

Creating Cohesive Communities across the Cardiff Capital Region

Second White Paper

Foreword

In early 2020, the Coronavirus pandemic transformed the world, and people across the globe showed how quickly they could respond to change.

While most Coronavirus restrictions have now been lifted, many people have not returned to how they lived and worked before the pandemic. Thousands now choose to work at, or closer to, home for some or all of the time and, for many, the traditional daily commute is a thing of the past, meaning fewer passengers using public transport.

The first phase of the Creating Cohesive Communities initiative looked at the priorities of people living and working in Wales against a backdrop of lockdowns. The focus was largely on identifying key opportunities to improve and develop transport infrastructure as the basis for creating sustainable, vibrant and well-connected communities across Wales.

In the second phase, presented in this white paper, we address the challenges and opportunities of a post-pandemic world: how do we create a region of interconnected and complementary communities that are responsive to the new patterns of living, work and leisure brought about by the pandemic? And how do we do this whilst integrating the emerging targets of zero-carbon, sustainability and resiliency in towns and cities across Wales?

The paper further develops the findings of the first phase work, investigating in greater detail and categorising opportunities to explore further, so that we can develop projects to take forward in a future third phase. We also engaged with stakeholders and potential delivery partners to understand the partner ecosystem in the region.

The paper starts a broader conversation about using these new patterns as a catalyst for change. It looks at areas such as improving physical and digital connectivity; making better use of local transport options such as walking, cycling, light rail, and guided bus systems; transforming railway stations into the core element of community hubs that support the vibrancy of local areas rather than simply acting as a transport asset; encouraging people to use public transport more for leisure and tourism, by improving both transport and ancillary services; and supporting the circular economy.

The opportunities to create vibrant and cohesive communities in Wales are significant, but they must be deliverable. The political and commercial will is there, as demonstrated by this paper's exploration of how these opportunities accord with relevant legislation, government priorities, and commercial activity in Wales.

The paper's recommendations take all of this into account, by setting out a realistic, achievable approach to improving Welsh communities. They focus on properly measuring social value, and better collaboration among partners in both the public and private sectors. More specifically, they explore the opportunities afforded by the electrification of the Core Valley Lines to improve public transport and encourage people back to the railways. Connected to this is the recommendation to transform railway stations and other real estate assets into community hubs in which people desire to spend time. At the core of this paper's recommendations is the creation of people-centred places where social interaction can take place – alongside taking care of daily tasks such as electric vehicle charging, shopping and eating, collecting or returning parcels – while encouraging more use of the railway for travel. Furthermore, underpinning these recommendations is a focus on reducing carbon emissions by supporting alternative transport modes and technologies as well as promoting a circular economy.

While Amey Consulting's strong presence in Wales means it is well-placed to successfully deliver integrated programmes of social, economic, environmental and transport infrastructure improvement, it cannot do it alone. The key will be to properly engage with the myriad communities, partners and stakeholders to properly understand what is truly needed and how best to deliver it, capturing added value for communities at every stage of the process. And, while the focus is on Wales, the principles, but not necessarily the specific recommendations, will be broadly applicable to other regions in the UK.

This paper starts that conversation, and I hope it will stimulate discussion that leads to real and lasting change. I would like to thank Caroline Lewis (former Amey Consulting Country Director Wales) and Martin Lamb (Director of Maple Consulting) for their work on this.

Dr Gerardo Puente Barragan
Head of Amey Place, June 2022



TRAFFIDIAD CYMRU
TRANSPORT FOR WALES



Carnival by the Seaside. Barry Island, Wales

Contents

| | | | |
|----------|---|-----------|---|
| 1 | Introduction | 7 | |
| 2 | Main trends | 8 | |
| 2.1 | Challenges | 9 | 4.1 Measuring value appropriately |
| 2.2 | Opportunities | 10 | 4.2 Collaboration |
| 2.2.1 | Idea categorisation | 10 | 4.2.1 Public and private sector |
| 2.2.2 | Idea prioritisation | 12 | 4.3 Specific opportunities |
| 3 | Vision | 16 | 4.3.1 Creating new markets for public transport |
| 3.1 | Vibrant town centres | 16 | 4.3.2 Community hubs |
| 3.1.1 | Public realm | 16 | 4.3.3 Electric vehicle charging infrastructure |
| 3.2 | Decarbonisation | 18 | 4.3.4 Embedding the circular economy |
| 3.2.1 | Circular economy | 18 | in the Cardiff Capital Region |
| 3.2.2 | Electric vehicles | 19 | 27 |
| 3.3 | Commercialising public assets for economic and social benefit | 20 | |
| 3.3.1 | Public transport | 20 | 5 Next steps |
| 3.3.2 | Untapped tourism | 21 | 28 |
| 6 | Acknowledgements | 30 | |
| 7 | About the team | 33 | |



Figure 1 – Word cloud of relevant concepts resulting from digital roundtable events.

1 Introduction

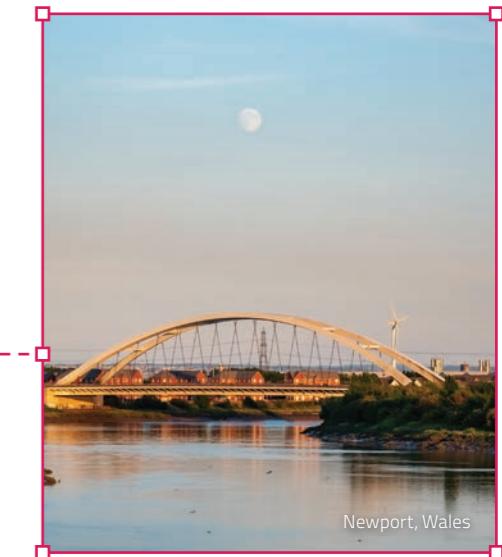
The Creating Cohesive Communities project is a joint initiative led by Amey Consulting in Wales.

