

Appendix Two:
Commission overview
and case studies
of University of
Warwick impact

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Appendix Two

This appendix sits alongside the Shattock book and the BiGGAR Economics impact analysis in providing a description and commentary on the current impact of the University of Warwick. However it augments these substantial pieces with a Commission perspective on the depth and breadth of the University's local and regional contributions. It underpins the argument we make in Chapter Three of our report.

The most profound impacts made by the University include:

1. WMG:

The Warwick Manufacturing Group's support for the advanced manufacturing sector and engineering industries in the city, Local Enterprise Partnership area, and the Midlands has been much admired globally and has delivered significant benefits locally. Strong, relevant current examples of this are given in the two case studies adjacent.

The National Automotive Innovation Centre and research led innovation

The National Automotive Innovation Centre (NAIC) is a significant new research centre focusing on the automotive industry and a joint initiative of Lord Kumar Bhattacharyya and Dr Ralf Speth, the CEO of Jaguar Landrover. NAIC aims to provide a critical mass of research capability by attracting national and international researchers and encouraging interdisciplinary, international collaboration. It is anticipated that the NAIC will meet the demands of the industry in developing fields such as low carbon technology and smart and connected cars as well attracting and training skilled R&D staff in the industry's supply chain.

Opening in 2017, the building will encompass an area 33,000m² and will be large enough to accommodate 1,000 staff working on a range of advanced projects. The NAIC will become the hub for Jaguar Landrover's advanced research teams, enabling Jaguar Landrover to co-locate 600 of its engineers, researchers and technologists to work collaboratively with academics and R&D specialists from across the automotive supply chain. The development of the new NAIC facility will complement Jaguar Landrover's product research and development centres in Gaydon (near Warwick) and Whitley in Coventry.

The NAIC will cost £150 million and its funding is a prime example of WMG's approach to collaboration between business, university and government organisations. The Higher Education Funding Council England (HEFCE), a government body, will provide £30 million of funding with further financing coming from the Engineering and Physical Sciences Research Council (EPSRC), Jaguar Landrover, Tata Motors and a range of companies in the supply chain as well as the University of Warwick and WMG.

By linking industry and world-leading research and providing world-class infrastructure to create and develop novel technologies, the NAIC will be a driver for economic growth in the region.

www.warwick.ac.uk/naic

The International Institute for Product and Service Innovation (IIPSI)

The IIPSI opened in 2012 on the University of Warwick campus as an addition to WMG's facilities. The initiative was intended to boost R&D capacity and capability in the West Midlands and the competitiveness of SMEs in the West Midlands. It provides SMEs in the West Midlands with access to world-leading technology to enable development of leading, innovative products and services.

The IIPSI has worked with over 200 companies in the creative industry, consumer products, electronics, engineering, the environment, food and drink, information technology and plastics. Examples include developing a new customer experience and new industrial process for England's longest-established bicycle manufacturer; developing new systems informed by customer experiences for a number plate manufacturer; streamlining the operations of a large consortium of businesses, leading to a significant increase in revenues and success in securing a grant.

A final evaluation of the programme found that the IIPSI, by providing a hub for SMEs to access world-leading technology to develop highly competitive, innovative products and services assisted 206 businesses, safeguarded 170 jobs and generated £16.9 million GVA for the region.

The WMG SME group continues to support innovation in SMEs by applying research-led tools and techniques and building sustainable and collaborative relationships.

www.warwick.ac.uk/iipsi

WMG has anchored the renaissance of a modern automotive cluster in the region. It has provided major innovations in engineering and skills, from secondary education through to post-doctoral research. It is currently the catalyst for delivery of higher level apprenticeship reforms nationally. It collaborates effectively with other parts of the University such as the Institute for Digital Healthcare with Warwick Medical School.

However, the question which the Commission had to consider is the extent to which WMG exists as a signifier of wider University cultures and commitment to the region, and the extent to which it is truly a one-off. This consideration mirrors that on which many local and regional partners also reflect.

On balance, the Commission recognised WMG as extraordinary and exceptional - and the challenge for both the Group and the University is to make more of WMG models and its relationships both internally and with the region over the coming period.

2.

WBS:

Warwick Business School is one of the best in Europe. It plays a major role with WMG and the Medical School in training local business and NHS executives, and it provides some local research and consultancy. Professor Shattock considers the impact of WBS alumni on the region is considerable. However, in recent years the focus has been much more on global and national programmes, and developing the new facilities at The Shard in London. There are strong opportunities for WBS to contribute to local and regional problem-solving more strategically in the future should it so decide - and a number of ideas are floated later in our report.

3.

Science Park:

The University of Warwick Science Park was set up to contribute to the industrial restructuring and modernisation of Coventry. It hosts over 125 companies employing around 2,500 staff, and generating turnover of £170 million per year across five sites in the West Midlands. This has enabled it to reach beyond its initial land-locked site adjacent to the University, and have impact across the region. It assists SMEs with financing and other services in addition to its property roles. For the Commission, one of the most interesting interfaces of the Science Park is the relationship the sites adjacent to the main campus have with academic departments, WMG, spin outs and so on, as illustrated in the case study adjacent.

Warwick Science Park

The University of Warwick Science Park was established in 1982 as a joint venture company owned by the University of Warwick, Coventry City Council, Warwickshire County Council, and the West Midlands Enterprise Board. It was one of the first university based science parks in the United Kingdom. In 2012 the University of Warwick acquired sole ownership of the Science Park.

