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Future
Generations
Commissioner
for Wales

The Future Generations Report 2020

Let's create the future together

Chapter 5
Areas of focus

Future Generations Report 2020

Areas of Focus:
Transport

Transport

New ways of planning for transport and mobility in Wales are fundamental to the achievement of the well-being goals - particularly a Resilient Wales, a Prosperous Wales, a Wales of Cohesive Communities, a More Equal Wales and a Healthier Wales. Mobility is an important part of everyone's lives. If we get it right for our most vulnerable citizens, we will get it right for everyone, with a positive impact on our ability to reduce air pollution and meet carbon reduction targets.

"We all have an interest, and a duty to future generations, to ensure that the benefits of mobility that we now take for granted, do not place an intolerable burden on our environment."

Elliot Morley

Transport
The Future of Mobility

Global trends and predictions (detailed in Chapter 1), such as climate change, technology, an ageing population and new ways of working, are likely to have a significant impact on mobility in the future. Current data suggests that Wales is ill-prepared for these changes.

Trends to watch:

- 80% of journeys to work in Wales are made by car, increasing by 9% since 2003. Rail use has also seen an increase while bus travel has been declining.

- While there has been a decrease in the number of car trips since 2002, the total distance travelled in the UK each year has increased. In Wales, the total number of kilometres travelled by all motor vehicles reached a record high in 2018 and rose 9% over the 2012 - 2017 period.

- The transport sector contributes to 14% of Wales' greenhouse gas emissions, with little change since 1990.

- Walking and cycling rates have declined in the last five years despite the introduction of the Active Travel Act.

- Younger people are travelling less within the UK, a trend that appears to continue throughout their lives. For 25 years, the number of younger people with driving licenses has also decreased, and each new generation is undertaking fewer trips and less mileage by car.

- The number of households with access to two or more cars has rapidly increased since 1951.

Predictions for a possible future:

- The World Economic Forum predict that the ability to easily share and hire autonomous, electric vehicles using phone apps could slash the number of vehicles on the road by as much as 90%

- WEF also predicted that children born today will never drive a car.

- Battery-only and self-driving cars are predicted to become much more common and cheaper to own.

- By 2040, GO-Science predict that flying cars will be an emerging technology, alongside autonomous trains, while autonomous cars and delivery drones and droids will be widespread.

- The costs of congestion to the UK economy could rise by 66% from 2013 to 2030. Wales risks failing to meet its own targets on greenhouse gas emissions unless it changes its over-reliance on the car.

- A growing and ageing population (particularly in rural areas), will place further demands on the transport system.

- Over the next 20 years, Cardiff is expected to be the fastest-growing major UK city.

The vision for Wales in 2050 as set out in the Well-being of Future Generations Act – connected, low carbon and active communities

Meeting the requirements of the Well-being of Future Generations (Wales) Act 2015 will provide travel options that are low or zero carbon, reducing air pollution and promoting environmental resilience. It will also help equalise opportunities for all and play a role in supporting healthy lifestyles, improving community cohesion, and creating a well-connected Wales.

Our future transport system will be informed by the needs of users, based on a 'decide and provide' model, and considering the differing needs of women, disabled people and older people. Citizens will have opportunities to be involved in co-designing transport plans and strategies, as was done in Australia, for example - Future Transport 2056. (A More Equal Wales)

We will have reduced the need to travel. Sustainable transport hubs co-located with local services, such as schools, GP surgeries, housing and shops, will be the norm. This will also enable more people to work locally together. Full utilisation of technology and the wide adoption of an anytime/anywhere work pattern will further reduce peak time commuting, along with the overall need to commute. (A Prosperous Wales)

Our planning system will ensure we create places which embed active travel infrastructure, such as cycle lanes, enabling people to walk or cycle for all short journeys, fully integrating with public transport for longer distances.

Widespread availability and ownership of e-bikes will enable active travel in more rural and hilly areas. This will also help people build healthier and more cohesive communities by reducing air pollution and allowing people to spend more time in their local area supporting local services and community activities. (A Healthier Wales and A Wales of Cohesive Communities) (Please see the section on Planning in Chapter 5 for more information.)

We will have an integrated, high-speed, frequent, zero carbon (A Globally Responsible Wales) and completely accessible public transport system that is affordable, therefore reducing inequalities across Wales. (A Prosperous Wales and A More Equal Wales)

Talinn, Estonia was the first city in the world to offer free public transport to its residents in 2013, which has subsequently been introduced in 11 out of Estonia's 15 counties in 2018.

Rome, Italy's metro offers 'trash-for-tickets' to tackle plastic pollution.

Alternatively, people may be able to exchange volunteer time in exchange for reduced or free transport services.