Phase 1 of this work was undertaken between October 2020 and January 2021, delivered with Chambers Wales and Maple Consulting. This research aimed to understand the effect of the COVID-19 pandemic on businesses located in and around the Cardiff Capital Region, and what a recovery could – and should look like. We engaged with 68 organisations through a series of digital roundtable events, supplemented by LinkedIn posts following each session. These posts outlined some of the key discussions held, gave an overview of the Phase 1 campaign and participants, and included a poll to promote wider engagement.

The output of the work was a white paper presenting the findings and recommendations, which was published in early 2021 (<https://www.amey.co.uk/media/7804/ac-cohesive-communities-white-paper.pdf>).

Amey Consulting was awarded SMARTCymru match funding from the Welsh government to deliver Phase 2 of the work, which was undertaken in conjunction with Maple Consulting. In this phase, we explored the results in greater detail to understand what projects and technologies could be developed and what should be prioritised. We investigated potential opportunities and explored the available and required partner ecosystem to deliver the changes required. We suggested a range of projects that could provide economic and social value to the region and that could be taken forward with a mix of public and private funding in a potential future Phase 3.

This white paper aims to give context to the work undertaken, provide a summary of the challenges faced in the region, and recommend some potential solutions. In doing this, we propose ways in which the public and private sector can work together to create greener, more prosperous and vibrant communities.



2 Main trends

Phase 1 of this work focused on how people were living and working following the start of the pandemic and, in part, during the lockdowns in the autumn and winter of 2020/21. Unsurprisingly, apart from those in manufacturing, most people (70% at the time of the survey) were working from home – a trend which has continued for at least part of the time.

At the time of the discussion, very few people wanted to return to the office full time, with 30% continuing to work full time from home in the foreseeable future.

This has posed challenges for both public transport operators, for whom passenger levels remain lower than before the pandemic, and for cities themselves. Some companies have given up, or plan to give up, office space, as many staff continue to work at home. Whether this trend continues remains to be seen, and there may yet be a rebound as more people choose, or are asked, to work more from the office.

One of the greater long-term threats is that of the climate emergency, as shown by the flooding in Germany, Belgium and the Netherlands, and the extreme heat wave in the USA in the summer of 2021. The COP26 conference in Glasgow achieved more coverage than those that had gone before it, with a realisation that change needs to be made. While governments may not have been as ambitious as some had hoped, there is worldwide recognition of the need for decarbonisation, with significant public and private investment into low carbon technologies.

In 2019, Wales was one of the first countries in the world to declare a climate emergency. Shortly after, the M4 relief road project was cancelled, and other potential future road schemes may also be cancelled. Wales also places environmental and social legal duties on local authorities

and developers through the Active Travel (Wales) Act 2013 and the Well-being of Future Generations (Wales) Act 2015.

Decarbonisation is a key focus for the Cardiff City Deal and the Cardiff Capital Region. The Core Valley Lines are in the process of being electrified as part of the South Wales Metro, making an inherently low carbon mode even greener. The new rail services will quadruple their frequency to four services per hour to the heads of each valley, increasing to eight per hour at Abercynon, where the Aberdare and Merthyr lines join, and 12 per hour at Pontypridd, where the Treherbert line joins. The increased frequency, coupled with line speed and rolling stock improvements, will make rail a more attractive offer.

At a UK level, the Department for Transport has recently published its decarbonisation plan. As transport is a devolved area, much of this is England specific, although there are some pan-UK areas, such as the new standard for E10 petrol. At a broader level, the full benefits of electric vehicles will require a decarbonised energy network; this will be a matter for the UK, while shipping and aviation require international action.

The solutions to the two areas of post-pandemic recovery – the response to climate change and the requirement to achieve net zero carbon – can be complementary. A recent report¹ suggests that, without fast uptake of electric vehicles, a reduction of between 20% and 27% in vehicle miles driven will be required to meet the UK's 2030 emissions targets. In a post-COVID future, where people reconnect with their local area by shopping and working more locally, providing infrastructure and a public realm that encourage active travel could provide part of the solution. The railway stations in towns and cities in the region have a part to play in not only providing a rail service, but also by potentially acting as a hub for community activities and as part of the overall offering of the town in which they sit.

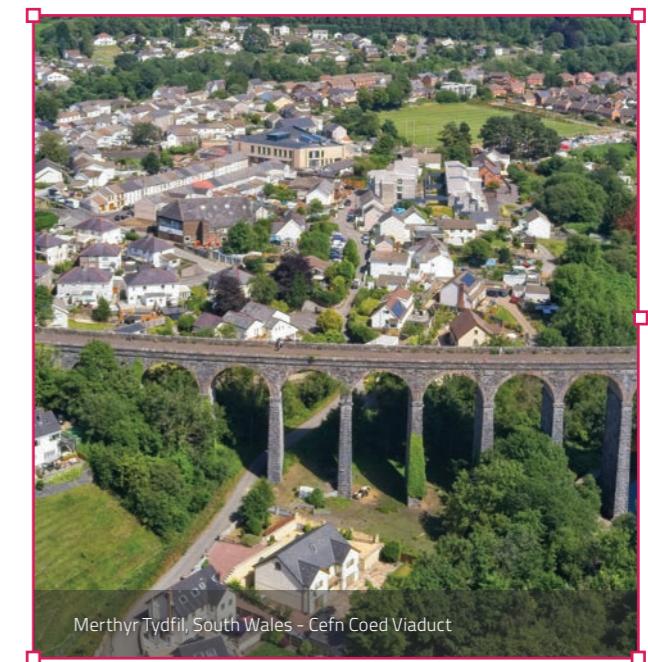
1 <https://green-alliance.org.uk/publication/not-going-the-extra-mile/>

2 <https://www.business-live.co.uk/enterprise/admiral-vacating-offices-south-wales-22125807>

2.1 Challenges

The identified challenges have been presented in detail along with outline recommendations in the Phase 1 white paper. The challenges can be broadly identified as follows:

- Commuting patterns have changed as people continue to work from home, at least part of the time, which potentially eases the pressure on the road network. Conversely, the pandemic accelerated the shift to online retail, so there has been an increase in 'white van' traffic for the delivery of goods.
- The business model for most season tickets is likely to be no longer viable and alternative, flexible tickets need to be offered. Public transport operators need to seek additional fare and non-fare revenue to replace lost commuter revenue.
- Cities will remain important locations for sporting, cultural and shopping visits. A good quality rail service, on-train environment and public realm is needed to encourage people to choose to use the train for these. The ongoing Metro development will increase frequency of travel and improvement in experience.
- There may be less requirement for office space in cities, with some companies² reducing their estate. This is likely to vary by sector, with some being more able to work remotely than others, where physical collaboration might be required. There is also the issue of less experienced staff benefitting from the mentoring and incidental learning that occurs by being in the office.
- The pandemic has accelerated the shift to online shopping and may lead to a potential surplus in retail space. There will still be a requirement for physical stores, although there may need to be some reconfiguration of the overall offer and experience. This could mean a greater mix of retail, food, drink and leisure options. Some could potentially be reconfigured into residential units.