Located across four sites in the West Midlands, the Science Park supports economic impact by providing space for businesses to locate in and grow thereby supporting informal knowledge sharing between the University and businesses. It also contributes to the inward investment proposition as the presence of knowledge infrastructures makes Coventry and Warwickshire a more attractive place to invest and locate. Across the five sites there are 123 companies, employing 2,530 staff and generating an estimated combined turnover of £169.7 million. It can be estimated that in 2014/15 the University of Warwick Science Park contributed almost £89.9 million GVA and almost 3,780 jobs in the UK, of which £83.8 million GVA and 3,456 jobs was in the West Midlands and £63.5 million GVA and 2,675 jobs in Coventry and Warwickshire.

The Science Park's Business Support Service provides an end-to-end service for innovation led businesses ranging from start-up support to on-going strategic consultancy for established firms. The support team have experience from working with over 2,000 companies. Their experience includes help raising money, launching products/services, improving marketing communications, mentoring for growth and start up support. Services include incubation facilities via Ignite, access to finance including the Minerva business angel network and professional route to market development from Techmark.

www.warwicksciencepark.co.uk

However, the Commission was also concerned at the scale of the Science Park compared to leading UK and global campuses, and how ambitions for the future will assist drive sub-regional, West Midlands and Midlands Engine priorities. This same issue is also relevant for Warwick Ventures below.

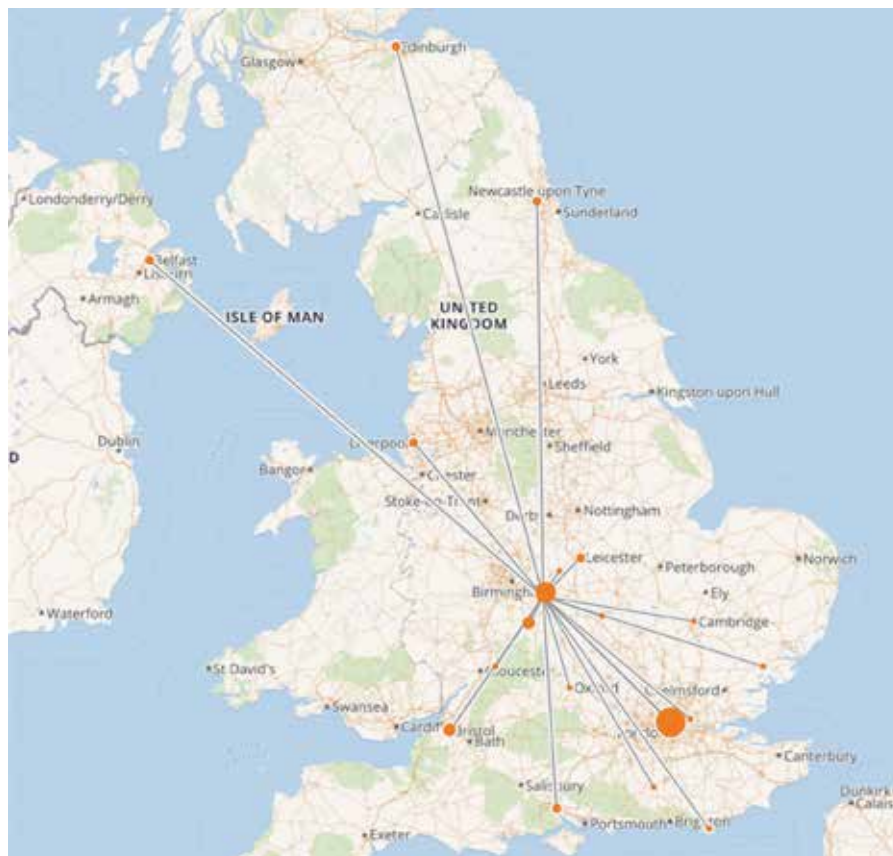
4. Warwick Ventures:

Warwick Ventures is a wholly owned subsidiary of the University, and oversees its technology transfer and commercialisation activities. BiGGAR suggests that its impact has been quite modest compared to other universities. However, Warwick Ventures now have plans for scaling up and for collaboration with Coventry University's equivalent office.

