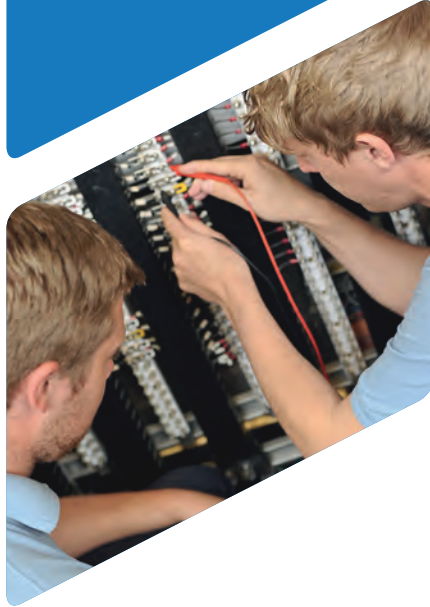


Transport and the Further Education Reforms

Is the Further Education sector ready to deliver the future skills the transport industry needs?
July 2017





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Contents

Foreword	4
Executive summary	6
Discussion	10
1 Introduction	11
2 Context	16
3 Implications for the transport industry	21
4 Opportunities for employer engagement	23
5 Funding changes	27
6 Quality of teaching	29
7 Supply and demand: Upskilling and reskilling	31
8 Diversity and equality	35
9 Developing career pathways	38
Conclusion	42
Recommendations	44
Frequently used abbreviations	46
Acknowledgements	47

Foreword



Foreword



The prosperity of the UK is enabled by safe, reliable, world class transport systems. At its heart is a skilled workforce suitably equipped to undertake the jobs the transport industry needs today and tomorrow.

The Strategic Transport Apprenticeship Taskforce (STAT) was established by the Department of Transport (DfT) to implement its progressive strategy – The Transport Infrastructure Skills Strategy (TISS) for addressing the skills shortages in the industry, primarily through the achievement of 30,000 apprenticeships.

One of STAT's key tasks is to assess and report to the DfT on progress towards that goal. However, in 2016 the Sainsbury Review into Technical Education Reforms made a series of recommendations to government on the reforms of technical education which impacts on the remit of STAT. This report is STAT's assessment of how those proposed reforms, and the government's subsequent response to implementing these recommendations, as set out in the Post-16 Skills Plan, enables or challenges STAT's ability to achieve its skills and apprenticeship ambition.

One year on since the publication of the Post-16 Skills Plan, STAT has reviewed the plans and progress being made in implementing the technical education reforms. Overall we are supportive of the planned changes; however, the reforms present both opportunities and challenges for the transport industry. We therefore offer our thoughts, insights and make recommendations from a transport industry perspective that we hope will support the improvements in post-16 technical education that are so desperately needed.

Valerie Todd CBE

Talent and Resources Director, Crossrail and Member of STAT

Executive summary



Executive summary

The main technical education reforms as set out in the Post-16 Skills Plan are a significant policy development. It provides the basis for considering whether the skills and apprenticeship priorities for the transport sector, as set out in the Transport Infrastructure Skills Strategy (TISS)¹, might be met. The Green Paper 'Building our Industrial Strategy, (January 2017)², The National Infrastructure Delivery Plan (2016)³ and the Northern Transport Strategy (2015)⁴ provide important opportunities for the transport industry. It is against this general backdrop, and specific skills challenges, that this report has been developed.

The importance of skills to the transport industry is set out in the TISS. It sets an ambition to improve diversity and upskill the workforce, including a requirement for 30,000 new apprenticeships for the sector by 2020. These commitments are a response to the changing future employment requirements across the industry, particularly following recent investments in significant transport infrastructure projects, e.g. HS2, Thameslink, and Heathrow Expansion. This, in turn, will lead to a need for advanced/higher level skills in disciplines such as digital, science, engineering and maths. Furthermore, technological advancements will also accelerate changes in the nature of work, as will the need for improvements in productivity and efficiency. This will all serve to place a far greater onus on technical skills, whether part of an apprenticeship or a technical qualification.

So what do we know?

Efficient transport is a critical component of economic, social, environmental and technological progress, globally and nationally. With significant investment in transport planned over the coming decades, the sector is set to grow and become even more critical to the UK.

Transport is reliant on a domestic skills-base to meet its workforce demands and the TISS set out some ambitious skills commitments, including the importance of increasing the diversity of the workforce by encouraging a 20 per cent increase in the number of Black, Asian and Minority Ethnic (BAME) individuals commencing apprenticeships by 2020⁵. However, there is still a significant demand for skills at lower levels that must also be considered in the future skills pipeline as well as intermediate and higher level skill needs.

To meet these requirements the transport industry needs to encourage learning at all levels: apprenticeships; technical; academic and for those who wish to join the industry, as well as those who are already a part of it. By supporting the reskilling and upskilling of others through continuous or 'life-long' learning, the industry will ensure skills are being met through relevant and value added training.

1 Department for Transport. (2016). Transport Infrastructure Skills Strategy: building sustainable skills. Moving Britain ahead, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/495900/transport-infrastructure-strategy-building-sustainable-skills.pdf, accessed in April 2017.

2 HM Government, Building our Industrial Strategy, Green Paper, January 2017, at https://beisgovuk.citizenspace.com/strategy/industrial-strategy/supporting_documents/buildingourindustrialstrategygreenpaper.pdf, accessed in June 2017.

3 National Infrastructure delivery Plan 2016 <https://www.gov.uk/government/publications/national-infrastructure-delivery-plan-2016-to-2021>

4 Northern transport strategy <https://www.gov.uk/government/publications/northern-transport-strategy-spring-2016>, accessed July 2017.

5 Op.cit.

Unfortunately the current skills system, particularly for technical education, is incredibly complex with over 13,000 competing mainly low quality, qualifications for 16–18 year olds which creates confusion for schools, training providers, employers, learners and parents alike.

Married with the current apprentice reforms, which are accompanied by the advent of ‘Trailblazer’ reforms of apprenticeship standards, the introduction of a new governance body, the Institute for Apprentices (IfA) and a new funding regime (the Apprenticeship Levy), this results in a confusing landscape for all.

A year on – what are the implications for the transport industry?

Transport needs to be at the vanguard of managing the transition from the old to the new system. The reforms required are set out in the Post-16 Skills Plan. These reforms have been viewed as positive. However, the practical issues surrounding their implementation present a number of challenges, e.g. the level of complexity surrounding the proposed changes to existing qualifications, the governance of these changes, and the involvement of employers as these changes are being designed and implemented.

A further challenge is the programme for introducing the changes and the related timescales. The changes will be introduced incrementally, which means that for a significant length of time, elements of the new and old skills system will co-exist. This dual system will be difficult for all to navigate and this will lead to confusion if communication and involvement of employers is not at the forefront of our minds.

Transport wishes to be actively involved in effectively implementing the reforms, particularly where these reforms impact on the industry’s skills priorities and ambitions. STAT is an industry-led forum,

established with the encouragement of the DfT, to take forward strategic priorities in the transport sector. STAT recognises that many sub-sectors of the transport industry also have employer and industry forums. STAT believes its active involvement in the implementation of these reforms would add value, particularly by working with the Further Education (FE) sector to strengthen the provider responsiveness so that sufficient transport-specific skills are delivered, and by providing advice and intelligence to the IfA on ‘what works well’ for our sector. The transport sector already has a ‘Route’ chair for Transport and Logistics; one of the 15 new technical routes to skilled employments.

Transport wants these reforms to meet supply and demand needs. There has been significant investment in skills and development across the transport sector. Many large employers in the transport industry undertake training in the workplace. The take up on the new apprenticeship standards is still in its infancy relative to our ambition and the balance of investment is still in new apprenticeships; however, there is recognition that upskilling and reskilling are becoming increasingly important to balancing supply and demand. It is therefore important that the reforms link investment in a way that balances supply and demand, and recognises all the skills delivery pathways, including those provided by employer-owned/in-house delivery. A great example is the relationship employers have forged with University Technical Colleges (UTCs) which provides a high quality career pathway, designed to deliver academic and technical curriculum relevant to employers, employees and trainees while also allowing employers and UTCs to consider both supply and demand.

Finally, careers advice in education, and indeed post-education, is still seen as ineffective and worthy of further consideration as part of the reforms. The National Careers Service is one mechanism through which information can be delivered

and the Careers Enterprise Company is another initiative to promote careers pathways. Targeted transport initiatives have also been developed, e.g. the Transport and Infrastructure Education Partnership, yet more could be done to draw the attention of young people, and their parents and carers, towards the fantastic and varied opportunities available in transport.