Merthyr Tydfil, South Wales - Cefn Coed Viaduct

- The Welsh government is seeking to have more local and home working. There may be a need for a local working requirement at hubs.
- Transport funding in Wales is likely to move towards road maintenance, small schemes, active transport and support for more and better public transport rather than large road schemes.
- There remains a lack of digital connectivity across the valleys and other rural areas.
- Cross-valley transport remains an issue in South Wales, other than the A465 in the north of the region and the M4 in the south.



Barry, Vale of Glamorgan, Wales - The regeneration of Barry docks includes renovating the old pump house

2.2 Opportunities

During the pandemic, some companies struggled and some thrived. The successful companies innovated and adapted their businesses to serve immediate needs, such as distilleries making hand sanitiser, garment manufacturers making masks and furniture manufacturers making screens. As with any period of disruption, there are opportunities to innovate and do things differently. For public transport operators, what worked before might not work in the future and new business models need to be developed to generate fare and non-fare revenue. Opportunities to innovate or do things differently are in the scope of this study.

2.2.1 Idea categorisation

During Phase 1 of the project, around 90 ideas were collected from the interviews at the digital roundtables, from discussions with organisations and from an internal Amey workshop. These fell into 16 broad themes, with an additional 'other' theme. These are categorised in Table 1.

Table 1: Ideas were categorised according to 16 broad themes, and an additional 'other' theme.

| Theme | Description |
|---|---|
| Use of data | Making better use of data to determine where people travel and using this to inform investment decisions. |
| Cross-valley connectivity | Infrastructure, active travel or public travel options to improve poor east-west connectivity in South Wales valleys. |
| Technology and broadband | Enhancing mobile and broadband availability and speed, particularly in rural areas, possibly facilitated by rail network to open commercial and educational opportunities. |
| Very light rail and light rail extensions | Extending the Core Valley Lines networks to connect towns without rail using innovative, lower cost solutions, eg new concepts for light rail construction, very light rail and guided bus systems. |
| Active travel and first / last mile solutions | Development of walking, cycling and micro-mobility options to and from railway stations to encourage more people to use rail network. |
| Public realm | Improvement to the public realm around railway stations for placemaking and to encourage public transport use. |
| Electric vehicles and solar power | Electric vehicles to reduce air pollution and solar vehicle chargers for station use. |
| Leisure and tourist travel | Creation of new rail revenue by using public transport to access tourist destinations or for special tourist scenic rail trips. |
| Single pane of glass | App or facility to book all transport or other needs (eg food, event tickets, drinks) from one place to generate additional revenue and improved services for customers. |
| Community hubs | Places for co-working or other community activities in towns for local use, possibly co-located at railway stations. |
| Decarbonisation | Ways to reduce the carbon intensity of transport activities or replace with low / zero carbon options as part of the net zero targets. |
| Circular economy | Keeping materials in use for longer – reusing and repairing in preference to recycling and disposal to support resource efficiency and net zero carbon targets. |
| Public transport services | Encouraging public transport use through excellent customer service, attractive public realm, good and affordable services. |
| New public transport options | Extending public transport through concepts such as micro-mobility, pods and shuttles to get more door-to-door services. |
| Sports events and social distancing requirements | Investigate means to reopen sports and entertainment venues, possibly linked to public transport offering for staggered travel and arrival times to promote social distancing. |
| Repurposing excess office and commercial space | New uses (eg residential or leisure) for excess office space, if companies reduce space as many people work from home. |
| Small station design and integration within the community | Design for lower cost small stations to serve local communities, integrated with facilities for community use. |
| Other | Other ideas not categorised above. |

2.2.2 Idea prioritisation

Having categorised the potential ideas, the next stage was to qualitatively consider how each individual idea responded to relevant legislation, Welsh or regional priorities, or commercial activities. The priorities chosen, along with a brief explanation are presented in Figure 2.

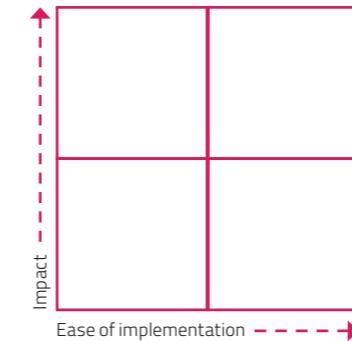


Figure 2: Explanation of priorities chosen



The next phase was to rank the ideas in terms of those that have the highest impact and ease of implementation, developing a matrix as shown in Figure 3. This process was critical in sense checking ideas. For example, one idea was to invoke road user charging and use the collected monies to fund public transport. This could be a very effective fiscal and policy lever to encourage public transport use, yet, due to its likely unpopularity with voters, successive UK governments of all parties have opted against introducing it³. With a shift to electric vehicles in the future, however, it is being considered to replace lost vehicle excise duty⁴. While transport is devolved in Wales, for this to be implemented effectively, it would need to be introduced at a UK government level – partly because of the Welsh government's limited tax raising powers, but mainly due to the porous border between England and Wales, and England and Scotland.

Figure 3: An assessment matrix was developed in order to rank the ideas.



A simple scoring system of 1–3 for was developed to grade ease of implementation and impact, as presented in Table 2, with the highest priority given to those with high impact and relative ease of implementation. These would be in the upper-right-hand quadrant of the matrix.

