality of life.
- **A more developed cultural offer will make Tees Valley a better, more attractive place to live.** We will raise levels of cultural investment and build our cultural capacity. We recognise the important role that culture plays in creating employment opportunities – at all skills levels – as well as its contribution to enriching people's lives and enhancing civic pride.

For Tees Valley Businesses

The success of our business base is critical to our future economic performance. Through the Local Industrial Strategy, we aim to increase levels of business density and scale-up, whilst also moving businesses up the value chain by providing the necessary infrastructure, skills and innovation support.

- **Businesses will be supported to embrace innovation (and industrial digitalisation) to increase productivity and profitability.** We will maximise the opportunities for our businesses to collaborate on innovation and engage with our existing innovation assets. This will help them to increase their profitability and productivity. All types of innovation are recognised as boosting productivity at the firm level, even where they do not advance the technological frontier, whilst industrial digitalisation has the potential to increase labour productivity growth from 0.2% to 2.0% per annum.^{xxviii}
- **We will help our businesses to start-up and grow through targeted support.** We will increase business start-ups by leveraging our innovation assets, establishing a University Enterprise Zone and providing tailored business support. This will help to increase our business density and generate additional economic output.
- **Enhancing our cultural offer and improving perceptions of Tees Valley will help our businesses to attract and retain talent.** Increased investment in, and the promotion of our cultural offer will help to build capacity and shift perceptions of Tees Valley. A vibrant arts and culture scene can play a key role in improving a location's attractiveness to skilled workers and will help our businesses to access the talent they need to thrive.
- **A high quality, demand-led, responsive education and skills system will ensure that business recruitment needs can be met at all levels.** We will engage closely with our businesses to develop Sector Skills Action Plans to identify and deliver the specific skills our key sectors need. By effectively matching skills to business needs, we will enhance labour and firm productivity.
- **Improved infrastructure will enhance business efficiency.** Improved physical and digital connectivity will help businesses to operate more smoothly, reducing congestion and delays on the transport network. In addition, the growth of Durham Tees Valley Airport will provide important international connections for existing and prospective businesses. Returning the airport to its pre-2006 peak would generate an additional £210m per annum for the Tees Valley economy.
- **Establishing Tees Valley as an exemplar region for clean growth will safeguard existing businesses and create new market opportunities.** Embracing clean growth will address several strategic challenges that are critical to safeguarding the future of our chemicals and process industries and retaining the economic value that they create. Our chemicals and process sector support £802m of GVA per annum (with a further £727m supported by energy and the circular economy). It will also generate new business opportunities in Tees Valley, positioning us to compete for investment from global businesses looking to reduce their exposure to CO₂ emissions costs and acting as the catalyst for the development of new product bases.

For the Northern Powerhouse

In delivering the Local Industrial Strategy, we will increase our contribution to the productivity of the Northern Powerhouse. This will be achieved by working collaboratively to promote synergies in our priority sectors and enhancing our physical connectivity to other regions.

- **Improving road and rail transport links will help to support the effective movement of goods and people.** The expansion of supply chains and markets is reliant upon effective transport connections, and faster journey times can help to increase productivity. Enhanced connectivity, particularly to adjacent LEP areas, can also help to extend labour markets – driving up productivity by better matching job opportunities with appropriately skilled workers.
- **Supporting the growth of our international gateways will improve access to global trade routes.** The growth of Port of Tees and Hartlepool (and improved east-west connectivity) will complement Liverpool SuperPort, enabling the Northern Powerhouse to offer truly global trade routes. This will benefit existing businesses (providing access to markets and supply chains) and help the Northern Powerhouse to compete for future inward investment opportunities.
- **In establishing Tees Valley as the UK's Hydrogen Capital, we will support the prosperity and competitive advantages of the Northern Powerhouse.** Whilst the benefits to the Northern Powerhouse have not been quantified, it is estimated that the hydrogen sector could add £7 billion to the Tees Valley economy between 2018 and 2050.
- **We will promote synergies with complementary clusters across the Northern Powerhouse in our efforts to position Tees Valley as a leading location for clean growth.** Working with the Department for International Trade, we will market the process, chemicals and energy offer of the Northern Powerhouse, recognising the synergies that exist between the clusters in Humberside, Liverpool and Cheshire. In doing so, we will help to increase demand and strengthen the overall proposition of the north, delivering increased investment, increased business density and higher levels of economic output.