Recommendations

1. **We recommend the government facilitates greater employer representation** by regularly seeking the views of the transport industry in the implementation of the skills reforms.
2. **We recommend the government sets out the Post-16 Skills Plan implementation plan and delivery timelines**, such that the delivery milestones for FE, as part of the future devolution deals, are known to employers, thus creating the conditions for more meaningful employer involvement in the reforms.
3. **We recommend the government asks STAT to continue to maintain oversight of the technical reforms as set out in the Post-16 Skills Plan for the sector**, linking appropriately to key representative employer-led bodies in the transport sub-sectors and providing a coherent voice for the transport industry on skills issues at a national level, including working with the IfA, and the 'Route' chair.
4. **We recommend the government encourages training providers to work together to form Training Alliances'**. Such alliances will enable the FE sector to pool resources, share best practice and become better equipped to deliver in specialist areas, (e.g. high value, low volume skills) that serve the specific interests of the transport industry.
5. **We recommend the government, either with or through the IfA, provides clarity of the funding arrangements** as this will enable the transport industry to better understand the reform plans.
6. **We recommend the government continues to work with the ETF, the Education and Endowment Foundation, and Ofsted to improve the quality, capability and capacity of technical teaching** in order to achieve better outcomes for students and employers.
7. **We recommend the government explore whether wider programmes for skilling, upskilling and reskilling older workers are being sufficiently exploited** and support the extension of programmes as necessary. These programmes have the potential to widen the talent pool from which the industry might recruit.
8. **We recommend the government ensures it delivers fair and equal outcomes for all** by placing at the heart of these reforms social mobility, equality and fairness for those who may be disadvantaged in the labour market. In particular, ensuring the Advanced Learner Loans do not create a barrier to technical education for those who are already disadvantaged in the labour market. This is a priority for STAT.
9. **We recommend the government continues to support the transport industry to monitor and promote examples of good practice within the transport sector**; sharing learning amongst grass roots organisations and networks to enhance more effectively partnership working across the sector.
10. **We recommend the government continues to supply labour market intelligence and careers advice** through improved national careers services, e.g. the National Career Service, "Inspiring the Future", LMI for All. These services provide valuable careers information, advice and guidance to all age groups, employers, parents and carers.

Discussion



1. Introduction

The government is investing to make journeys better, simpler, faster and more reliable which in turn will support jobs, improve the environment, support healthy communities and enable economic growth. In response, the transport industry⁶ has set out in the Transport Infrastructure Skills Strategy (TISS) 2020 how it will ensure it has the right people, in the right place at the right time, to deliver the transport needs of the nation. Three key deliverables are:

- 30,000 apprenticeships
- Ensuring apprenticeships are accessible to all whatever their social background, and:
- Setting up the STAT to oversee the delivery of the strategy and act as the transport industry's employer forum for skills.

In light of the proposed reforms to Post-16 technical education, this study asks whether the Further Education (FE) sector is ready and able to implement the changes in a way that ensures uninterrupted support to the transport industry in delivering its future skills needs.

The case for change

This report is principally commenting on the Technical Education Reforms and the Post-16 Plan. A summary of the case for change is as follows:

- The current skills system is incredibly complex with over 13,000 competing qualifications for 16-18 year olds. This is causing confusion for employers, students, training providers across the FE spectrum, e.g. colleges, independent training providers, and in-house training providers. Rationalising this system, which has emerged over decades, will be complicated.
- Many of the available qualifications do not prepare students for employment. Many are low-value and low-quality qualifications that do not meet requirements of the technical reforms, particularly at Level 3.
- Access to good quality work experience is patchy and, where it is available, it does not give students the opportunity to develop the specific practical knowledge and skills for the profession they wish to pursue.
- Students feel they are 'locked into' their choice of either academic (e.g. A-Levels) or technical education at 16 with no clear pathway if they wish to switch.

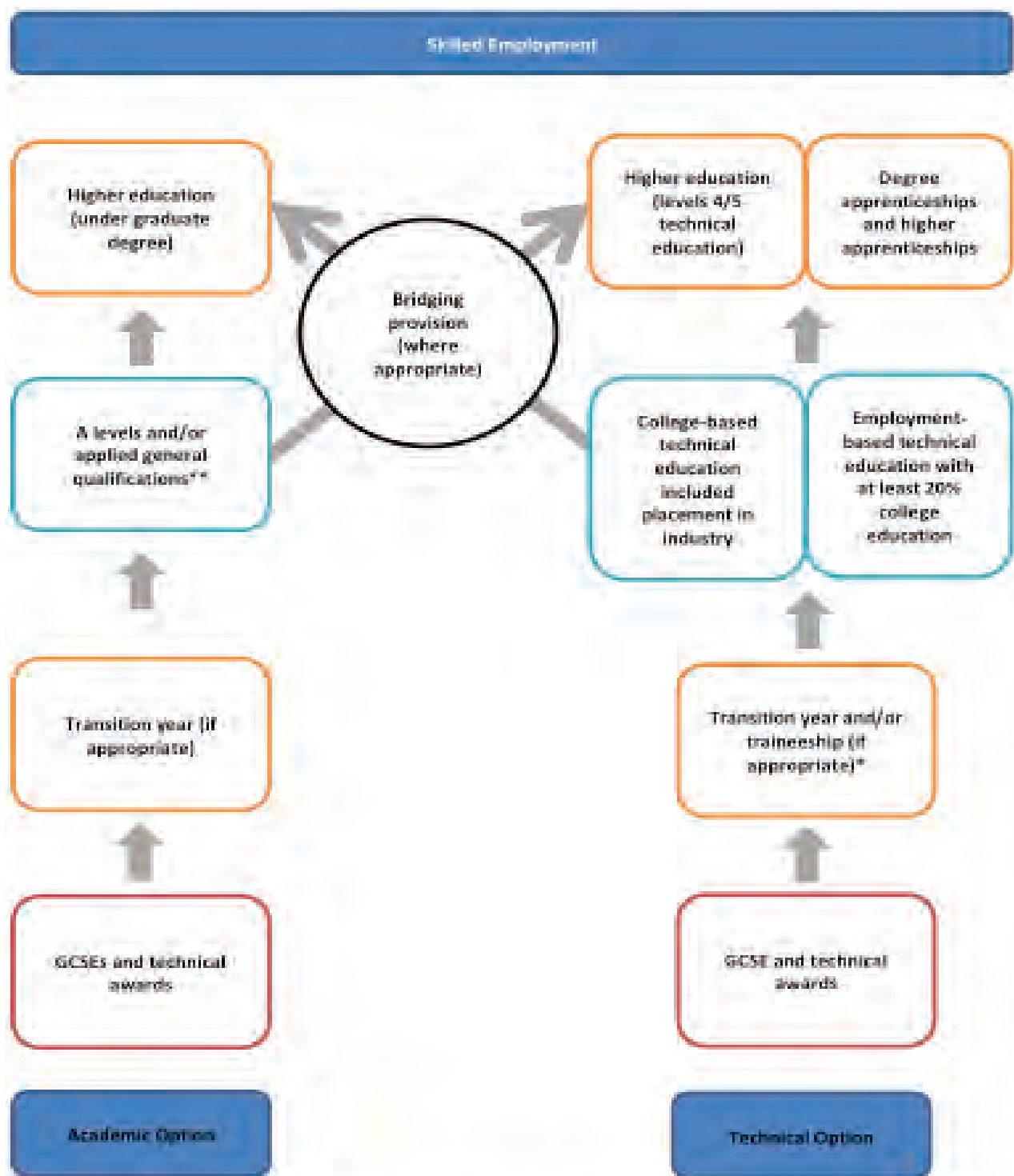
⁶ Rail includes operations and maintenance; passenger and freight operations and infrastructure operations; Road includes maintenance and operations; Maritime includes shipping, ports, business services, marine technology and leisure; and Air includes airports, airlines, air freight, supporting services, covering maintenance, operations and construction.

- Many students and their parents see A-Levels as the safe option and often switch to technical education after one or two years, often at the same or lower level.
- Despite recent growth, there are still too few apprenticeship opportunities to meet the needs of young people and the demands of the economy.
- The current network of FE providers is financially unsustainable.
- The new system will introduce a common framework of 15 routes across all technical education encompassing both college-based and employment-based learning.
- The new system will provide support for those who need extra help before they can access one of the 15 routes, e.g. people with special educational needs, NEETS, adults returning to the labour market; and will address gender and BAME under-representation in STEM occupations.

Proposed changes

In response, the government proposes making changes which helpfully build on the apprenticeship reforms which the transport industry is well advanced in delivering. From a STAT perspective the key changes are summarised as follows:

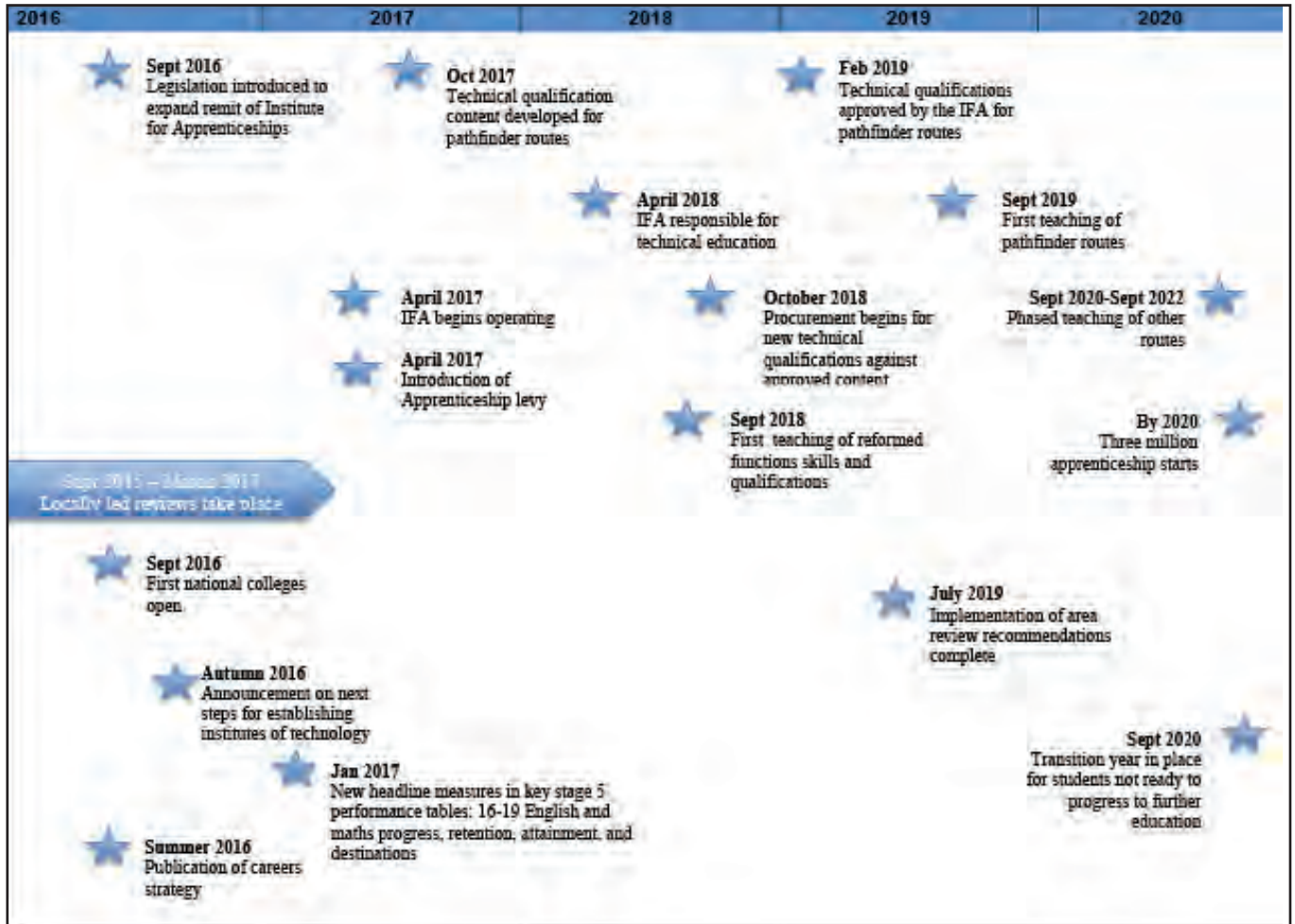
- The new system will offer students two clear choices; one academic and one technical, both of equal status (see diagram opposite).
- The new system will have a bridging provision that will enable students to 'switch' between the two with any prior learning accredited in the new pathway.
- The new system will create high quality programmes that have genuine labour market value and will include higher technical skill levels (i.e. Levels 4 and above) that follow national standards.
- The new system proposes a 'transition year' for individuals not ready to access a technical education route at 16 (or older if their education has been delayed). This year will be used to help individuals to prepare for further study or employment through the provision of flexible support. Further work is required to design the content of a transition year.
- The new system will expand the role of the IfA to be responsible for the common framework and the 15 routes. This will be the only body responsible for technical education, with a remit for ensuring employers are in the lead in the design of technical education standards and other reforms.
- The new system will strengthen the network of FE colleges and enable colleges to tackle current financial difficulties. This may result in the introduction of new specialist training providers where they are needed, building on the success of, for example, UTCs.
- The new system will deliver a high-quality teaching workforce with investments targeted at the teaching of the 15 routes from 2019.
- The new system is designed to encourage good leadership and governance by employers.
- The new system will lead to a reform of the current careers education and guidance in order to better inform and inspire young people about the options available to them.
- The timescales for limiting the new system is set out in the chart below.



* where a student does both, the traineeship will follow the transition year. Students doing both the transition year and a traineeship may progress directly to employment.

** Some Students will move directly from A levels and/or applied general qualifications to degree and higher-level apprenticeships.

Timeline



The changes summarised above are welcome and the transport industry believes that the FE sector has an important contribution to make to supplying future skills. However, it is worth setting out a few of the challenges the reforms may give rise to for the transport industry as a context for the recommendations aimed at addressing these challenges.

Methodology

The review considered current quality and delivery issues in the FE sector, the proposed changes as set out by government in the Post-16 Skills Plan and how these create opportunities and challenges in working to the TISS commitments. The study is focused on the FE sector in England only.

The review consisted of:

- A literature review to establish the evidence of the proposed changes.
- Primary research involving semi-structured interviews to elicit views on the proposed changes.
- A workshop with industry employers, industry and professional bodies, providers, and membership bodies to calibrate the evidence for the literature review and the interviews.
- The perspectives of government representatives to the emergent findings.

2. Context

Key messages

- The transport industry expects to experience significant growth in the next five to ten years and the TISS sets out the skills requirements to meet this growth.
- TISS estimates that approximately half of these skills requirements will be at Level 3 and above, but there will be an increasing emphasis over time on higher skills due to advances in technology and working practices.
- Transport will need to focus just as much on reskilling and upskilling of the skills of existing workers in the labour market as well as younger new entrants.
- Improving diversity, equality and social inclusion is a high priority for the transport industry.
- The Post-16 Skills Plan sets out an ambitious vision for reforming the UK's skills system and shaping the delivery of FE.
- The transport industry has a main stake in the development of four of the 15 routes; (1) Transport and Logistics, (2) Construction, (3) Engineering and Manufacturing, and (4) Digital – albeit to a lesser extent.
- The transport industry is concerned that the technical education system reforms which should better meet and adapt to employers' needs will lead to a confusing dual system in the short term as the system changes from 'the old to the new'.
- One of the guiding principles of the reforms is supporting strong employer engagement; quality provision; clearer career pathways; responsive providers; and sustainable funding. 'How' this is to be achieved needs more urgent detailed and targeted communications and engagement with employers.

Developments within the transport industry

The transport industry forms a vital part of the UK economy not only because of the significant employment opportunities (around 1.4 million employees in 2016),⁷ but because of the essential role it has supporting businesses across the economy to access the people and materials they need to operate and ensure goods and products can be effectively transported to market. Our economy and way of life are highly dependent upon an effective transport industry operating economically and socially. This can support wider travel to work areas as local communities grow, as well as enable important leisure activities. However, for decades, transport investment has not kept pace with demand and this has undoubtedly inhibited economic progress and productivity growth relative to our international competitors, leading to a number of performance challenges. This is changing.

The National Infrastructure Delivery Plan 2016-2021,⁸ identifies key government intervention for roads (investing £15 billion in Highways England to transform the Strategic Road Network with more than 100 major schemes by the end of 2020-21), rail (supporting the construction of High Speed 2, finishing Crossrail and approving Crossrail 2), airports and ports (delivering a package of road and rail projects to support private sector investment in airport and port needs and approving airport).

In the report, Rebalancing Britain: From HS2 towards a national transport strategy,⁹ key issues for roads and HS2 were identified. Phase Two of HS2 will commence three years after Phase One and the industry needs to use the extra time to learn transport strategy lessons from around the world and apply these techniques to UK transport infrastructure projects. The Northern Transport Strategy: Spring 2016 Report,¹⁰ identifies four key capabilities in the global economy that can drive growth and increase productivity: digital technology; advanced manufacturing; energy; and health innovation. To support these and create new jobs, there are three key enabling factors that need to be addressed in the North – the role of transport connectivity in closing the productivity gap, skills improvement and pervasive innovation.

The transport industry has a clear sense of its strategic direction and skills priorities and is ambitious to shape its own future. The TISS has clearly articulated the skills requirements across the sector, covering rail, road, maritime and air, with a particular concentration in the short term in high-speed rail and roads infrastructure¹¹. These cover both common and distinct skills requirements of the industry and sub-sectors. Common core skills cover areas such as: engineering, construction/infrastructure and related technical disciplines, client and project leadership, construction management, and skilled as well as plant operatives and labourers¹². But there are clearly quite distinct requirements to

7 Office for National Statistics. Social Survey Division, Northern Ireland Statistics and Research Agency. Central Survey Unit. (2017). Quarterly Labour Force Survey, October – December, 2016. [data collection]. UK Data Service. SN: 8145, <http://doi.org/10.5255/UKDA-SN-8145-1>, accessed in May-June 2017.

8 HM Treasury, Infrastructure and Projects Authority, Lord O'Neill of Gatley, & Osborne, G. (2016). National Infrastructure Delivery Plan 2016 to 2021, at <https://www.gov.uk/government/publications/national-infrastructure-delivery-plan-2016-to-2021>, accessed in June 2017.

9 High Speed Two (HS2) Limited. (2014). Rebalancing Britain: From HS2 towards a national transport strategy, at <https://www.gov.uk/government/publications/rebalancing-britain-from-hs2-towards-a-national-transport-strategy>, accessed in June 2017.

10 Department of Transport. (2016). Northern transport strategy: spring 2016, at <https://www.gov.uk/government/publications/northern-transport-strategy-spring-2016>, accessed in 2017.

11 Op. cit.

12 National Infrastructure Plan for Skills. (2015), at Op. cit

specific sub-sectors too which must also be considered, ranging from specialist drivers in rail and road, to pilots, air traffic controllers and cabin crew in air, to harbour masters, marine mariners in the maritime sector.

It is estimated that approximately half of these skills requirements should be at Level 3 and above, to match the necessary higher level skills shortages that are emerging, and which are expected to increase as demands grow. Advances in technology and ways of working are also expected to continue this trend up to 2020, placing a growing emphasis on Level 4 and above. Currently, a significant demand still exists at lower skill levels and will form an important part of the future skills pipeline. Given that there are significant numbers of future employees already working in the labour market, apprenticeships are seen as the main route to meeting these demands, as they favour training and skills development which can be work-based and developed around a job.

As the skills demands are complex and evolving, adjusting to ongoing innovation in the sector, it is important that the STAT works closely with its employers to support the development of the right mix of skill for the transport sector, including for specific sub-sectors, as well as in core areas for the sector as a whole. Continuous developments in training options and content will therefore be needed to enable future skills to remain up to date and as relevant to the sector as possible.