Table 2: Ideas were assessed on a three-point scale according to of ease of implementation and impact

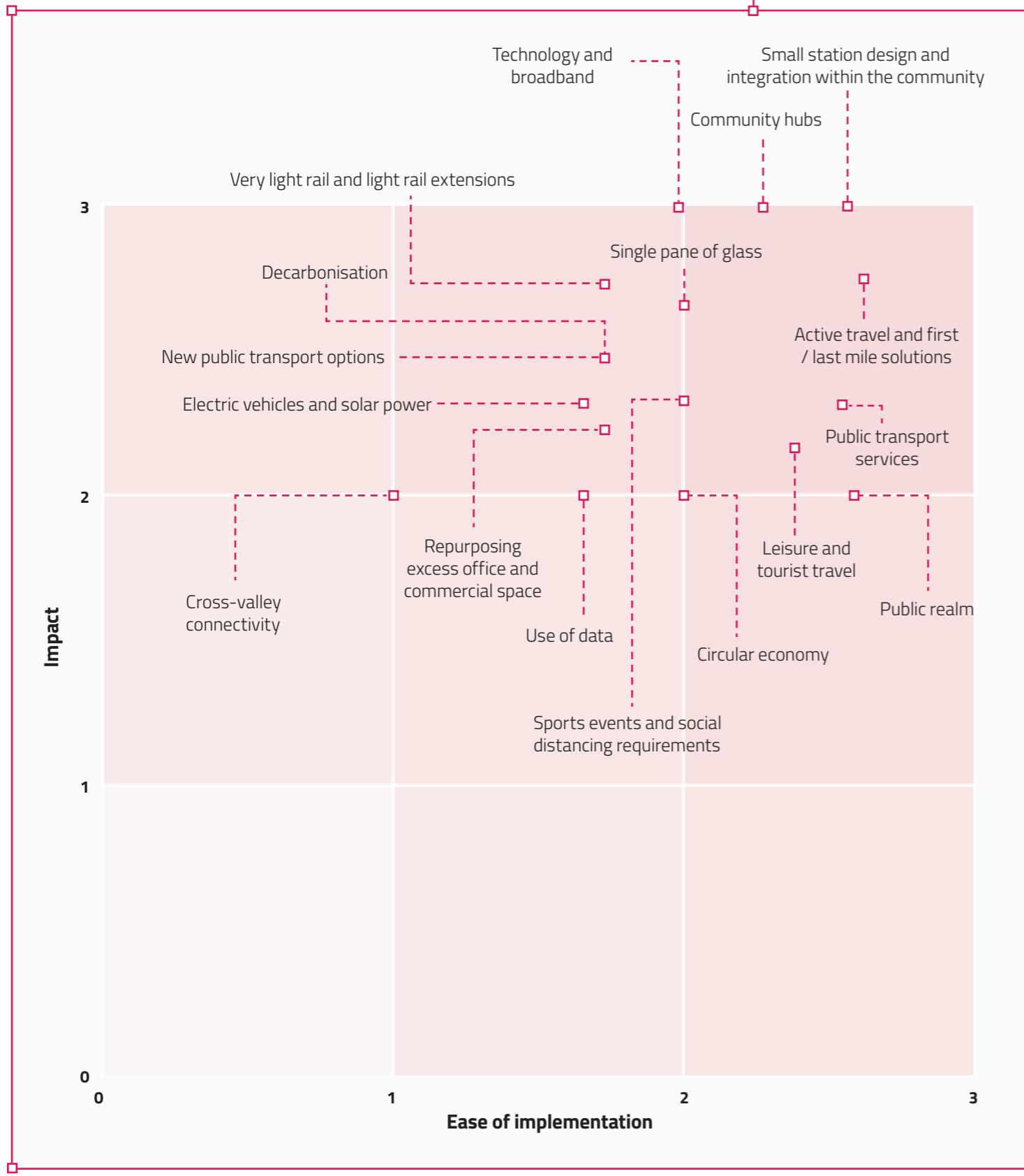
| Ease of implementation | Impact |
|------------------------|-------------------|
| 1 – Difficult | 1 – Low impact |
| 2 – Some difficulty | 2 – Medium impact |
| 3 – Relatively easy | 3 – High impact |

3 <https://stateofwales.com/2021/01/radical-wales-pay-as-you-go-road-pricing/>
4 <https://www.independent.co.uk/travel/news-and-advice/electric-cars-road-tax-miles-b2007604.html>

To avoid unconscious bias, the assessment was undertaken by Maple Consulting, several Amey Consulting project teams and Transport for Wales, to give an average preference, as shown in Figure 4.

It became apparent during the prioritisation stage that the greatest benefits (as identified in Table 1) could be realised from combining topic areas into a coherent package, rather than operating in isolation. For example, it could make sense to combine public transport, leisure travel, active travel and community hubs, while decarbonisation is an overarching theme that should inform all options.

Figure 4: The ideas were mapped to the matrix according to average scores for ease of implementation and impact.



3 Vision

The pandemic has shown that change can happen quickly and that things can be, and will be, different in the future. In creating a vision, we can potentially shape the future we wish to see for the region, rather than hope that – by chance – positive economic and social changes lead to meaningful transformation of people's lives across Wales.

Our vision is to create a region of interconnected and complementary communities in which each of those communities' economic and social development is integrated into a cohesive response to the new patterns of living, work and leisure brought about by the pandemic, but also by emerging targets of a zero-carbon, sustainable and resilient future in towns and cities across Wales. Our entry point to the Creating Cohesive Communities initiative has been the identification of key improvement and development areas for transport infrastructure in Wales, as well as the placemaking potential deriving from this.

Our second white paper aims to start a broader conversation on how to bring about a concerted and sustainable economic, social and spatial change across different communities in Wales by initially exploring the key themes in this section.

3.1 Vibrant town centres

While Cardiff will retain its position as the premier shopping and leisure destination in the region, one positive aspect of the national and local lockdowns has been a rediscovery of local town centres, independent retailers and food and drink outlets.

The enduring appeal of Cardiff's Victorian and Edwardian arcades and Treorchy's triumph as the UK's best high street in 2019 demonstrate how a mix of independent stores and retailers can create a vibrant high street. With the Welsh government seeking to have 30% of people working locally, a mix of offices or co-working spaces could be added to the mix, creating additional footfall.