For national Industrial Strategy

The successful implementation of our Local Industrial Strategy will increase Tees Valley's contribution to national economic growth and enable the area to play a leading role in addressing two of the Grand Challenges (Clean Growth and AI and Data) identified by government.

- **Investing in clean energy, low carbon and hydrogen in Tees Valley will enable us to take the lead on addressing government's Clean Growth Grand Challenge.** Tees Valley is uniquely placed to pilot and demonstrate the benefits of clean growth sectors. The potential exists to reduce emissions by 80MtCO₂ to 2050, generating £40 billion in GVA at the national level, with further benefits linked to the opportunity to export the solutions implemented at the local level.
- **Driving productivity growth and raising participation rates will help to reduce the output gap to the UK economy.** Our strategy aims to increase levels of productivity and support more of our residents into work. In doing so, we will look to close the gap to UK performance in relation to GVA per capita, which could create up to £5.2 billion of additional economic output.
- **Attracting greater levels of inward investment will create additional jobs and economic output in the UK economy.** We will strengthen our inward investment proposition by: establishing 'early mover' advantage in clean growth technologies; working with the Department for International Trade to target opportunities in key sectors; and adopting a more agile approach to landing innovation-led commercialisation opportunities. This will help the UK to compete more effectively for international opportunities in high value sectors such as clean growth, energy and bioscience. Our inward investment offer could be strengthened further by establishing a Free Trade Zone test-bed at the South Tees Development Corporation site.
- **Leveraging our innovation assets will move Tees Valley closer to government's R&D spending target and increase productivity.** Government is aiming to increase expenditure on R&D to 2.4% economic output by 2027. Our strategy looks to increase investment in R&D and innovation locally, which will in turn improve the productivity of the local economy, by helping to move businesses up the value chain.
- **Establishing a Centre of Excellence for decommissioning will strengthen the UK proposition in a growing market.** Our aim is to develop an integrated supply chain, enabling the UK to compete more effectively with Dutch and Norwegian facilities for future decommissioning contracts. This could position Tees Valley to land contracts with a value of £500m per annum.
- **Supporting the future success of our chemicals and process industries will protect vital downstream supply chain relationships.** Creating the conditions to enable the chemicals and process industries to prosper in Tees Valley over the long-term will safeguard the direct economic contribution of the sector and create new opportunities for re-shoring. The chemicals and process industries also have supply chain impacts for 90% of UK manufacturing; supporting their continued success can help to enhance the productivity of UK manufacturing.