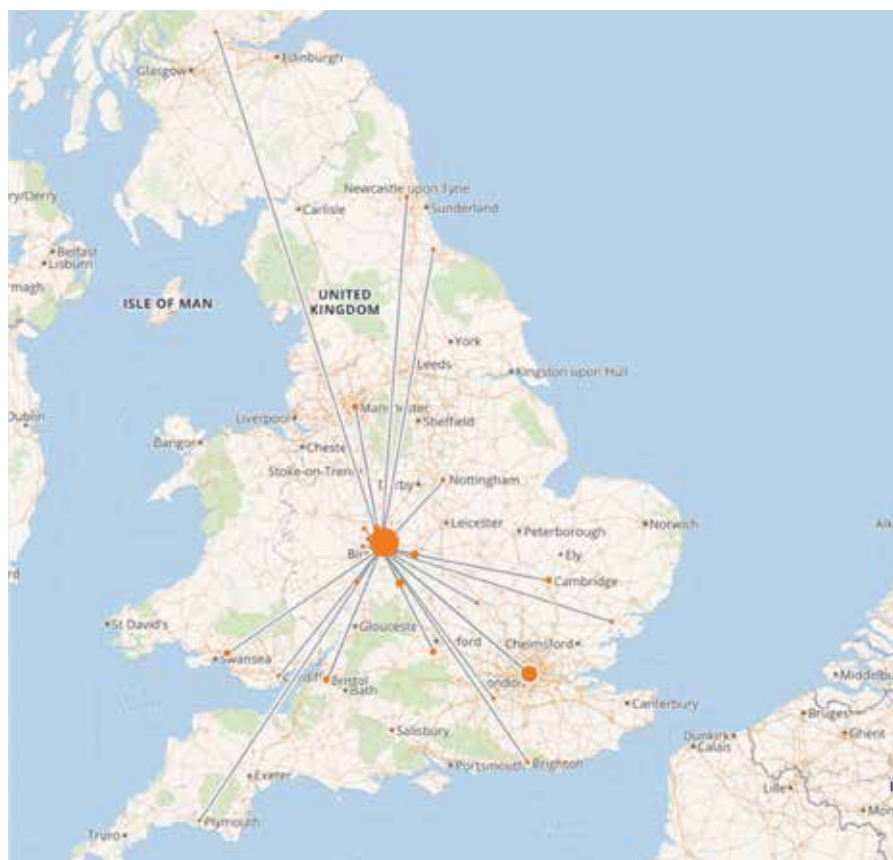
www.warwick.ac.uk/ventures

5. Research:

The University of Warwick has some of the most highly ranked research departments in the UK. The question for the Commission is the extent to which these research strengths contribute to local and regional advancement. The BiGGAR report finds it hard to identify local and regional research impacts from the University of Warwick's eleven global research priorities. The Higher Education Funding Council for England's recent Research Excellence Framework analysis¹ suggests a lesser intensity of impact locally compared for example to Birmingham. For instance the impact map for the University of Warwick shows 11 references to Coventry compared to 23 to London. For the University of Birmingham, the figures are 36 references to Birmingham and 11 to London. The University correctly points out that Birmingham's track record is a function of its longevity, and pointed to comparisons with the 'seven sisters' founded around the same time as Warwick (i.e. East Anglia, Essex, Kent, Lancaster, Sussex, and York alongside Warwick). Here the position is mixed. Some Universities have a London-centric profile similar to Warwick. Other (e.g. York and Sussex) make references to Yorkshire and Brighton respectively which are as or more numerous than their London cases.



University of Warwick



University of Birmingham

¹ Higher Education Funding Council for England, (2016) REF Impact: Maps of impact case studies. <http://www.hefce.ac.uk/rsrch/REFImpact/impactmaps/>

There are strong REF cases studies with local impact within University of Warwick's cohort, particularly in relation to the Medical School. There are also interesting collaborative examples that have potential to develop further. Two examples are the Science City Research Alliance in conjunction with University of Birmingham and the Midlands Innovation group. These are showcased adjacent and below.

Science City Research Alliance

The Science City Research Alliance (SCRA) was a strategic union between the University of Birmingham and the University of Warwick. It was part of the Birmingham Science City initiative proposed in 2005 and ultimately established in 2008. SCRA was funded by government through the former regional development agency, Advantage West Midlands, and funding from the European Research and Development Fund with the aim of increasing the science base within the West Midlands.

Over 300 midlands businesses and research organisations benefited from the eight yearlong Science City Research Alliance which has now drawn to a close. It brought together a range of successful initiatives:

- ▶ Over £65 million in science and business support funding brought into our region.
- ▶ Researchers using Science City equipment have now levered nearly £200 million in additional funding from UK research councils, European funding, Innovate UK and industry.
- ▶ 20 New spin-out companies have been created and 2 Spin-in companies attracted.
- ▶ More than 450 knowledge intensive jobs have been created or safeguarded through the programme. A further 115 graduates have entered regional employment after completing PhDs, Masters or final year projects linked to Science City.
- ▶ More than 300 regional businesses have engaged directly in the Science City programme. Many of these have gone on to develop longer-term collaborations with the universities.
- ▶ Around 170 workshops have been held engaging with research, industry and policy audiences.
- ▶ More than 1,500 people have been trained on the Science City equipment.

www.warwick.ac.uk/sciencecity

Energy Research Accelerator(ERA)/Midlands Innovation

- ▶ ERA is a partnership between six universities who form the Midlands Innovation group - The University of Warwick, Aston University, The University of Birmingham, The University of Leicester, Loughborough University, and The University of Nottingham.
- ▶ It aims to become a world-leading hub of energy talent, technology research, development and deployment based on academic expertise from the university partners and industrial heritage of the Midlands.
- ▶ The Government confirmed a £60 million capital investment in ERA in the Spending Review and Autumn Statement 2015. Together with private sector and university support this sees £180 million total investment in the Midlands region.
- ▶ The funding will create new world-class facilities in the Midlands to meet the challenges of developing affordable low-carbon energy and technologies for greater energy efficiency.
- ▶ As part of the ERA programme the University of Warwick is creating a National Low Carbon Mobility Centre, serving the automotive, commercial, off road, marine and rail sectors by the development of enabling technologies in energy storage and energy machines, drives and systems. One example of the University of Warwick's expertise in this field is WMG's national advanced energy storage facility which provides capability to validate new battery chemistry; it enables the rapid characterisation of battery cells, the ability to test up to 1,000 Amps, and to expose to extreme vibration, crush and penetration. Sponsored, by the UK's Automotive Council, it is the only one of its kind in the UK. University of Warwick researchers will also be assisting on a project to deliver smaller heat pumps to replace today's domestic boilers.