A further challenge concerns the diversity of the workforce. To avoid missing out on the best talent available, it is important that the transport sector becomes more inclusive, and seeks to attract a wider range of workers. This will ensure the industry fully optimises the pool of available talent. The TISS also sets diversity targets.

Developments within the FE sector

Since developing the TISS (2016), the FE sector has been undergoing major reforms, particularly to strengthen the technical education system and the levels of work-based learning.

The Post-16 Skills Plan¹³ sets out an ambitious vision for reforming the UK's skills system, which raises significant implications for the FE sector and what it can deliver. In particular, it recognises the vital role of education, training and skills development in delivering the future workforce the economy needs, as a basis to drive higher productivity and economic growth, as well as improving individuals' employment outcomes. It also acknowledges the shortcomings in skills delivery from the past and proposes a policy framework for the FE sector that aims to address them¹⁴. These reforms seek to deal with the long running disparity between our traditional academic routes and our vocational and technical education and training programmes which have consistently failed in the past to deliver the high quality technical skills employers need in the labour market.

It is important that we seek to learn lessons from delivery experiences about what has worked and what has not in previous skills reforms, and retain a clear focus on factors that will enable the sector to achieve its targets.

At a strategic level these are broadly supportive of the goals of the TISS and therefore would suggest that future FE delivery partners will be guided in a way that

helps meet the TISS skills commitments. The skills system reforms seek:

- **Employer leadership and engagement:** strong employer leadership and engagement throughout the skills system to ensure that training and skills development are designed and delivered in a way that is relevant and meet employers' changing needs. This means employers of all sizes within transport, including our supply chains, will be encouraged to work with FE providers to take 'end-to-end' responsibility for skills development.
- **Quality provision:** skills delivery that is relevant to the workplace, rigorous and of high quality based on the Leitch Review¹⁵ terminology of 'economically valuable skills', i.e. valued by employers and enhancing employability and recognised as the "gold standard" of technical learning¹⁶.
- **Clear pathways:** a stronger articulation of career pathways through the labour market, and sign-posted technical routes which support lifelong learning, upskilling and reskilling. This is of growing importance to the transport industry where labour market requirements must evolve quickly to meet innovation and technological change. This requires an integrated pipeline of delivery, where education and training programmes offered by schools, colleges, universities, private providers and employers themselves work together to support skills progression and mobility within the labour market.

13 Op.cit.

14 BIS. (2010). Investing in skills for sustainable growth, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32368/10-1274-skills-for-sustainable-growth-strategy.pdf, accessed in June 2017.

15 HMT. (2008). Leitch Review, at http://dera.ioe.ac.uk/6322/1/leitch_finalreport051206.pdf, accessed in June 2017.

16 UKCES. (2015). Growth Through People, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/410289/GTP_EA_final_v8.pdf, accessed in June 2017.

- **Provider responsiveness:** to encourage providers of technical education to be responsive to employer and individual demand. Enhancing responsiveness by supporting colleges to diversify and develop new models for delivery and partnerships, including new joint ventures with other colleges and/or directly with employer bodies and employers. In addition, mirroring Higher Education (HE) by reviewing and publishing league tables to shape provider behaviour, using metrics such as student participation, retention, and success rates as well as measures of financial efficiency.

Recommendation 1

We recommend the government facilitates greater employer representation by regularly seeking the views of the transport industry in the implementation of the skills reforms.

3. Implications for the transport industry

Key messages

- The reforms come on the back of many previous waves of reform and therefore there are concerns about the complex manner and lack of transparency in how the changes are, and will be, implemented.
- There is a risk that the manner of implementation will lead to a ‘dual system’, with legacy arrangements existing alongside those newly established.
- We received feedback that there is confusion amongst FE providers; conflicting performance frameworks; unclear funding models; and changes in training programmes (including standards, curriculum, and qualifications).
- Change must be carefully managed if the reforms are to succeed and for the new systems to be fit for purpose.

Employer engagement

A central feature of the new system is “to put employers in the driving seat”. This has been supported by strengthening oversight of the IfA which is now the principal body responsible for technical education.¹⁷ Although the IfA has only just been established, there is already an expectation that it will put in place transparent mechanisms and criteria for setting and approving standards for technical education, as well as apprenticeships, and will do this in consultation with employers. Greater transparency on how this will work would help employers.

Quality and relevant provision

The new technical education will be designed by employers, alongside wider industry and education experts, helping to shape what is delivered. So far this has been taken forward through the Trailblazer Programme (TB), i.e. groups of employers developing apprenticeship standards, and assessment programmes to achieve those standards. The IfA is now convening panels of professionals to work with employers in future, to advise on the knowledge, skills, and behaviours that individuals will need to meet the new standards in particular occupations. It will be important that the IfA ensures consistency between the TB standards and those developed by the expert panels.

17 The Institute for Apprenticeships, at <https://www.nepic.co.uk/wp-content/uploads/2016/03/The-Institute-for-Apprenticeships.pdf>, accessed in May 2017.

A clear pathway to apprenticeships to improve student choice

The Post-16 Skills Plan seeks to simplify the 13,000 piecemeal regulated vocational qualifications into a more coherent offer of 15 routes across technical education and to facilitate a more transparent system. The routes were derived from an extensive mapping exercise of qualifications and national occupational standards¹⁸ undertaken for the Sainsbury's Review.

There is also the intention to link programmes between college-based and work-based routes and entry programmes with more advanced delivery, reducing any notion of a “dead-end”.¹⁹ Steps should be taken to align two-year college based programmes at the beginning of each route to higher level apprenticeships as they are established.

The challenge of managing change

A feature of the English system highlighted in many reviews,²⁰ as well as by stakeholders interviewed for this study, has been its volatility and the frequency of major reforms over time. Since 1981, there have been 65 Secretaries of State with responsibility for skills and 28 major Acts of Parliament related to the development, organisation and structure of vocational education and skills in the UK.²¹ The skills policy area has moved between central government departments, or been shared with multiple departments 11 times since the 1980s. There have been

numerous programmes and initiatives affecting skills generally and apprenticeships specifically, including the Youth Training Scheme, Youth Training, Modern Apprenticeships, Train to Gain, the Employer Investment Fund, the Growth and Innovation Fund and Employer Ownership Pilots.

Furthermore, the costs involved in managing changes to the system are often high, which can cause significant resistance in the face of the reforms and this can impact the time taken to deliver the changes. For instance, whilst the government announced intentions to replace the old apprenticeship frameworks with new employer-led standards by 2017, this timeline has been extended.

The frequency of change and the lack of time given for reforms to embed have historically created some significant delivery challenges for the FE sector. It is important to learn lessons from previous delivery experiences to avoid similar failings moving forward.

Recommendation 2

We recommend the government sets out the Post-16 Skills Plan implementation plan and delivery timelines, such that the delivery milestones for FE, as part of the future devolution deals, are known to employers, thus creating the conditions for more meaningful employer involvement in the reforms.

18 Standard occupational classification (SOC), at <https://www.ons.gov.uk/methodology/classificationsandstandards/standardoccupationalclassification/soc>, accessed in June 2017.

19 DfE. (2011). The Wolf Report: The Review of Vocational Education, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/180504/DFE-00031-2011.pdf, accessed in June 2017.

20 See for example: The Leitch Review of Skills, at http://dera.ioe.ac.uk/6322/1/leitch_finalreport051206.pdf, accessed in June 2017; Review of Vocational Education – The Wolf Report, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/180504/DFE-00031-2011.pdf, accessed in June 2017; the Richard Review of Apprenticeships, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/34708/richard-review-full.pdf, accessed in June 2017; the UKCES reviews Ambition 2020 at http://webarchive.nationalarchives.gov.uk/+http://www.ukces.org.uk/PDF/UKCES_FullReport_USB_A2020.pdf, accessed in June 2017; the Skills Commission, Guide to the skills system, at http://www.policyconnect.org.uk/sc/sites/site_sc/files/report/419/fieldreportdownload/guidetotheskillssystem.pdf, accessed in June 2017.

21 City and Guilds. (2016). Sense and instability, at <https://www.cityandguildsgroup.com/-/media/CGG%20Website/Documents/sense-instability-2016-full-report-pdf.ashx>, accessed in June 2017.

4. Opportunities for employer engagement

Key messages

- STAT is one of the key forums that the IfA might use or consult in order to take forward the technical education reforms and work with government on core issues of strategic importance.
- Industry bodies (e.g. NSAR) are another mechanism for engaging employers in sub-sectors in rail, road, air and maritime.
- Through early and regular engagement there is an opportunity to share learning on strengthening provider responsiveness to ensure that sufficient transport-specific skills are supplied.
- The industry has significant experience in commissioning, providing and procuring technical and vocational learning. Significant progress has been achieved through the establishment of specialist training centres in the transport sector (e.g. The Tunnelling and Underground Construction Academy (TUCA), and the National College for High Speed rail (NCHSR) etc.).

Organised to succeed

As demonstrated through the TISS, the transport industry has already done much to understand the evolving skills needs in its sector as a whole, as well as individual sub-sectors in rail, road, maritime and air. As such, there was significant support amongst the stakeholders consulted for the TISS and what it is trying to do.

The different parts of the transport industry have mature **employer and industry bodies** to understand and take forward the interests of employers in sub-sectors in rail, road, air and maritime. These include, among others, Highways England, TfL, Network Rail, Crossrail, HS2 Ltd, People 1st, the Merchant Navy Training Board, the UK Ports Group, and the British Ports Association. It has also invested significantly in developing **employer-led standards for technical**

education, including apprenticeships as well as supporting new specialist centres to strengthen the existing network of providers. For instance, the road and rail sector through its industry bodies, has been involved in a number of trailblazer groups to shape the development of new standards and to make sure these sufficiently meet the needs of its sector through its supply chain. Work has also been progressed in the maritime sector on occupational standards for seafarers, mechanical fitters, advanced systems engineering and boat building. IfA should find engagement with the transport industry easier as a result of these arrangements being in place.