Notes and references

- ⁱ Background documents include: The Tees Valley Economic Assessment; The Tees Valley Business Survey; Tees Valley Higher Education Report; Productivity Papers and Sector Action Plans; Durham University analysis of the drivers of productivity by sector; and deep dive of the digital and bioscience sectors
- ⁱⁱ Based upon manufacturing capacity
- ⁱⁱⁱ Tees Valley Economic Assessment (2018)
- ^{iv} £1,020 awarded for every job in Tees Valley. Based upon Innovate UK data (2007-2019) and ONS Job Density data
- ^v Based upon an analysis of data from the Centre for Process Innovation and the Materials Processing Institute (2017/18)
- ^{vi} Tees Valley Economic Assessment (2018)
- ^{vii} L&W Institute (2019)
- ^{viii} Tees Valley Economic Assessment (2018)
- ^{ix} L&W Institute (2019)
- ^x Rae, A. Hamilton, R. Crisp, R. and Powell, R. (2016) Overcoming deprivation and disconnection in UK cities. York: JRF
- ^{xi} JRF Inspiring Social Change (2017)
- ^{xii} Vince Cable, MP
- ^{xiii} Northern Powerhouse Chemical & Process Sector Science and Innovation Audit (2018)
- ^{xiv} Annual ScaleUp Review, ScaleUp Institute (2017)
- ^{xv} Annual ScaleUp Review, ScaleUp Institute (2018)
- ^{xvi} Higher Education Business and Community Interaction Survey (HEBCIS) (2018)
- ^{xvii} Culture and Visitor Sector Analysis and Baseline Insights, Amion (May 2019)
- ^{xviii} Culture and Visitor Sector Analysis and Baseline Insights, Amion (May 2019)
- ^{xix} www.enjoyteesvalley.com
- ^{xx} Culture and Visitor Sector Analysis and Baseline Insights, Amion (May 2019)
- ^{xxi} Culture and Visitor Sector Analysis and Baseline Insights, Amion (May 2019)
- ^{xxii} Opportunities for the Tees Valley Bioscience Sector, Teesside University (2019)
- ^{xxiii} Opportunities for the Tees Valley Bioscience Sector, Teesside University (2019). Some data/national comparators unavailable due to the bespoke sector definition applied
- ^{xxiv} E4Tech study sponsored by the Advanced Propulsion Centre (APC) and the UK KTN
- ^{xxv} Vivid Economics, 2019
- ^{xxvi} McKinsey & Company, "Digital in Chemicals: From Technology to Impact," July 2017
- ^{xxvii} Huggins et al., 2014
- ^{xxviii} McKinsey & Company, "Digital in Chemicals: From Technology to Impact," July 2017
McKinsey & Company, "Digital in Chemicals: From Technology to Impact," July 2017.

**NOT FOR PUBLICATION BY VIRTUE OF
PARAGRAPHS 1 AND 2 OF SCHEDULE 12A
LOCAL GOVERNMENT ACT 1972**

AGENDA ITEM 13

**REPORT TO THE TEES VALLEY
COMBINED AUTHORITY CABINET**

26 JULY 2019

REPORT OF THE CHIEF EXECUTIVE

APPOINTMENT OF DIRECTORS

SUMMARY

This report seeks formal approval for the appointment of the Director of Finance and Resources and the Director of Business and Skills in accordance with the Combined Authority Constitution.

This report sets out a summary of the recruitment and selection process which has been undertaken and makes a recommendation for appointment.

RECOMMENDATION

It is recommended that the Combined Authority Cabinet approves the appointment of:

- i. Gary MacDonald as Director of Finance and Resources; and
- ii. Chris Beck as Director of Business and Skills.

DETAIL

1. A recruitment process to identify a Director of Finance and Resources and a Director of Business and Skills for the Combined Authority commenced in May 2019.
2. The selection process for both has involved:
 - A search process using local advertising.
 - A selection process led by formal appointment panels as follows:
 - Panel for Director of Finance and Resources: Ben Houchen (Tees Valley Mayor), Julie Gilhespie, (Chief Executive, TVCA) and Paul Wildsmith (Managing Director, Darlington Borough Council);

- Panel for Director of Business and Skills: Ben Houchen (Tees Valley Mayor), Julie Gilhespie (Chief Executive, TVCA) and Paul Booth (LEP Chair).
 - Interviews for the Director of Finance and Resources took place on 27th June. Interviews for the Director of Business and Skills took place on 2nd July.
3. The final stage in the process is to seek formal approval of the appointments from the TVCA Cabinet in line with the requirements as set out in the Combined Authority Constitution.

FINANCIAL IMPLICATIONS

4. All costs associated with the appointment process and with the ongoing employment are covered in the TVCA Medium Term Financial Plan.

LEGAL IMPLICATIONS

5. The appointment process has been approved by the TVCA Monitoring Officer.

RISK ASSESSMENT

6. This matter is categorised as low to medium risk. Existing management systems and daily routine activities are sufficient to control and reduce risk.

CONSULTATION

7. As described above, appropriate appointment panels were involved in the recruitment and selection process for the Director posts.

EQUALITY AND DIVERSITY

8. Recruitment and selection processes were in line with equality and diversity requirements.

Name of Contact Officer: Sarah Brackenborough

Post Title: Governance Manager, Tees Valley Combined Authority

Telephone: 01642 524423

Email Address: sarah.brackenborough@teesvalley-ca.gov.uk