The Goodsheds development in Barry (Figure 5) is one example of how this could be achieved in the future. Billing itself as a 'sustainable urban high street', it consists of a redeveloped railway goods shed, shipping containers and repurposed railway carriages hosting a mix of independent street food restaurants, offices, boutique stores as well as a high-quality restaurant, rooftop bar and rentable short-stay apartments. It is a vibrant destination that attracts people to the town and sits within the redevelopment of the former docks area. It could be a template for

redevelopment of town centres across the region in terms of mixed-use development with high quality design and construction.

While the development in Barry has office space, food and drink outlets and boutique shops, different towns and areas will have their own needs. Depending on the location, other options as well as or in place of these could be considered, such as a residential element, co-working space, community space or a mobility hub comprising one or more public transport options, active travel and electric vehicle charging.

3.1.1 Public realm

While public realm improvements can help to make a town centre attractive, they will need to be part of an overall offering. Lower carbon forms of travel imply changes to the public realm to promote walking and cycling, and potentially additional infrastructure to support e-bikes and e-scooters. This could also include wayfinding and dedicated active transport infrastructure from public transport hubs to town centres or specific sites such as schools, health centres and offices.

New opportunities could be developed for e-cargo bikes or other forms of zero carbon transport for delivery of parcels, potentially in and around stations.

Figure 5: Goodsheds Barry – a sustainable urban high street





Late evening in Cardiff, Wales showing John Lewis-building, Cardiff Central Library and Alliance sculpture.

3.2 Decarbonisation

While decarbonisation is a global endeavour, and one that requires leadership from governments worldwide, implementation will largely be at a local level. The Welsh government has declared a climate emergency, while decarbonisation is a key theme for the Cardiff Capital Region, South Wales Industrial Cluster and the Welsh Transport Strategy.

There is no single action that will deliver decarbonisation, but rather a suite of measures, including:

- Travelling less and using lower carbon modes of travel such as public transport, cycling and walking (this needs to be largely seamless to be an attractive option)
- Using electric vehicles
- Managing carbon on infrastructure projects
- Embracing the circular economy
- Improved use of natural and physical resources.

3.2.1 Circular economy

While decarbonising is important, it doesn't specifically reduce resource consumption. The greatest benefits can be gained from adopting the principles of the circular economy during construction and operation. Reusing or repairing items can save significant amounts of carbon. For example, while steel is infinitely recyclable, the energy, and hence carbon, required to melt metal is significant.

There are several challenges and opportunities regarding the circular economy, which all need to be addressed before it can become a reality:

- Developing products designed to last longer, be repairable and reusable by being easily disassembled.
- Developing business models to account for what might be higher initial costs. This could generate new business models for infrastructure or products as a service, bringing private investment into public services.
- Procuring things differently, based on whole life value rather than initial cost.

3.2.2 Electric vehicles

Electric vehicles should not be seen as the answer to decarbonising transport, as each vehicle will contain a large quantity of embedded carbon. Furthermore, they won't solve congestion or improve road safety, which is why the Wales Transport Strategy prioritises avoiding travel, active travel and public transport. However, with the reality that people will still need to, or choose to, travel by car, they are a better option than petrol and diesel vehicles in terms of improving local air quality and, with a decarbonised electricity grid, reducing carbon emissions.

To promote their use and overcome range anxiety, further investment in charging infrastructure is required. One issue here is the large number of schemes that exist, whereas the ideal would be a back-office function that enables simple payment. There could be potential business opportunities for mobility hubs, possibly linked to community hubs or railway stations, where people can work or meet while they charge their vehicle.

3.3 Commercialising public assets for economic and social benefit

3.3.1 Public transport

The electrification of the Core Valleys Lines will have a transformative effect on the public transport system in the region. It will be a 'turn up and go' service at peak hours. This could have the biggest impact in the heads of the valleys, which currently only have one service per hour, where the current timings might not work for some, or the risk of disruption or cancellation is perceived as too risky. New, improved rolling stock and time savings from faster acceleration of electric trains and line improvements could encourage people to use rail rather than private vehicles.

Whether these improvements will replace lost commuter passengers remains to be seen. Increased public transport patronage could be achieved through better integration of bus and rail services for both timetables and through a single, seamless ticketing system. It is understood that Transport for Wales is now trialling such a scheme, with certain bus operations now coming under their remit.

As people choose to work at home or locally at least part of the time, the historical season ticket business model may no longer be viable. In its place could be an Oyster style ticket, as on the London Underground, with daily, weekly and monthly caps to

provide affordable travel. This should cover bus and rail transport but could be expanded to cover various first / last mile services.

With a potential shortfall of commuter traffic, there needs to be increased focus on encouraging leisure travel and non-fare revenue. Generally, non-fare revenue has come from rent for use of land or buildings by third parties and basic food and drink offerings. Historically, the decision on whether to add a food or drink option has been based on footfall and passenger numbers within the station. Transport for Wales is now interested in looking beyond the station boundary to see how stations might offer services to the communities in which they sit. There is now an opportunity to do something different at some locations, to create a place where people choose to visit to, for example, shop, eat, work, charge their vehicle or pick up a parcel.

Opportunities to use trains to carry certain freight items at off-peak hours could also add a revenue stream. In general, many people don't interact with the railway regularly, or at all. Encouraging people to access the station for other purposes could result in them starting to use rail travel as they become more familiar with the system.

3.3.2 Untapped tourism

The tourism potential of the South Wales Valleys is slowly being discovered and represents an untapped resource that could help revitalise towns in the region. For example, Bike Park Wales, near Merthyr Tydfil, has continued to expand, and visitor numbers have increased by 100%⁵ from pre-pandemic levels (recorded as 80,000⁶ in 2019) creating a demand for campsites and B&Bs. Visitor numbers to the area will increase further following the opening of Zip World Tower at the site of the old Tower Colliery in Hirwaun, which has a target of one million visitors in the first five years⁷.