The transport industry has already been working to find skills solutions and to fill clear gaps in the training market, especially as new technical skills emerge (see Box 1

and 2 below). In the context of more policy support for technical provision, through National Colleges for example, it has sought to exploit such opportunities for the sector.

Box 1. Case Study: Infrastructure

Crossrail Tunnelling and Underground Construction Academy (TUCA)

Crossrail identified skills shortages in tunnelling and underground infrastructure construction by way of commissioning a skills and labour demand forecast²².

- There was no soft-ground tunnel training facility in Europe.
- Too much of the training was being delivered informally and was often non-accredited training.

- The solution was the establishment of a specialist tunnelling academy that would deliver the required skills for the UK.
- TUCA now functions as an industry-led training facility which is used across Crossrail and other infrastructure projects in London, and has delivered over 17,500 training outputs since 2011.
- Now run by TfL so has a long-term prospect after conclusion of Crossrail.

Source: Crossrail Tunnelling and Underground Construction Academy (TUCA).

Box 2. Case Study: Rail Sector

Rail National College for High Speed Rail (NCHSR)

NCHSR is expected to open in 2017.

- The College will be the largest of five new national employer-led colleges being created by government to help deliver specialist training in higher technical skills areas for the UK workforce.
- Built on state-of-the-art campuses in Birmingham and Doncaster, the College will produce a

new generation of high-tech engineers and technicians, and rail professionals. The college will offer higher apprenticeships and HNC equivalents, starting at Level 4 (post A-Level).

- Students will also spend around one-third of their time in the workplace, putting their learning into practice.
- Extensive consultation has taken place to develop a curriculum that addresses skills needs.

Source: National College for High Speed Rail (NCHSR).

22 Crossrail Tunnelling and Underground Construction Academy at <http://learninglegacy.crossrail.co.uk/documents/addressing-skills-gaps-direct-intervention-tuca/>, accessed in May 2017.

Training Alliances

In addition, work is underway to better co-ordinate training activities across the FE sector in order to better serve the interests of the industry. A Training Alliance has been formed between Network Rail, The National College for High Speed Rail, TfL, National Training Academy for Rail (NTAR)

and Alstom. This is complemented by a network of colleges, providers and assessors who will implement the new standards. The maritime sector provides another example, having established a network of 24 specialist colleges serving its sub-sector needs (See Figure 1).

Figure 1. Building a co-ordinated delivery network for the transport sector

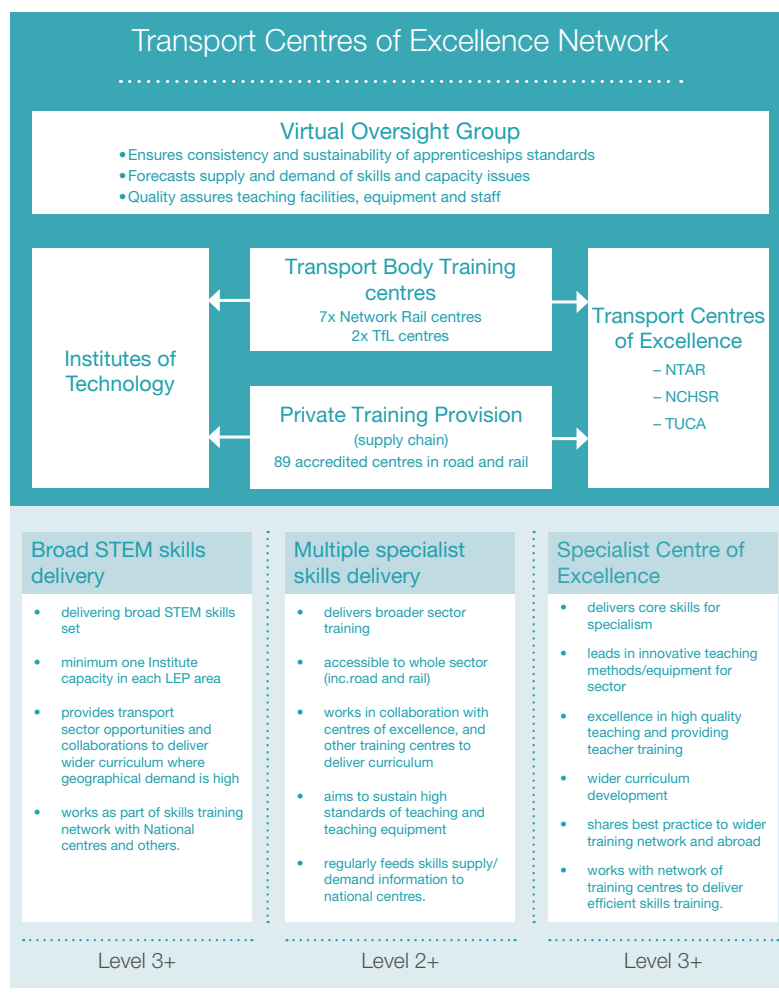


Figure1 Centres of excellence network

As these national colleges and expert training centres become more established centres of excellence, employers in different parts of the transport sector will be able to access the learning and training on offer. For instance, NTAR already offers training on a range of different manufacturers' equipment

and is expanding the range of train manufacturers it works with to provide an increasingly broad cross-section of training equipment. The transport industry would welcome the opportunity to share with the IfA its progress and lessons learned in this area.

Recommendations 3 & 4

We recommend the government asks STAT to continue to maintain oversight of the technical reforms as set out in the Post-16 Skills Plan for the sector, linking appropriately to key representative employer-led bodies in the transport sub-sectors and providing a coherent voice for the transport industry on skills issues at a national level, including working with the IfA, and the 'Route' chair.

We recommend the government encourages training providers to work together to form 'Training Alliances'. Such alliances will enable the FE sector to pool resources, share best practice and become better equipped to deliver in specialist areas, (e.g. high value, low volume skills) that serve the specific interests of the transport industry.

5. Funding changes

Key messages

- The study, particularly the literature review, highlighted a number of issues about funding the reforms and the broader delivery challenges this presents.

The government has changed the funding model to secure more employer and individual investment and thus reduce the dependency on public funding. The review noted that:

- The adult skills budget has been subject to significant reduction in recent years and the Association of Colleges has warned that funding reductions in 2016 alone risked eliminating 190,000 places for learners aged over 19, which must also raise issues for the transport industry.²³
- The Advanced Learner Loans for those individuals aged 19 and over who want to access training could see the investment in technical education increase significantly by 2020. However, this should be monitored to ensure individuals who are disadvantaged in the labour market for a variety of reasons and who would most benefit from a technical education are not 'locked out' of the new system.
- Additional public spending commitments were announced in the 2017 spring budget, to support the funding of technical pathways for young learners from 2019 onwards (e.g. around £500m, starting with a commitment of £100m from 2019). There is still some uncertainty about how this will be delivered and the stability of the delivery system if there is a funding shortfall.
- The 'Area Reviews' which seek to help colleges strengthen their financial viability suggests college mergers (i.e. 88 in the first wave of reporting). This has raised concerns over the stability in the FE delivery structure as resources are used to manage mergers.²⁴
- The Technical and Further Education Act 2017 has outlined plans to protect learners in the case of college closures and the absence of local provision, but with delays to the area review process, and questions having been raised within the FE community about progress, this is causing some uncertainty and instability in the sector.²⁵

23 AoC warns of the end of adult education and training provision by 2020, at <https://www.aoc.co.uk/news/aoc-warns-the-end-adult-education-and-training-provision-2020>, accessed in June 2017.

24 Area reviews: final reports and recommendations published, at <https://www.tes.com/news/further-education/breaking-views/area-reviews-final-reports-and-recommendations-published>, accessed in May 2017.

25 City and Guilds. (2016). Sense and instability 2016, at <https://www.cityandguildsgroup.com/-/media/CGG%20Website/Documents/sense-instability-2016-full-report-pdf.ashx>, accessed in June 2017.

- It is unclear whether the **Advanced Learner Loans for Adults** and the **Apprenticeship Levy** is being used to fund the reforms and, if so, what implications this will have for the transport industry.
- It is unclear if there is a funding shortfall risk that might delay or impede the rate of reform. This will need to be carefully monitored.
- With a lack of clarity on the **regional funding plans for the reforms**, assumptions are being made that either there will be a redistribution of the apprenticeship levy funds across England or there will be regional variations in skills investment.
- The development of a **digital voucher scheme** appears to be supporting only transactional relationships with individual employers, which might have a detrimental impact on the transport sector.
- Further uncertainty may be introduced as part of the devolution agenda. There are potential opportunities through devolution to secure greater support for transport skills priorities. This can happen as government seeks to transfer control of the Adult Education Budget to support local commissioning to areas where it is needed most. Still, concerns have also been raised. It is hoped that devolution will ensure that provision is better aligned with local needs and that devolving budgets and commissioning will help local colleges and providers respond better to local industry needs.
- The timetable for devolution has been staged around individual devolution agreements, which has made

implementation uneven. This might impede rather than support the local delivery that matches the local footprint of the industry. In the short term there is a significant risk that variation in the pace and stage of devolution will accentuate rather than tackle regional inequalities and slow down the delivery of the pressing priorities for the transport sector.