Nevertheless, given the significant demand for 'living laboratory' work by the University from local and regional partners, we consider there is much more potential to be realised in this area of activity. We also make recommendations about local impact being part of the next assessment criteria for future REF exercises - if Government wishes to incentivise universities to pay more attention to impactful local and regional research.

6.

WMS:

Warwick Medical School is still a relatively young part of the University – established initially in 2000 in partnership with Leicester and only granted independent degree-awarding status in 2007. The School is a major provider of doctors for the sub-region, and also the major provider of continuing professional development for healthcare professionals. Its students take clinical and community placements and attachments during their courses, making a significant contribution to medical services.

WMS has played a leading role in the turnaround of Coventry's University Hospital which had struggled prior to the partnership with WMS. It also generates a significant range of research results attracting around £25 million per year of external funding, which has underpinned local reforms in the NHS and the development of locally-based healthcare businesses. Two case studies of positive impact are showcased here:

The Institute of Digital Healthcare at the University of Warwick was launched in 2012 and is a five year partnership between the NHS, Warwick Manufacturing Group (WMG) and Warwick Medical School (WMS) which aims to improve people's health and wellbeing through the development, evaluation and use of innovative digital technologies and services.

The Institute aims to improve the quality, safety, accessibility and productivity of healthcare by supporting the implementation of digital solutions for the public, patients and professionals, underpinned by rigorous, multi-disciplinary research, development and evaluation. Their model of research-led innovation in healthcare entails identifying real problems, understanding them by identifying relevant theories, selecting appropriate technologies and developing new solutions where necessary. Each solution then needs rigorous evaluation for safety, effectiveness and cost implications before promotion to healthcare systems.

All this requires close working with industry, the NHS and across many disciplinary boundaries. The Institute employs experts in biomedical and information engineering, health psychologists, statisticians and clinicians with public health, hospital medicine and community health backgrounds. Some have spent several years working in the NHS while others have significant industry and academic experience. This means that they can understand and analyse most health related problems, then develop, evaluate and deploy innovative digital solutions.

www.warwick.ac.uk/idh

Tommy's Miscarriage Research Centre

In April 2016 Tommy's opened the UK's first national research centre dedicated to early miscarriage.

There are approximately 250,000 miscarriages every year in the United Kingdom, with about one in three women experiencing recurrent miscarriages. Miscarriage is by far the biggest cause of pregnancy loss in the UK, and it's also the least understood. 85 percent of miscarriages happen in the first 12 weeks, and are known as early miscarriages. Parents often receive no answers when it happens. Current health guidelines mean they need to endure three consecutive early miscarriages before there is any investigation.

The Tommy's National Early Miscarriage Centre will comprises a partnership of three universities: The University of Birmingham, The University of Warwick (in conjunction with University Hospitals Coventry and Warwickshire NHS Trust), and Imperial College London. The three sites will run specialist clinics enabling 24,000 women per year to access treatment and support and participate in Tommy's research studies.

The Centre will seek to understand why miscarriage happens, if it is likely to happen again, how to prevent it, and how to provide appropriate aftercare.

In addition, the Institute of Digital Healthcare at the University of Warwick will develop a clinical database, to support the work of the Centre and improve outcomes based on information-driven approaches. The Institute of Digital Healthcare is a partnership between two University of Warwick departments, WMG and Warwick Medical School, whose aim is to improve people's health and wellbeing through the development, evaluation and use of innovative digital technologies and services.

It is hoped that thousands of women who suffer from early miscarriage, will benefit from the world class research taking place in Coventry.

For a young Medical School, WMS has made impressive progress. We believe this can be deepened and broadened - perhaps by realising synergies with Coventry University's nurses and care training capabilities, as Coventry, Warwickshire and Midlands face the considerable societal challenges of health and care in the future.

7.

Education:

The University has played a big part in teacher training and continuing professional development since its merger with Coventry College of Education in 1978. Shattock describes in considerable detail the schools partnership profile and impact on teacher training and CPD that has been delivered. Perhaps the most high profile recent contribution to schools and schooling, though, has been the establishment of two WMG engineering-focused University Technology Colleges for 14-19 year olds in Canley, close to the main University campus and Chelmsley Wood, Solihull.