However, there remain untapped attractions recording relatively low visitor numbers. Caerphilly Castle is the largest in Wales, with only Windsor Castle larger in the UK, yet in 2017 recorded visitor numbers of 143,869⁸ – less than half of those who visited Cardiff Castle. These numbers were also a record, with the previous year's visitor numbers around 100,000. It is understood that plans^{9,10} are in place to improve the visitor experience and invest in new attractions at the site, to turn it into a major UK tourist attraction. This could have a transformative effect on the town.

5 <https://www.business-live.co.uk/enterprise/bikepark-wales-expands-visitor-number-21162994>

6 <https://www.itv.com/news/wales/2019-10-18/extra-30-million-for-merthyr-as-number-of-tourists-visiting-almost-doubles>

7 <https://www.cardiffcapitalregion.wales/project-hub/zip-world-tower-regeneration-project/>

8 <https://gov.wales/sites/default/files/statistics-and-research/2019-05/visits-tourist-attractions-2017-summary.pdf>

9 <https://www.walesonline.co.uk/news/wales-news/plans-turn-caerphilly-castle-big-20828831>

10 <https://caerphilly.observer/news/969024/cadw-unveils-ambitious-plans-to-transform-caerphilly-castle-into-major-tourist-attraction/>



Despite being the largest castle in Wales, and the second largest in the UK, Caerphilly Castle's highest annual visitor levels are less than half of those of Cardiff Castle. Plans are in place to invest in new facilities to turn it into a major UK tourist attraction

4 Recommendations

4.1 Measuring value appropriately

Currently, goods and services tend to be procured based on a mixture of initial purchase cost and quality, sometimes with an environmental consideration. This mechanism is no longer fit for purpose when there are hard targets for net zero carbon in under 20 years. To achieve net zero carbon, elements of the circular economy need to be embraced, with a focus on reuse, repair and remanufacture before recycling or disposal. This implies a change from capital cost to whole life-cycle cost, which in turn might mean new business models need to be developed.

In a broader sense, there is also the question of social value and the value assigned to the natural world. In terms of schemes or projects, clearly, they need to be economically viable, but economic value alone is a blunt instrument in determining value. Social value is “the quantification of the relative importance that people place on the changes they experience in their lives”. Some of the value can be captured by market prices, while some is more subjective. In Wales, social value is captured by the seven well-being goals of the Well-being of Future Generations (Wales) Act 2015. The National Social Value Measurement Framework (often known as ‘National TOMs’, for Themes, Outcomes and Measures) is a way of measuring social value consistently. In Wales, the National TOMs aims to replace the lowest cost / most economically advantageous tender process with one that enables public-, private- and third-sector organisations to deliver more value for communities.

4.2 Collaboration

4.2.1 Public and private sector

During the consultation phase of this project, it has become evident that there is a capable ecosystem of partners who, if working to their strengths could effectively deliver projects that have both economic and social value.

More broadly, there could be benefits in looking beyond specific schemes to see whether other opportunities could be co-delivered. For example, Cadw (the Welsh government’s historic environment service) is developing plans to turn Caerphilly Castle into a major tourist attraction, as mentioned in the previous section. There are also draft plans for improvements to Caerphilly town centre, promoted by Caerphilly County Borough Council, focusing on redevelopment of the transport interchange and the high street opposite the castle as a leisure destination with bars, restaurants, a hotel and residential units. Each of these will have a positive effect on the town. There could be opportunities to further enhance the offering, potentially by coordinating elements of the construction phase, or operationally by, for example, offering combined rail and castle tickets to encourage public transport use. This could potentially include an accommodation element for visitors to use Caerphilly as a base for exploring other attractions in the area, or cycle hire as part of the transport or castle ticket to allow people the opportunity to cycle around the castle grounds. Working together to deliver solutions could offer the opportunity to improve the attractiveness and viability of offerings, with the public and private sectors having specific roles. The public sector has the planning tools and, potentially, land or building assets. They can also drive change due to their requirement for economic and social regeneration and may have some funding to start the process.

The private sector has speed and agility in seeking and developing opportunities. They may have their own funding or ability to access finance. They also understand what their customers want and tailor their solution to offer this and can bring in experts to deliver certain aspects.

During discussions in this phase of the study, developers expressed an opinion that they felt the public sector doesn’t move at the speed they would like and can be process- rather than outcome-driven. While understanding that public money needs to be spent according to specific rules around procurement, a more agile process could create more opportunities. Essentially, all parties want the same thing, which is to create economic growth, employment and vibrant communities.

The promoter of, for example, a community hub, might not be the best organisation to build and develop it, while, in turn, the organisation that builds it may not be the right organisation to operate it.



Nevill Street, Abergavenny, Wales - Touristic pedestrianised street. View looking towards the post office. Abergavenny is seen as the gateway to Wales, famous for its food festival



Aberdare, Wales – Public service buses operated by Stagecoach Group plc parked in the bus station in Aberdare town centre

4.3 Specific opportunities

Through the course of the project, involving wide-ranging discussions, several key themes have consistently come up as areas where there could be opportunities to co-deliver schemes to unlock economic and social value, as outlined in the section below.

4.3.1 Creating new markets for public transport

Rail is an inherently low carbon mode of transport and will become even more so when the Core Valley Lines are electrified and powered by renewable energy. Encouraging people from cars to public transport will be one strand of achieving net carbon zero goals, and it was ranked joint-first in the ranking exercise.

Before the COVID pandemic, rail travel in the Cardiff Capital Region had been a great success, with large increases in passenger numbers – although this often manifested itself with crowded carriages on old trains. The increase in services, new rolling stock and improved journey times through faster acceleration and braking will make rail a more attractive option in the region when the Core Valley Lines are electrified.

The COVID pandemic initially slashed passenger usage, and with many people still working at home full- or part-time, passenger numbers have only recovered to 70% of pre-COVID levels. Having taken over as the rail operator, Transport for Wales needs solutions to recover revenue.

Encouraging previous users back to rail, getting new customers to use rail and encouraging two-way leisure travel (historically, most travel was south to Cardiff for work or leisure) are some ways to recover this. Other innovative ways of working with local communities to add value and potentially generate non-fare revenue, eg through cafes, workspaces, and community use facilities, should be explored.