- In conclusion, the reforms aim to develop a sustainable funding system which will secure the long term financial viability of FE providers. The funding reforms have emphasised the need for the contributions to be transparent²⁶, so employers and individuals can see the value of investing in training. Care should be taken to ensure the funding regime does not have the unintended consequence of excluding or creating barriers for those most in need of access to technical education.

Recommendation 5

- **We recommend the government, either with or through the IfA, provides clarity of the funding arrangements** as this will enable the transport industry to better understand the reform plans.

26 UKCES. (2011). Employer ownership of skills: securing a sustainable partnership for the long term, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/305746/employer-ownership-of-skills-web-vision-report-final2.pdf, accessed in June 2017.

6. Quality of teaching

Key messages

- The transport industry recognises and experiences the issues regarding capacity and capability of teaching resources and would welcome the opportunity to contribute to the debate on how to build the teaching resources required to deliver technical education.

Improving quality and quantity

The TISS recognised the need to improve the capability and capacity of technical teaching, and employers and training providers consulted as part of this study identified it as an important priority that needs to be closely monitored in the future as its nature and magnitude are not fully understood. The evidence about the magnitude of this issue and how it varies across types of training is quite thin and, despite the high levels of investment in academies and colleges within the transport sector, this remains a challenge.

The issues are multifaceted and not well understood, however the following is a list of some of the issues flagged during the study:

- There are shortages caused by the fact that the teaching workforce is underprepared to teach higher level qualifications.

- Teachers and trainers are in short supply.²⁷
- According to a recent report, a majority of FE providers faced problems recruiting trainers especially with relevant technical STEM teaching skills.²⁸
- An ageing workforce and the inability of the system to replace experienced teachers, especially at higher levels (above Level 3), at the rate with which these technical roles are demanded on the labour market²⁹ is exacerbating the problem.
- The shortages are both quantitative and qualitative.

Programmes such as Teach Too have enabled better coordination between experienced employees who can then also teach at FE colleges³⁰ and by so doing the initiative can also act as a form of replacement of teaching

27 Department for Transport (2016). Transport Infrastructure Skills Strategy, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/495900/transport-infrastructure-strategy-building-sustainable-skills.pdf, accessed in April 2017.

28 Semta and Education and Training Foundation report, referenced in Transport Infrastructure Skills Strategy, pp. 56-57, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/495900/transport-infrastructure-strategy-building-sustainable-skills.pdf, accessed in April 2017.

29 Semta and Education and Training Foundation report reports that 60 per cent of the FE providers have problems recruiting adequate STEM teaching staff. STEM Improvement Programme Evaluation Report, at <http://semta.org.uk/images/pdf/STEM-Alliance-Evaluation-Report-Final.pdf>, pp. 7, accessed in May 2017.

30 Department for Transport (2016). Transport Infrastructure Skills Strategy, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/495900/transport-infrastructure-strategy-building-sustainable-skills.pdf, accessed in May 2017.

workforce shortfalls, especially in the short term. Such initiatives should be capitalised on.

Developments within the wider technical reform programme have also been exploited to support better teaching and, as such, new FE apprenticeship standards are also being developed to enhance the training of the future teaching workforce. This will include a component on FE education learning³¹, which aims to first qualify trainees in a vocational specialisation and then train them as teachers.³²

The STAT will need to closely monitor such developments to assess the degree to which they are having an impact and whether further actions will be required. STAT would be willing to work with the IfA to explore the nature of the teaching skills problem in more depth and to develop more tailored solutions to overcome them for the industry.

Recommendation 5

We recommend the government continues to work with the ETF, the Education and Endowment Foundation, and Ofsted to improve the quality, capability and capacity of technical teaching in order to achieve better outcomes for students and employers.

31 Post-16 Skills Plan. (2016), at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/536043/Post-16_Skills_Plan.pdf, p. 35, accessed in May 2017.

32 The description is available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/455056/EDUCATION_AND_TRAINING_Education_and_Training_Higher_Apprenticeship.pdf, accessed in May 2017.

7. Supply and demand: Upskilling and reskilling

Key messages

- The majority of employers covering the transport sector do undertake training in the workplace (on and off the job); nearly sixty per cent of the workforce is being trained.
- The three largest areas of training are health and safety, induction, and technical job specific training.
- Good progress is being made on apprenticeships yet only a minority of employers provide them.
- Developments show that training is changing with new technology and innovative ways of working. More analysis is needed to fully understand the implications of this on supply and demand.

Upskilling and reskilling

Getting skills supply to meet skills demand is the ultimate goal for employers, particularly in transport infrastructure projects.

A key intention therefore is to create a virtuous circle, where industry growth expectations are met with actions to

stimulate demand across the sector and to make better use of people’s talents. This in turn inspires a supply side response, with high quality skills development providing the future skilled workforce the industry needs. To achieve this ultimate goal, the nature of engagement of employers and individuals in FE education and training need to be enhanced.

Box 3. Case Study: Further Education

Recruitment campaign targeting women post-19 for retraining

“Many **women working in engineering and technology** started out on a different career path. FE colleges are ideally placed to offer opportunities for adult women to change direction. This might be because they took a career break but could also be because they are under-employed, at risk of redundancy or simply wish to gain higher level qualifications in order to increase their earnings and better provide for themselves and their family. WISE

is starting to hear from FE colleges and some of our corporate member companies who are specifically targeting adult women. BAE Systems, for example, tell us that the majority of their apprenticeships, particularly individuals who are retraining, have been reached via their local media campaign or at face-to-face outreach events. Skanska plan to contact local authorities and other public sector organisations which may be shedding staff, to offer women opportunities to join their apprenticeship programmes”.

Source: Women In Science and Engineering (WISE)

In meeting future skills targets, it is important to understand where the sector currently is in terms of its present working practices and, in particular, how employers in the transport industry are approaching skills development within their existing workforce. Around 60 per cent of employers included within the transport industry provide training in the workplace (slightly less than the England average)³³. A significant amount of training relates to health and safety and induction training, often driven by a mix of regulatory requirements, and company ethos on safety and employee engagement; however, the majority (84 per cent) is technical job specific training. Furthermore, a significant proportion is in new technology (around 65 per cent). This clearly reflects changes towards modern ways of working inspired by the growth of the digital technologies.

The introduction of the new Apprenticeship Levy in 2017 is likely to result in a shift towards more technical job specific training, although there is yet no data to support this hypothesis.

Evidence in the Employer Perspectives Survey (2014)³⁴ and the Employer Skills Survey (2015)³⁵ indicates that there is an appetite amongst transport employers to provide more training (i.e. over half of employers say they want to train more). So what is the best way to support the industry's ambition to provide more training and improve the chances of supply meeting demand? Some of the solutions have been identified earlier in this report, such

as pooling resources through the Training Alliances.

Another option is increasing the proportion of employers in the transport industry providing opportunities for new types of learning through online facilities and self-learning – a recent survey suggests only 44 per cent of employers provide training in this way. So, it is important to consider how reforms in technical education might positively exploit such developments, whilst at the same time protecting as well as advancing training standards.

However, with the persistence of skills deficiencies there are still questions about the adequacy of training in some areas. Further analysis might help shape future priorities for the transport industry.

When we look to other countries, which have strong technical education systems combining options for learning connected to work, and where the take up for apprenticeships is high, this has shown significant benefits and returns on investment in the long term,³⁶ e.g. Germany has 40 apprentices for every 1,000 people at Level 3, Switzerland has 43, and Australia 39. In comparison the UK has just six apprentices for every 1,000. The UK has only one in ten transport employers supporting apprenticeships at their establishment.³⁷ There is clearly room for improvement.

Further analysis reveals that most training is internal and is dominated by larger employers using their own facilities. When employers do use external providers most use the commercial sector (over 40 per cent) because it offers better solutions. 60 per

33 UKCES. (2015). Employer Skills Survey, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/525444/UKCESS_2015_Report_for_web_May_.pdf, accessed in April 2017.

34 UKCES. (2014). Employer Perspectives Survey, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/373769/14.11.11_EPS_2014_-_Main_Report_full_V2.pdf, accessed in April 2017.

35 UKCES. (2015). Employer Skills Survey, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/525444/UKCESS_2015_Report_for_web_May_.pdf, accessed in April 2017.

36 OECD. (2014). Skills beyond schools, at <https://www.oecd.org/edu/skills-beyond-school/Skills-Beyond-School-Synthesis-Report.pdf>, accessed in June 2017.

37 UKCES. (2014). Employer Perspectives Survey, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/373769/14.11.11_EPS_2014_-_Main_Report_full_V2.pdf, accessed in April 2017.

cent of employers covering transport state that they do not engage with the FE sector because it does not provide relevant courses. For instance, use of FE Colleges has reduced by 25 per cent overall over the last two years, with falls in training duration over time and an increasing use of short training.

Developments within the Post-16 Skills Plan, which are supporting more employer-led solutions, can provide an opportunity to improve the relevance and quality of

training on offer, and as such can potentially work to counter these issues. The transport industry, working through STAT and its mature network of employer and industry bodies, has a strong basis from which to enhance standards, training programmes and the technical qualifications. Box 4 provides further details of employer-led activities on upskilling/reskilling within the Maritime sector.

Box 4. Case study: Maritime

The **Merchant Navy Training Board** (MNTB) was founded in 1935 as the Central Board for the Training of Officers in the Merchant Service. This is an example of bringing together employers, trade unions, colleges and universities. The MNTB's constitution sets membership at eight each from employers and seafarers' organisations, with a further six from educational interests. The industry's regulator is the Maritime and Coastguard Agency.