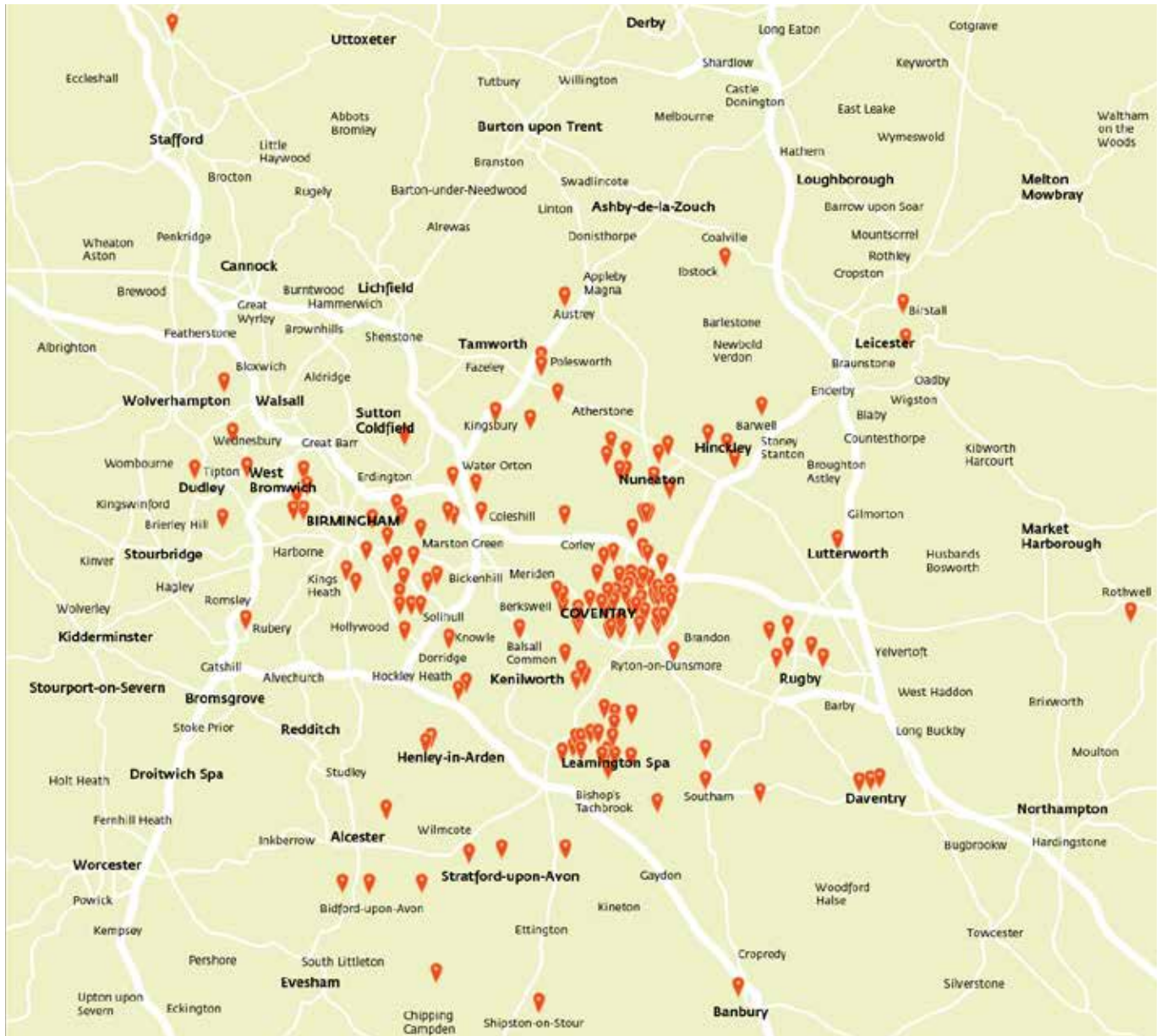


Figure 1: Map showing the spread of partnerships in teacher training with schools in the region.

WMG Academies

The development of two WMG Academies for Young Engineers is part of the Government-backed initiative for University Technical Colleges. WMG's two academies, supported by the University, cater for 14-18 year olds from Coventry, Warwickshire, Solihull, and Birmingham, giving students the skills they need to become the UK's future inventors and engineers. They work alongside some of the largest employers in the region to deliver a dynamic curriculum, underpinned by a radical learning and teaching approach designed around the needs of both students and employers.

It is vital that the future workforce has the skills they need to become the UK's upcoming inventors and engineers. The University is achieving this by putting business-focused, practical problems and challenges at the centre of the curriculum in the Academies. Working alongside some of the largest employers on real life projects, students from the age of 14 are working on industry projects, developing the skills that employers value: problem-solving, creativity, leadership, communication, resilience, and the ability to respond to change. Through this way of learning, students are developing the ability to apply engineering skills and knowledge in a practical setting.

"Sustaining our manufacturing excellence will determine whether or not the UK can compete in the global market place over the next 50 years and beyond. In order to stay ahead of our competitors we need to create jobs and put more value back in engineering and manufacturing. We have some of the best companies and supply chains in our local area, and they all desperately need new talent and skills to help them grow. That is why the UTC is so important. It will reach a younger generation, engaging them in an innovative new learning environment and exciting them from cradle to grave about the opportunities in engineering and the creation of the high value products of tomorrow."

Professor Lord Bhattacharyya, Chairman, WMG

www.wmgacademy.org.uk

However, the Commission believes the University can do more in this space. Its impact on the regional education system is deep and positive. There are pockets of poor education and low skills in its neighbourhood. The University has relationships with people who are not in education and training and with every aspect of the education system from secondary to PhD. It could be building stronger partnerships with further education colleges and other providers to build a ladder of progression all the way through the system. This would bring benefits to it as a major employer in the region and could be a model of excellence for the whole country. We return to these themes in our final report recommendations.