Generating revenue is not the only driver for this idea. Meeting targets for net zero will require the decarbonisation of transport and encouraging people to use rail and other public transport could be a valuable tool to achieve this. Moreover, there are likely to be few, if any, large road schemes in the region in future, with funds to be transferred to public transport.

Rail in the region is not distributed evenly, with the existing one service per hour having limited use in the north Core Valley Line stations. Interrogation of passenger figures in the region also shows wide disparities in rail use in seemingly similarly sized towns, adjacent to one another. Work is needed to better understand the reality of this and make recommendations accordingly.

There are specific challenges in the commercialisation of stations in the northern sections of the Core Valley Lines. The North Core Valley Line stations are defined as those north of Pontypridd on the Treherbert, Aberdare and Merthyr lines and north of Caerphilly on the Rhymney line. They are characterised by a mix of smaller towns and villages, many with lower footfall than is suitable for traditional retail, food and beverage offerings.

The decision as to what facilities a station needs is largely based on actual passenger numbers at the station with no consideration of the wider community in which it sits. Even then, it typically consists of basic food and beverage offerings. Opportunities to consider the wider context of community needs could give rise to different solutions that could generate revenue and add social value.

There could be opportunities around, for example, convenience stores, Amazon-type lockers for e-commerce, cycle hire, co-working spaces, mobility hubs, electric vehicle charging points, pop-up shop spaces or farmers markets.

Given that 80% of people in Wales commute by car, the reality is that most people do not engage with the railway. Attracting people to stations for other purposes, eg to pick up a parcel, could encourage them to use the railway for travel as well. There could be opportunities to develop stations that will attract people locally to use them, or to access them from nearby stations. This could be to access public services, such as a health centre or libraries, or for commercial or leisure activities. This is an area where the public and private sectors could work together to understand the needs of the local communities and co-develop solutions accordingly.

4.3.2 Community hubs

This was one of the most chosen topics by participants in Phase 1 of this work, and public sector partners including Transport for Wales have expressed a specific interest in this, while the Welsh government has a ‘work local’ initiative. The hubs could offer a range of public services and private or commercial offerings. If situated at a railway station or on station land, there exists the potential to generate non-fare revenue and embed Transport for Wales in the communities they serve.

Organisations that support co-working and micro-businesses, such as Welsh ICE (Innovation Centre for Enterprise, Caerphilly) and Town Square Spaces (Wrexham, Barnstaple, Bognor Regis) have shown that vibrant business communities can be developed outside of the major cities, although the active development of this community cannot be underestimated in this success. Buildings alone are not enough. Elsewhere, LoftCo has a track record in developing work, food and retail spaces (Tramshed, Goodsheds, Platform) that are extremely popular as a result of good design and independent shops and restaurants.

Combining these with opportunities such as mobility hubs could create jobs, revitalise town centres and attract people to the railway, but a one-size-fits-all approach will not work. Rather, a multi-partner approach is required with specialists building and operating the facility for maximum benefit.



4.3.3 Electric vehicle charging infrastructure

The Wales Transport Strategy places private vehicles at the bottom of the priority list, after avoidance, active travel and public transport. However, private vehicle usage is likely to be a major part of the transport mix, through driver preference and habits, the lack of alternative public transport in some areas and necessity for some jobs. Electric vehicles, ideally powered by renewable energy, will prove to be the ‘least worst’ option.

Sales of internal combustion engine vehicles are to be banned in the UK from 2030. Many manufacturers will convert to mostly or wholly electric before this time. There is an urgent need to develop charging infrastructure to support the increase in electric vehicle ownership. So far, it has not been as quick as will be needed to cope with the rapid rise in the number of electric vehicles. It has also been relatively uncoordinated, with a mix of public and private installations and different charging schemes.

There is an additional challenge that many valley towns are characterised by narrow roads with no off-street parking, making home charging difficult or impossible. Railway stations and community hubs could be good location to charge vehicles while accessing services or using the railway while creating additional revenue and potentially encouraging public transport use. Even with fast chargers, a 30-minute wait is required to charge an electric vehicle. Depending on the location, there could be opportunities to access other services while the car is charging, or potentially to charge a vehicle while travelling for work and leisure.



4.3.4 Embedding the circular economy in the Cardiff Capital Region

Recycling rates in Wales are high, but recycling remains a response to the linear economy – materials are extracted, and products are made and disposed of. To achieve net zero carbon, more circular approaches are needed that focus on waste avoidance, reuse and repair over recycling. While recycling is preferable to disposal, often materials are not recycled to the same grade as the original product, significant energy can be used in the process (eg melting scrap metal) and this is often undertaken overseas (around 80% of UK scrap steel is exported to Turkey or China).

Adopting a circular approach implies keeping resources in use for longer and designing products with reuse and repairability in mind at the outset. Procuring products or infrastructure based on whole life cost rather than initial purchase cost would encourage the manufacture of higher quality products, built to last longer.

Becoming more circular in both material use and geography can keep resources and the Welsh pound in Wales. This could open the potential for new business models such as leasing or products as a service. This would open the possibility for multiple lives for materials, without the need for reprocessing.

Several public and private organisations have been identified in the region who are developing circular products, while schemes such as the electrification of the Core Valley Lines could offer the potential to trial different procurement options.

Cardiff, Wales - Wales Millennium Centre by night

5 Next steps

The recommendations will be explored further with the public and private sector delivery partners and funding will be sought to take forward pathfinder projects.



Newport, Wales, UK – Cineworld Cinema at Newport city centre, South Wales, UK

In order to deliver a successful programme of cohesive communities in Wales, there is the need to formulate a strategic plan that establishes useful interdependencies between places, towns and cities. This will require the alignment of different sections of government and the private sector, and active participation of communities.

Amey Consulting is uniquely positioned to deliver a successful programme of cohesive communities thanks to its strong presence in Wales. Amey is part of Amey Infrastructure Wales, Transport for Wales Innovation Services and the South East Wales Technical and Professional Services Framework, through which Amey designs and builds key railway and highways infrastructure for Wales.