The MNTB decides which colleges and universities across Britain are authorised to run the courses which train junior officers ('cadets'). The MNTB recognises a small number of colleges and universities to provide training for junior officers (i.e. 'cadets'). Training programmes combine substantial periods at sea with academic studies to enable cadets to put their learning into practice. A trainee navigational officer ('deck cadet') would typically do five phases - college/sea/college/sea/college - with a year of that time at sea.

Source: Stakeholder in the Maritime sector

However, that will depend on being able to retain influence over the evolving shape of the technical reform programme, establishing close links with the IfA and wider stakeholders, such as those involved in the expert panels for the new 15 routes, as new standards and training solutions are created and delivered in the FE sector. It will be essential to ensure that these new training solutions, including apprenticeships, do genuinely serve the needs of the transport sector. It will also be important for the IfA to effectively communicate these training solutions once they are developed so that employers large and small across the sector and their supply chain can quickly understand and navigate around what training is available and where.

The transport industry wants to continue improving working practices in order to strengthen management and leadership on skills, and to set the conditions for continuous improvement, and better skills development to meet demands. One option is to explore how the funds from the Apprenticeship Levy might be used to target priority needs in the sector. This might provide a chance to scale up and widen good practice.

The industrial strategy supports 'Sector Deals', and funding to local areas to support greater innovation might provide opportunities to support performance improvements. STAT would welcome the opportunity to explore these ideas.

Recommendation 7

We recommend the government explore whether wider programmes for skilling, upskilling and reskilling older workers are being sufficiently exploited and support the extension of programmes as necessary. These programmes have the potential to widen the talent pool from which the industry might recruit.

8. Diversity and equality

Key messages

- Support learning opportunities throughout an individual's career.
- Apprenticeship uptake is higher among older workers, and mostly below Level 3.
- This leads to questions regarding the balance of investment in skilling, upskilling and reskilling.
- The nature and modes of training have changed, with a growth in more types of learning outside the classroom and on the job.

Profile of the transport industry

In 2014 there were approximately 4 million learners in the FE sector with the majority registered at FE and tertiary colleges. Three quarters were 19 years and above. Those between 16–18 years of age were most likely to study full time, whereas 90 per cent of older learners (19+) were part-time³⁸. Adult learners represent a diverse community: 57 per cent of learners were female, 16 per cent declared a learning difficulty and/or disability, 20 per cent were BAME and around 15 per cent were on work related benefits³⁹. Consequently, the potential pool of learners in the FE sector for the transport industry to access is quite diverse, but currently the workforce composition for transport does not reflect that broader picture. In particular, nearly 80 per cent of

employees are men, and therefore actions to raise diversity remain important.⁴⁰

The importance of monitoring outcomes

Apprenticeships are generally seen as an important programme for initial education and training. They support entry into the labour market by all social groups. However, due to the fall in the number of younger people in the population over the next few years, there will be some degree of competition for younger education leavers, not only between the transport industry and different sectors, but within the transport sub-sectors themselves. This needs to be considered when monitoring the diversity of future apprenticeship and technical education uptake.

However, 90 per cent of the 2024 workforce is already in the labour market⁴¹, indicating that a significant pool of those

38 Centre for Vocational Education Research. (2017). Further Education in England: Learners and Institutions. Briefing note 1, at <http://cver.lse.ac.uk/textonly/cver/pubs/cverbrf001.pdf>, accessed in May 2017.

39 BIS. (2016). Statistical First Release, at <https://www.gov.uk/government/statistics/further-education-and-skills-statistical-first-release-october-2016>, accessed in June 2017.

40 Office for National Statistics. Social Survey Division, Northern Ireland Statistics and Research Agency. Central Survey Unit. (2017). Quarterly Labour Force Survey, October – December, 2016. [data collection]. UK Data Service. SN: 8145, <http://doi.org/10.5255/UKDA-SN-8145-1>, accessed in May-June 2017.

41 UKCES. (2015). Growth Through People Evidence and Analysis, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/410289/GTP_EA_final_v8.pdf, accessed in June 2017.

pursuing a technical education, including an apprenticeship will need to come from existing workers through upskilling and reskilling. Consequently, to best support the TISS targets, there is a need to understand patterns of learning across the industry over time. It is important for the transport sector to consider whether these changes in learning patterns could be exploited to

address the diversity and equality challenges. Understanding these learning patterns is also important if the industry is to design programmes to promote life-long learning, especially if there is a need to extend the pool of learners to a more diverse pool of candidates. The government's new lifelong learning pilots might provide an opportunity to test and trial new practices for the sector.

Box 5. Case Study: Advancing gender diversity

Women in Science and Engineering

One of WISE FE corporate members, Solihull College and University Centre, has a small project in the Chelmsley Wood area of Solihull which has high levels of unemployment. Engineering companies are visiting the schools to deliver workshops – these workshops are being run by female engineers to introduce young people to the world of engineering at primary school age. Within this region, the majority of mothers have never worked and levels of aspiration in

young girls are very low. Once the College has established these annual workshops (currently delivered by Interserve, Atkins and PM Group), they plan sessions with parents as well inviting them to come in and try a course at the college (it could be a community course, access course or Maths and English) which they can do locally. Two female engineers have also volunteered to join the governing bodies of two schools to support the school engagement with industry.

Source: WISE CEO

Barriers to greater diversity

Financial barriers have been cited as a major barrier to individual learning. This is more of a problem for those on low incomes or from low income households, especially with the removal of the entitlement to public funding for older learners (above 19).

Opportunities to undertake an apprenticeship, where learning is built around a job, could help to overcome financial difficulties. However, the technical education route, if funded through the Advanced Learner Loans, might disadvantage those from lower socio economic backgrounds.

Another barrier to learning relates to individual confidence and self-esteem, with low confidence seen among those who have had repeated spells out of work. This can create a fear of learning. There is also evidence that people can be deterred by strong perceptions about learning opportunities and/or wider images of the sector, the nature of perceived jobs available and what it might be like as a place to work. For example, Engineering UK identified significant issues amongst girls about their perceptions of engineering. The research indicated that, as children get older, their perceptions of transport, and engineering in particular, was less positive. Parents and teachers also play a crucial role in countering prejudices, e.g. the Sainsbury Review found a significant rise in the proportion of

STEM teachers linking undesirability to the perception of engineering as ‘a career for men’ (from 44 per cent in 2013 to 59 per cent in 2014). Such perceptions are often hampered by a lack of awareness and high quality information about what working and learning opportunities in the transport industry are really like. **The TISS target to tackle apprenticeship uptake from more diverse backgrounds (especially BAME and women) is important.**

Recommendation 8

We recommend the government ensures it delivers fair and equal outcomes for all by placing at the heart of these reforms social mobility, equality and fairness for those who may be disadvantaged in the labour market. In particular, ensuring the Advanced Learner Loans do not create a barrier to technical education for those who are already disadvantaged in the labour market. This is a priority for STAT.

9. Developing career pathways

Key messages

- It is important to highlight, promote and link the skills delivery pathway.
- University Technical Colleges (UTCs) are relevant and important to key industry sectors.
- Traineeships are an important route to apprenticeships.
- It is important to promote and develop career opportunities available in the sector to enhance future take up; however, careers advice provision in education is inadequate, which could inhibit the take up of apprentices by young people.
- A number of initiatives to promote careers pathways have also been developed, e.g. Careers Enterprise Company, National Careers Service.
- Targeted transport initiatives have also been put in place to support wider engagement, including alliances such as the Transport and Infrastructure Education Partnership.

The role of UTCs

UTCs are state funded academies set up for 14 to 19-year-olds to strengthen technical education pathways and enable specialisation in technical areas pertinent to key industry sectors such as engineering and digital technologies. UTCs work with employers, nationally and locally, and higher education institutions, to design and deliver a curriculum that integrates academic study with practical learning, through technical projects and work experience, with the aim to provide individuals with relevant employer skills. Different parts of the transport sector have supported the UTC network, particularly in terms of strengthening STEM, ranging from sponsorship, to work experience and volunteering, as well as help with curriculum design and delivery. For example, the Sir Simon Milton UTC in Westminster, due to

open in September 2017, has been supported by an employer alliance created and led by Network Rail and including employers such as Alstom, BT Fleet, and Colas. Whilst the developments of UTCs has a strong rationale, the evolving nature of the network, combined with their small number, makes it difficult to draw firm conclusions on the impact they currently have.

Traineeships

Another programme that can make an important contribution to the skills needs of the transport sector is the traineeships programme, introduced in the UK in 2013 as a further mechanism to develop basic skills of 16–24 year olds for employment. A traineeship lasts between six weeks and six months, consisting of a blend of: work experience; work preparation and training in

areas such as job searches and inter-personal skills; as well as courses in English and Maths. Whilst take up is currently low (19,400 traineeship starts and 12,600 traineeship completions in 2014/15), the scheme represents a significant pathway to improve the apprenticeship pipeline.

Sector-Based Work Academies

Sector-Based Work Academies (SBWA), introduced by the Department of Work and

Pensions (DWP) to help the unemployed gain more pertinent skills and work experience in a specific sector, could serve the needs of the transport sector. Evaluations of SBWAs have shown the scheme enhanced employment for Job Seeker's Allowance (JSA) claimants that took part, reducing their reliance on benefits and providing valuable employment experience.⁴² SWBAs have the potential to support skills plans within the transport sector moving forward.

Box 6. Case Study: Midlands Metro Alliance

The **Midlands Metro Alliance** established a partnership between employers, the West Midlands Combined Authority, local FE colleges and the DWP and is delivering the SBWA in light rail. The current programme has been offered to unemployed candidates over 18. With the

forthcoming developments in High Speed Rail in the region, the SBWA represents an important investment and with the first group of candidates having started on the programme this year, other colleges are coming on board to extend participation levels.