8. Widening participation and lifelong learning:

Sometimes overlapping and complementing the education impact above, the University has an impressive track record of promoting widening participation and lifelong learning. It has developed innovative offers in these areas – including certificate programmes, foundation degrees, part time and 2+2 programmes. On average the undergraduate targets met by these programmes have included around 500 mature students, 450 students from low socio-economic classes, and 150 students from low participation neighbourhoods each year. The targets are negotiated nationally. Two excellent examples of this type of work are showcased below:

Warwick 2+2 degrees

The Centre for Lifelong Learning at the University of Warwick offers three 2+2 degrees in partnership with City College, Coventry, North Warwickshire and Hinckley College and Solihull College.

The 2+2 programme allows students without traditional qualifications to spend two years at a local further education college studying for a University of Warwick degree before continuing to study at the University for a further two years. Introductory years at a further education college can help someone who has not experienced formal education for a number of years, giving them the chance to adjust to studying again, away from the more formal academic environment of a research-intensive university.

The programme takes 85 entrants a year, who come with either access level or vocational level 3 qualifications, although some have no level 3 qualifications at all. These are mainly students who may have missed out on educational opportunities earlier in life, or who may have faced barriers to continuing their studies.

The programme has run for 25 years and has a track record of graduates progressing into areas such as social work or into teaching or working in local government. Some also go on to postgraduate study.

The growing programme admitted 110 students for 2015 year of entry, through links being developed with an additional college in Leamington Spa.

GetSkilled – partnership with National Grid

GetSkilled is a National Grid initiative designed to support 16-20 year old NEETs (Not in Education, Employment or Training) young people who find it hard to progress into work or further training. Students initially attend a National Grid Business Learning Centre uniquely located within a University site before progressing onto work placements. The individually tailored programme lasts up to a year and is designed to build work-related skills before providing students with opportunities to take part in work placements equipping them with the experience needed by employees.

One of the pilot projects is based at the University of Warwick. Since the Warwick pilot began 41 from 58 students have achieved a positive destination: College 19; Apprenticeship 18; Employment four.

Students who leave prior to the end of their 4-week probationary period are not included. The majority not completing are due to poor attendance with some behavioural problems plus medical reasons such as pregnancy and being a full time carer.

Charles, a recent GetSkilled participant said:

"I dropped out of sixth form as it wasn't for me, I found out about GetSkilled and thought it would be a beneficial thing for me to be a part of, and I was right!"

"...it's a friendly environment and very supportive towards success in whatever it is you want to do. It also helped me understand that hard work really does pay off in the end."

Given the social mobility priorities of the recent government White Paper, the question is can the University do more to promote local participation and attainment? Is this type of level of activity appropriate to Coventry and Warwickshire need and demand - especially if combined with Coventry University widening participation activity?

For these reasons, along with Education, we encourage the University to work with local and regional partners to typically exceed and 'localise' the national widening participation and lifelong learning regimes as the White Paper moves towards policy implementation.

9. Warwick Arts Centre, culture and recreation:

Warwick Arts Centre is widely regarded as a jewel of the University. It hosts high quality programmes and events which attract large audiences and visitors, over 250,000 visits per year from across the region, and also runs extensive outreach programmes in schools and communities. The Arts Centre was instrumental in establishing a network of sub-regional venues, and is also embracing a leading role in Coventry's bid for the UK City of Culture. It fully merits Shattock's plaudits and the case study illustration below.