Public transport will be reliable and available in remote parts of Wales (A More Equal Wales). All services will be bilingual, offering easy, equal access to cultural activities in Wales. (A Wales of Vibrant Culture and Thriving Welsh language)

Digital connectivity, particularly in rural communities, will be important as it will reduce the need to travel, enabling access to jobs away from where people live, helping to improve their work-life balance.

People will be able to access different mobility solutions across multiple services through a single app or platform, making it easier to plan one's journey.

Having a fully developed public transport network will also open more rural regions of Wales to business development and will allow easier and cheaper moving of goods. (A Prosperous Wales)

Any unused existing infrastructure will be converted to green spaces. This will lead to better air and water quality, reduced noise pollution levels and improved biodiversity. (A Resilient Wales and A Healthier Wales)

Travelling by car will be minimised because of the improved and faster public transport system. Where cars are still used, they will be electric or hydrogen and technology will be utilised to ensure safety to reduce road traffic accidents (A Healthier Wales). Congestion issues will be reduced thanks to smart technologies, such as cars that communicate with each other. (A Prosperous Wales)

Miami, USA launched a new app that rewards residents for using green transport. By cycling, car-sharing or taking public transport, users can collect points to pay for future trips.

Transport for Wales has made travel on their services free for essential workers as part of their response to the COVID-19 pandemic.

Indianapolis, USA - The Indianapolis Cultural Trail is a curbed, buffered, paved, richly landscaped, and artfully lighted bike and pedestrian pathway that connects to every arts, cultural heritage, sports, and entertainment venue in the urban core.

The Netherlands made trains free on National Book Day for people who could show a book instead of a ticket.

Munich, Germany - The Munich public transport system functions as a holistic, integrated system: buses, trams and underground and suburban trains are planned together to provide 'one network, one timetable, one ticket'.

Utrecht, Netherlands has covered hundreds of bus stops with green rooftops aiming to improve biodiversity, support the honeybee and bumblebee populations, as well as capturing fine dust and store rainwater.

In Paris, France, they converted old, abandoned viaduct and rail tunnels to a beautiful park already in 1993.

In Helsinki, Finland, residents use an app called Whim, heralded as the world's first Mobility as a service , offering to plan and pay for all modes of public and private transportation within the city - be it by train, taxi, bus, carshare, or bike-share. It utilises technology to combine modes of transport seamlessly. The UK government is looking at MaaS in detail, and Whim has been launched in the West Midlands.

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To support the achievement of the well-being goals in relation to transport, I have:

Worked with Welsh Government to update the Welsh Transport Appraisal Guidance to ensure decisions that involve transport solutions consider all elements of well-being.

Provided evidence to the M4 public inquiry to demonstrate how decisions should be made in line with the Well-being of Future Generations Act.

Worked with partners to develop solutions to road congestion that are more in line with the national well-being goals (outlined in my Transport fit for Future Generations report).

Collaborated with Transport for Wales to ensure the process to procure a new rail franchise and Metro for South East Wales maximised opportunities to contribute to the national well-being goals.

Involved key stakeholder organisations and groups in shaping this work.

See Chapter 6 'My Focus' for more information.

People's perception of transport

Listening to what people think and believe is an important part of involvement. That is why, in this section, I wanted to give a flavour of what people have told me, since the beginning of my term and in relation to this report. Peoples views included:

Public transport networks are not integrated.

Public transport is not affordable, particularly for young people, vulnerable people and the elderly.

The role of transport in facilitating health and social cohesion is not realised.

Active travel and cycling infrastructure often feel unsafe.

The reliability and conditions of train services are often poor.

Road building is still the first answer to congestion without consideration to sustainable alternatives.

Our current transport system is not addressing emissions targets and climate change.

Air quality remains unacceptably poor despite commitments and the declaration of climate emergency.

Wales Transport Appraisal Guidance is not applied as intended.

Public transport provision or active travel are often not factored into planning for housing developments, exacerbating a reliance on cars.

For people living in rural areas, public transport is rarely a viable or accessible option.

Funding and licensing regulations often act as barriers to progress for small-scale community solutions that meet a local need.