Promotion career pathways

As well as developing training pathways, the sector also needs to give sufficient time to promoting and communicating these pathways so that future learners are aware of the opportunities available. The Post-16 Skills Plan sets out the need to reform careers education and guidance, and a new careers guidance strategy is currently being developed. Under existing policy, schools have a duty to provide careers information and guidance for all year 8-13 pupils. However, an evaluation of this policy found that only a fifth of schools were providing adequate careers advice and the majority of information was limited in the range of options presented. Engagement with employers was low, with only approximately 40 per cent of schools offering at least one

encounter with an employer.⁴³ Consequently, it is unsurprising that only around half of schools supported their young people to take up apprenticeships. These results align with those presented earlier from the employer surveys around work experience, suggesting low levels of engagement between many employers and schools.

The industry needs to connect to national careers initiatives to actively shape perceptions and enhance the information available about prospects in the sector. One vital channel is England's National Career Service, which provides careers

42 DWP. (2016). Sector-based work academies. A quantitative impact assessment Research Report No 918, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/508175/rr918-sector-based-work-academies.pdf, accessed in June 2017.

43 OFSTED. (2013). Going in the right direction?: Careers guidance in schools, at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/413171/Going_in_the_right_direction.pdf, accessed in May 2017.

information to all age groups, although this is increasingly self-service and online.

The website provides careers information on over 800 jobs (including qualifications needed and broader career prospects). The transport industry is keen to ensure its career opportunities are better represented, and augment the careers information and advice provided on each employer's website etc.

Targeted careers activities and advice are also being taken forward through bespoke transport training centres to inspire more individuals about career prospects in the sector, e.g. Highways England and its National Skills Academy for Construction (see Box 7). Other examples include the rail sector's work with Young Rail Professionals, Careers at Sea Ambassadors, the Royal Academy of Engineering and Engineering UK.

These local activities have been combined with more customised initiatives targeted at certain hard to reach groups and/or those from more diverse backgrounds to inspire individuals about the industry, to broaden interest in the sector. Recent examples include Tomorrow's Engineers, the Big Bang

Fair and 2018 being a year dedicated to celebrate engineering. Whilst it is important that the sector is taking action to connect to under-represented groups such as women and BAME communities, sufficient time is needed for such developments to have an impact, thus short-term effects may not be felt. Evaluating the effects over the longer term to develop a fuller understanding of what works and how interventions can be strengthened is required, especially reviewing their role in encouraging under-represented groups to work in the industry.

Finally, the Transport and Infrastructure Education Partnership (TIEP) (established by Crossrail) involves TfL, Network Rail, Thames Tideway Tunnel, HS2, City Airport, National Grid, London City Archives, the London Transport Museum, and the National Skills Academy for Rail and Engineering UK in working together to engage with schools and UTCs on engagement with employers.

The STAT will need to continue to work with the transport industry to monitor and support such developments, exploring new ways of working across the sector.

Box 7. Case Study: Highways England

Highways England's National Skills Academy for Construction (NSAfC) is working closely with local training providers and other stakeholders to maximise opportunities for people who live nearby and realise local benefits. To date, nine Highways England major projects, totaling over £1bn, have been granted NSAfC Status. Each NSAfC project produces an Employment and Skills Plan (ESP) with KPIs based around Industry Promotion, Employment & Training. Achievements include:

1. Construction Careers Information, Advice & Guidance Events for 14-19 yr olds. To date, c950 events have been held across England.
2. Job Created for Apprentices for new entrants into the sector.
3. Work experience on NSAfC Projects for students from schools, colleges and Universities, and for persons who are not enrolled in a course of education/study.

Source: Highways England - Road Network and Traffic

Having reviewed the patterns of employer and employee engagement in training and learning, the research sets out recommendations about how future take up across the sector can be improved.

Recommendations 9 & 10

We recommend the government continues to support the transport industry to monitor and promote examples of good practice within the transport sector; sharing learning amongst grass roots organisations and networks to enhance more effectively partnership working across the sector.

We recommend the government continues to supply labour market intelligence and careers advice through improved national careers services, e.g. the National Career Service, “Inspiring the Future”, LMI for All. These services provide valuable careers information, advice and guidance to all age groups, employers, parents and carers.

Conclusions



Conclusions

The current shape of the FE sector is being influenced by a major skills reform programme. This offers a significant opportunity to the transport industry in delivering its skills ambitions in the TISS. The reforms seek to strengthen technical education in England, and realise the potential offered by work-based learning routes such as apprenticeships. The core strategic principles on which the reforms are based are broadly supportive of the goals of the TISS and have the ability to enhance the standing of technical education in England, not least by: strengthening employer leadership and engagement in the end to end training process; enhancing the quality and relevance of provision; creating clearer career pathways; enhancing provider responsiveness; and creating more sustainable and balanced investment between the private and public sector.

The reforms however come on the back of many previous waves of reform and therefore there is complexity in how the changes are being implemented. As the new arrangements are still in transition, there is at least a dual system, with legacy arrangements existing alongside those newly established. This has undoubtedly created some confusion amongst FE providers, with conflicting performance frameworks, funding models, and changes in training programmes (including standards, curriculum, and qualifications).

Changes in funding and the policy infrastructure to support implementation of the new technical education programmes will stimulate on-going developments in the FE delivery landscape. The FE community is diverse, consisting of a wide mix of

public, private and voluntary providers and there is varying coverage in different parts of the country which could risk future delivery. This is set to continue to evolve the implementation of change encourages new partnerships and mergers, and new institutions are created, such as the Institutes of Technology.

Funding changes are also creating some financial uncertainty amongst the provider community, which is driving further change in the infrastructure. There is the potential too for confusion amongst employers and individuals wanting to get involved in the new programmes, as well as providers, as they are required to find their way through many new and old initiatives. In a time of such turbulence, we set out recommendations overleaf.

The study, findings and recommendations as set out in this report are broadly supportive of the technical education reforms and the Post-16 Skills Plan. But these reforms can only be successfully implemented if employers, as key stakeholders, are included at each stage of the journey.

These carefully considered findings and recommendations offer suggestions to improve the implementation of these important reforms.

In return, the transport industry remains ready to support the implementation of the proposed changes as these will benefit our sector and support the ambitions we have set out in our own skills strategy.

Recommendations



Recommendations

1. **We recommend the government facilitates greater employer representation** by regularly seeking the views of the transport industry in the implementation of the skills reforms.
2. **We recommend the government sets out the Post-16 Skills Plan** implementation plan and delivery timelines, such that the delivery milestones for FE, as part of the future devolution deals, are known to employers, thus creating the conditions for more meaningful employer involvement in the reforms.
3. **We recommend the government asks STAT to continue to maintain oversight of the technical reforms** as set out in the Post-16 Skills Plan for the sector, linking appropriately to key representative employer-led bodies in the transport sub-sectors and providing a coherent voice for the transport industry on skills issues at a national level, including working with the IfA, and the 'Route' chair.
4. **We recommend the government encourages training providers to work together** to form 'training alliances'. Such alliances will enable the FE sector to pool resources, share best practice and become better equipped to deliver in specialist areas, (e.g. high value, low volume skills) that serve the specific interests of the transport industry.
5. **We recommend the government, either with or through the IfA, provides clarity of the funding** arrangements as this will enable the transport industry to better understand the reform plans.
6. **We recommend the government continues to work with the ETF, the Education and Endowment Foundation, and Ofsted** to improve the quality, capability and capacity of technical teaching in order to achieve better outcomes for students and employers.
7. **We recommend the government explore whether wider programmes** for skilling, upskilling and reskilling older workers are being sufficiently exploited and support the extension of programmes as necessary. These programmes have the potential to widen the talent pool from which the industry might recruit.
8. **We recommend the government ensures it delivers fair and equal outcomes for all** by placing at the heart of these reforms social mobility, equality and fairness for those who may be disadvantaged in the labour market. In particular, ensuring the Advanced Learner Loans do not create a barrier to technical education for those who are already disadvantaged in the labour market. This is a priority for STAT.
9. **We recommend the government continues to support the transport industry to monitor and promote examples of good practice within the transport sector;** sharing learning amongst grass roots organisations and networks to enhance more effectively partnership working across the sector.
10. **We recommend the government continues to supply labour market intelligence and careers advice** through improved national careers services, e.g. the National Career Service, "Inspiring the Future", LMI for All. These services provide valuable careers information, advice and guidance to all age groups, employers, parents and carers.

Frequently used abbreviations

Frequently used abbreviations	
BAME	Black, Asian and Minority Ethnic
CEC	Careers and Enterprise Company
DfT	Department for Transport
DWP	Department for Work and Pensions
ETF	Education and Training Foundation
FE sector	Further Education sector
HS2	High Speed Rail
IfA	Institute for Apprenticeships
JSA	Jobseeker's Allowance
MNTB	Merchant Navy Training Board
NCHSR	National College for High Speed Rail
NTAR	National Training Academy for Rail
SBWA	Sector-Based Work Academies
STAT	Strategic Transport Apprenticeship Taskforce
STEM	Science, technology, engineering and mathematics
TB Programme	Trailblazer Programme
TIEP	Transport and Infrastructure Education Partnership
TISS	Transport Infrastructure Skills Strategy
TUCA	Tunnelling and Underground Construction Academy
UTCs	University Technical Colleges
UK	United Kingdom
UKCES	UK Commission for Employment and Skills

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