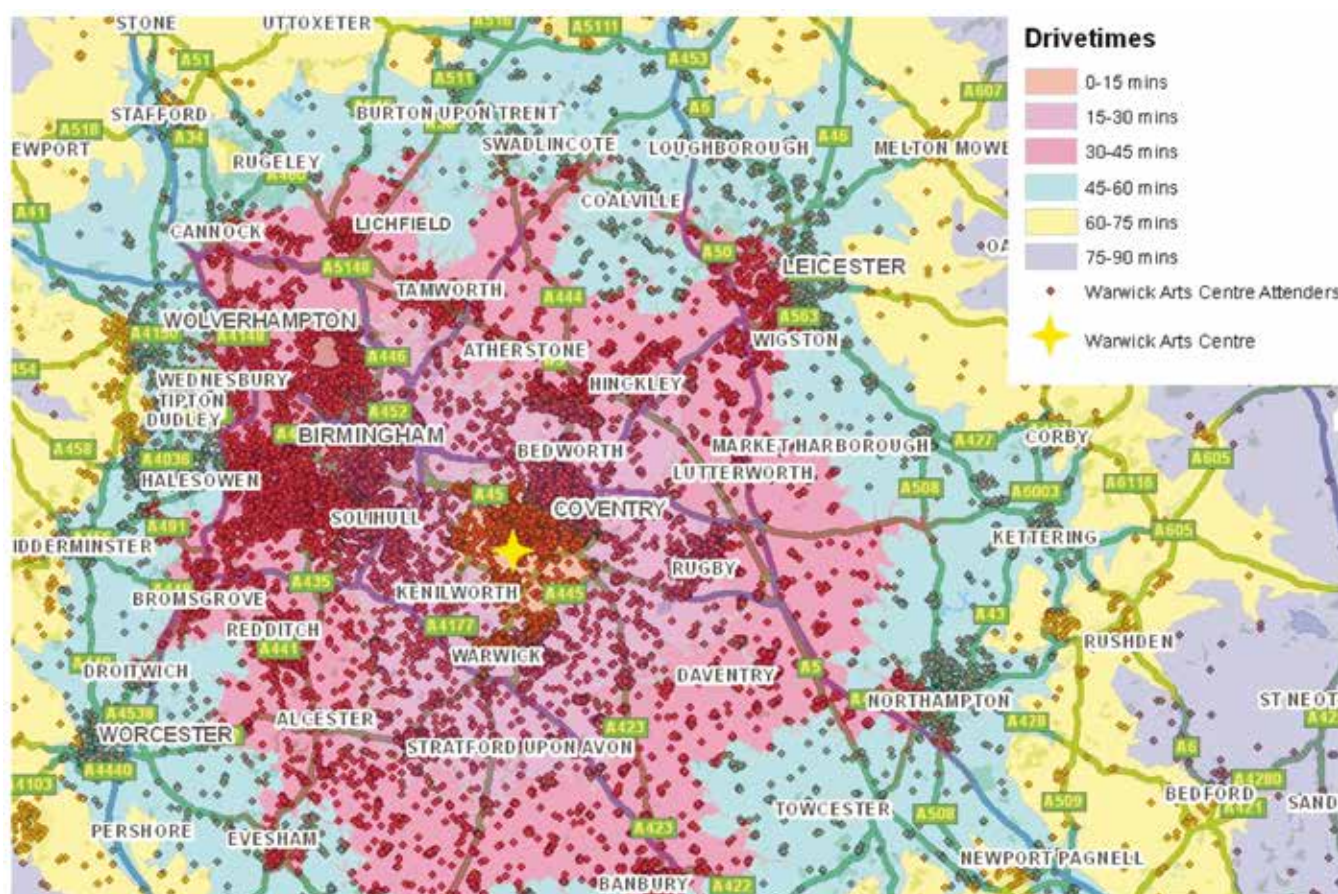


Figure 2: Analysis by the catchment area of 45 minute drive time where 82% of the Warwick Arts Centre live.

Warwick Arts Centre

Warwick Arts Centre's 40th anniversary in 2014 marked the sale of the 10 millionth ticket sold for an event since the venue opened in 1974. As the largest arts centre outside London and, with nearly one million visitors each year, it is the leading multi-disciplinary arts centre on a UK university campus. Situated at the heart of the University, Warwick Arts Centre presents over 1,500 events, films and exhibitions each year and provides a home for collaboration, innovation and creativity to thrive, an environment where ideas and talent can grow.

Every year Warwick Arts Centre engages with the community through initiatives such as Triggered@, a programme for commissioning new work for emerging, regional artists. It supports over 30 partner organisations with 50 academics through This is Tomorrow, a programme of unique artist/academic collaborations. Each week over 1,000 students are engaged in drama, opera and music making and annually 500 students work alongside professional staff to develop skills which will support their future employment prospects. Family days bring thousands of children and families onto campus and over 25,000 children and young people watch or take part in events at the Arts Centre or across Coventry with many developing their visual literacy, confidence, communication and artistic skills.

One highlight from this extensive portfolio of work is Boys Dancing, a project which started by enabling 60 boys from Coventry and Warwickshire to make contemporary dance. The West Midlands Boys Dance Alliance was born with the boys creating nearly 100 new pieces of work for live performance and a number of dance films. Latterly, over 750 boys and young men from 51 schools and youth centres from eight local authorities across the West Midlands performed on campus at Warwick Arts Centre and produced six new dance works for film: 'Quiet Man Suite'.

The reach and impact has been significant. Teachers and artists developed their professional expertise. Warwick Arts Centre developed new partnerships and engagement across the region and the project evaluation with the boys proved its significant impact on all of the participants. They had all gained confidence, developed new skills, enjoyed new experiences, admired new role models, raised their aspirations and gained a sense of pride. As one Primary participant observed: "It made me see a brighter future."

Video: The Quiet Man Suite www.vimeo.com/68222045

Video: Warwick Arts Centre: inspiring people's love of the arts and live entertainment since 1974 www.vimeo.com/122121097

The University has major sports and recreations facilities on campus which are used extensively by local schools, clubs and some residents. It is about to invest over £40m in improving these, one of the largest sports and leisure investments in the West Midlands and certainly in the sub-region. Local communities have been consulted on the project, although this has only happened at a late stage.

10.

Students and Warwick Volunteers:

Of the University's 25,181 students around 10% are distance learners and 4,500 are part time. The remaining 17,800 full-time students, including 7,300 from overseas, account for over 5% of Coventry's population. Approximately half of these live in some type of university managed residence with 6,200 on campus. Large numbers of students also live in Leamington Spa and Coventry South, especially Westwood and Wainbody wards and Earlsdon.

All this has had a range of impacts. Students generate local spend of £77 million per year and 1,280 jobs at the sub-regional level according to BiGGAR. They support a range of public transport and other public and commercial services. But, they also place a strain on local housing markets and create several local transport bottlenecks around the campus. Around 3,000 students also have part-time employment in the locality.

The University of Warwick is particularly proud of its Warwick Volunteers programme - which involves up to 2,600 students a year in 40,000 hours of community service on over 100 projects. It is clear that a number of students make major contributions to the communities in which they live. Examples are illustrated adjacent, and local impact is likely to increase as Warwick Volunteers is now collaborating more closely with local authorities on targeting and prioritisation. We also suggest in our final report that consideration be given to extending Warwick Volunteers to realise synergies with the very considerable staff volunteering programme.