We need to adopt a flexible approach that can be tailored to local needs. Establishing a thorough communication and engagement campaign with communities and key stakeholders about this programme is key to success. One of the key aims of this paper is not only sharing with communities some of the spatial and transport opportunities that can bring about a network of cohesive communities, but also encouraging communities to get in touch to talk about it.

While this project was born in Wales to address the issues around the Cardiff Capital Region in particular, the issues and solutions will be broadly applicable to other regions in the UK and could help deliver the 'levelling up' agenda. We do not propose to replicate the solutions, but to use the approach as a framework which would be used to understand local conditions and requirements.

Come and join us on the journey.



The Old Bridge, Pontypridd, Rhondda Cynon Taff Wales, UK

6 Acknowledgements

The Creating Cohesive Communities project team members would like to thank SMARTCymru for providing match funding to undertake this phase of work, and the following people, who have engaged in discussions and provided insight:

Gareth Browning – Challenge Fund Manager, Cardiff Capital Region

Huw Evans – Head of Community Rail, Transport for Wales

Mark Lewis – Commercialisation Manager, Innovation Team, Welsh Government

Gareth Loundes – Commercialisation Manager, Innovation Team, Welsh Government

Jason Morgan – (former) Commercial Retail Manager, Transport for Wales

Owain Taylor-Shaw – Senior Commercial Development Manager, Transport for Wales

Toby Williams – Commercial Development Manager, Transport for Wales

Nigel Wheeler – Group Director for Prosperity, Development & Frontline Services, Rhondda Cynon Taff County Borough Council

Alex Baston – Assistant Manager, Loft Co

Simon Baston – Managing Director, Loft Co

Gareth I Jones – CEO, Town Square Spaces

Damian Walsh – Project Manager, Amgen Cymru

Lesley Williams – Community Outreach Director, Welsh ICE

Amey Consulting Discipline leads

Dr Gerardo Puente Barragan (PhD) – Head of Place

Andrew Quilter – Head of Transport Advisory Services

Dr Emily Gould (DEng) – Principal Consultant, Intelligent Mobility

Deborah Richards – Transport Commercialisation

Lee Selway – Account Manager, Highways

Nathan Seally – Systems Integration Director, Transport for Wales

Dan Smith – Engineering Director

Caroline Lewis – (former) Country Director Wales

Mark Brown – (former) Director of Transport for Wales Innovation Services

Maple Consulting

Martin Lamb – Director

7 About the team



Pontypridd, Wales - The Lido building in Pontypridd park. It has been developed around the town's historic open air swimming pool

Amey Consulting

Amey Consulting is one of the UK's leading engineering consultancies, inspiring change and driving improvements across the UK's critical infrastructure to create a positive impact on society. We do this through our two core services: Consultancy & Design, and Advisory & Analytics.

We want to make a genuine difference to people's lives, whether we're using data to reduce delays across the road and rail network, designing carbon neutral schemes or delivering critical infrastructure projects. Our ambition is to leave a legacy of sustainable infrastructure for future generations. Our team of designers, engineers and consultants are transforming the way we design strategic assets – providing collective creativity to our clients to keep the country moving and supporting economic growth.

Our purpose is to improve people's lives by taking a new approach to sustainability in infrastructure that protects the planet for ourselves and future generations.

The development of this white paper was led by Caroline Lewis, the former Country Director for Wales.

Maple Consulting

Maple Consulting is led by Martin Lamb, a recognised expert and thought leader in the transport sector. Martin established Maple Consulting as a specialist consultancy focusing on transport infrastructure innovation, new mobility concepts and sustainability. Maple provides research and advice to a range of public and private sector organisations in the UK and Europe and is a founding member of the International Transport Experts Network – an association of specialist transport companies and independent experts.

For more information:

Gerardo.PuenteBarragan@amey.co.uk
amey.co.uk/amey-consulting

About Amey

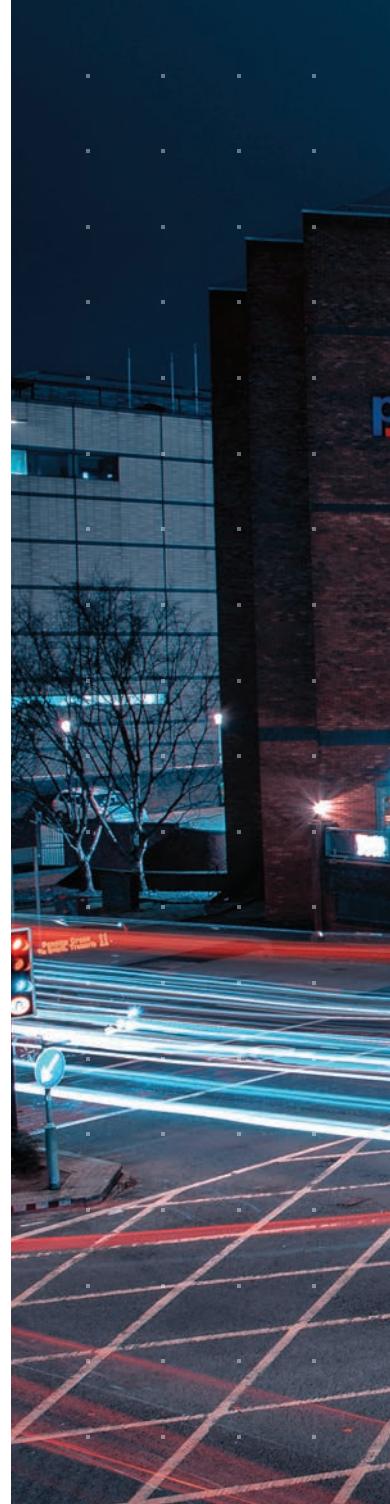
Amey is a leading infrastructure services and engineering company.

We are at the heart of modern Britain, helping the economy to grow by designing, maintaining and transforming the nation's strategic assets.

Our 14,000 people are behind the critical services the country relies on every day and we each take personal pride in our public service.

Our unique engineering and operations experience, together with data driven insight from our consulting business, delivers better results for our clients.

We are trusted partners of Government – both national and local – managing assets and complex projects that are vital to the sustainable growth of the country.



ameyconsulting