Warwick Volunteers

Student volunteering is actively encouraged at the University through Warwick Volunteers, which in 2014/15 had more than 2,360 volunteers registered with it, volunteering an estimated 32,211 hours across more than 50 projects. Examples of community projects include extra-curricular activities, tutoring and foreign language teaching support in 56 schools in the local area.

A couple of years ago Warwick Volunteers made a strategic decision to focus some of their programmes on areas where our students live and/or areas where there were some community relations issues for the University. One of these areas was Canley, adjacent to the campus, and they have run several successful activities there in recent times.

The value of this activity to society is much greater than can be quantified, as volunteers provide invaluable support to organisations that otherwise may not be able to offer the services required, service users experience a variety of benefits such as improved wellbeing and students themselves gain valuable skills.

Warwick Volunteers also receives support from alumni and friends that enables it to offer students additional training and development opportunities, to ensure that they are as prepared as possible for their volunteering.

Enactus

Enactus Warwick is a student-led organisation aimed at creating social impact through entrepreneurial action. This includes Enactus Warwick Consulting, a student pro bono consultancy working with charities and businesses in the local community by pairing them up with some of the most talented students at the University.

Past projects have included successful business turnarounds, helping start-ups getting on their feet and designing marketing strategies for charitable organisations. Every year they work with approximately 15 organisations in the local community from Birmingham, Coventry, Leamington Spa and beyond with approximately 90 student consultants offering their fresh perspectives, analytical skills and ambition to advise them.

In 2015 they began a new project; the Enactus Warwick Intelligence Unit. They identified a disconnect between the University and Leamington Spa and believed, as students that they have a responsibility to contribute to the development of Leamington and its businesses as it provides so many of the University's students with an excellent place to live. They worked in partnership with local businesses and students living in the town to research and publish an Independent Retail Outlook Report and they are now carrying out a similar piece of work for Kenilworth Town.

However, the level of activity raises two questions. Could programmes be more strategically aligned to community needs? As of now Warwick Volunteers are supported by around 10% of students, disproportionately from overseas, undertaking an average of 15 hours per year volunteering on a disparate set of projects. There is scope for greater targeting, and discussions have already begun with the local authorities, and for major scaling-up of the programmes in the long term.

11. The vitality of Coventry, Leamington Spa and other local communities:

The 50,000 students of the two universities are what brings life and dynamism to the sub-region, especially to Coventry city and Leamington Spa. At its crudest level, students provide spend and demand for services that support business and community investment. More subtly, though, they provide talent, energy and promise with a tangible connection to the area for developments in the future.

The University more generally also provides a catalyst for events and facilities that might otherwise not be delivered in the city and sub-region – as the two following case studies illustrate:

Festival of the Imagination

The Festival of the Imagination, held on campus, was part of the University of Warwick's 50th anniversary celebrations taking place on the 16th and 17th October 2015 and welcomed over 8,400 visitors and around 900 pupils from local primary schools. The festival featured a diverse programme of events, talks, shows, demonstrations and discussions all under the theme of 'Imagining the Future'. It was an opportunity to showcase the excellent work and research at the University by using spaces creatively to allow interactivity, participation and access to a wide range of activities suitable for all ages and abilities.

The staff who contributed to the festival felt that by taking part they gained a better understanding of the benefits of public engagement and those participating who were already committed to public engagement stated that it provided them with an opportunity to reflect on how to engage with different audiences.

The festival provided an opportunity for the University to connect with and engage with its local community. To establish the impact of the Festival the University used the research and evaluation company 'Jenesys Associates' who reported that 75% of visitors to the Festival lived locally in 'CV' postcodes. 22% of visitors had never visited the University before. It was also reported that 82% of visitors learnt something new, 84% of visitors reported that the Festival had made them want to engage more with the University in the future and 98% of visitors would recommend the University to others.

Coventry FabLab

FabLab Coventry is a city centre resource, and not-for-profit partnership between Coventry University, Coventry City Council, the University of Warwick, and numerous other partners from both the private and charity sectors. It builds on the City's industrial heritage by using advanced manufacturing to give Coventry people, with a focus on young people, the power to turn ideas into reality and to energise them to learn more about science, technology, engineering, enterprise, arts and maths through an accessible, fun, learning environment in the City Centre.

Opened in February 2016, FabLab (fabrication laboratory) is a small-scale workshop offering (personal) fabrication to anyone. It is equipped with an array of flexible manual and computer controlled tools that cover several different length scales and various materials, with the aim to make "almost anything".

FabLab Coventry is financed through a combination of donations, membership fees, grant funding, volunteering, and a modest income from fees for materials and machine use. However, they have a "sweat equity" policy that means that volunteering counts towards the use of machines and membership fees.

www.covfablab.org.uk

Putting this all together - concluding comments:

This Appendix, together with the Shattock and BiGGAR work, make a persuasive case for the wide-reaching and sometimes pervasive impact major universities have on their local and regional communities - both incidentally and purposefully. Almost every aspect of regional life to which one can reasonably expect the University of Warwick to contribute, the University can point to examples of positive contribution and often good practice.

Ultimately, though, it is difficult to determine definitively just how optimal impact is in the round, and how effective individual programmes are in this process without, regular impact evaluation against explicit local and regional intentions and purposes.

The University of Warwick can rightly be proud of its contributions over its first 50 years, and it is now a major determinant of experience and opportunity for citizens and communities in Coventry and Warwickshire. Our report, though, needs to explore a rational and business case for what more might be done to increase this even further in the future.