Your Voice

Amongst the concerns raised with me by the public, around 12% relates to transport, and the issue accounted for almost a quarter of responses via the People's Platform. In engaging with over 5,000 people, the below views are representative of the key issues which have been shared with my office in forming this report:

"Transport, particularly for the elderly. It's not so bad if you are on a main route but if you are off route then sometimes there is no way of getting out. – People move out of town to find work, leaving behind their elderly parents which others have to care for and support."
(The People's Platform)

"The transport system doesnt seem very joined up, congestion is growing; Wales doesnt have a vision of itself as a modern country with excellent transport infrastructure."
(The People's Platform)

"Accessibility of transport because public transport is so difficult to access at the moment, especially for older people."
(The People's Platform)

"The impact of a car focussed system is everywhere - from the pollution, the noise, the time wasted in traffic or on poorly integrated alternatives, the impact on individual's health from pollution but also from not undertaking physical activity. It is a climate issue. and it is a social and economic issue."
(The People's Platform)

"Travelling more actively will make us healthier, reduce out emissions, and make us fit for the future in a low carbon economy."
(The People's Platform)

"60 years ago it took 1 hour and 5 minutes to get Cardiff by train from Merthyr Tydfil. Today it takes the same time."
(The People's Platform)

In September 2019, we delivered a workshop for stakeholders using the '3 Horizons Model' to investigate current concerns about our transport system, explore aspirations for the future, and identify the 'big ideas' that will get us there. The graphics on the right show how people were able to map their future transport aspirations against the four pillars of well-being, map an idea against the seven well-being goals and also consider innovations that tend to maintain the status quo (H2-) as well as ones that will support the future we need (H2+).

Future Generations 2020 report
Stakeholder insight on transport and 'how we move'

When: 26 September 2019 **Where:** National Waterfront Museum, Swansea
What: Delivered a stakeholder workshop using the 3 horizons model to investigate *current concerns* about our transport system and 'way we move'; explore *aspirations for the future*; and identify the '*big ideas*' that will get us there.
Who: 30 delegates including Transport for Wales, Welsh Government, local councils, health boards, WAO, Sustrans and fire & rescue.
Why: The workshop had two main objectives:
- To provide insight on priority areas for the Future Generations 2020 report through involvement
- To apply a 'learn by doing' approach to futures, upskilling FGCO staff and attendees from public bodies

Transport: Future aspirations (Horizon 3)

Transport: Big ideas (Horizon 2) - #1

Transport: Other innovations in play (Horizon 2)

I would like to thank the following people for contributing to my work and thinking in this area

Sustrans

Dr Tom Porter

Older People's Commissioner for Wales

Chris Roberts - Active travel and Independent Consultant

Prof Stuart Cole

Prof Mark Barry

Prof Calvin Jones

New Economics Foundation

Community Transport Association

University of West England

In addition to this involvement, I also have carried out my statutory duty to monitor and assess progress by public bodies in meeting their well-being objectives and the requirements of the Act in general, and conducted research. As a result of these activities, I have identified the following opportunities and challenges.

Challenges and opportunities for change

Under the current devolution settlement, Welsh Government is in control of significant areas of transport policy such as:

- Local transport
- The majority of roads policy
- Active travel
- Powers to specify the franchise for passenger rail services beginning and ending in Wales, and
- Funding of rail infrastructure.

Welsh Government is also in control of planning, land use and housing, and, therefore, transport should not be considered in isolation.

I support calls for rail and community transport to be fully devolved. This could improve rail provision and help develop a more supportive regulatory framework, enabling the community transport sector to provide services, which support social well-being, and contribute to the national well-being goals.

Decisions on transport must reflect the climate emergency

What future generations need

Along with the nature crisis, the declaration of a climate emergency by Welsh Government, local authorities and town councils should be a catalyst for change and not just empty words. (Please see the section on Decarbonisation in Chapter 5 for more information.)

We need a transport system designed in a way that reflects this commitment to tackling climate change, as a matter of urgency. This must be low or zero carbon and should support the reduction of emissions from other sectors (for example, through embedding green infrastructure throughout train stations, transport hubs and interchanges, bus stations and bus stops). It also needs to be better integrated with the planning and housing sectors to reduce the need to travel. (Please see the sections on Planning and Housing in Chapter 5 for more information.)

Where we are now

Transport emissions are not decreasing in line with carbon emission targets. Transport contributes to 14% of current emissions, increasing by 5% between 2012-2017. We need to reduce transport sector emissions in Wales by 43%, by 2030, to meet future carbon budgets. To do this, we need rapid and intensive action to support the modal shift from cars to public transport and active travel, increasing uptake of electric vehicles and implementing vehicle and fuel efficiency measures.

The decision not to proceed with the proposed M4 relief road demonstrated significant leadership and encouraging recognition of the need for urgent action to curb transport-related emissions

Mark Drakeford's decision to not proceed with the planned M4 extension demonstrates a step-change in thinking at the highest government level. His decision to give greater weight to the concerns around environmental impact shows the nature crisis and climate emergency are being taken seriously.

A Commission has been appointed to propose sustainable alternatives, and the Commission needs to demonstrate how it is using the Well-being of Future Generations Act in forming its recommendations. I have made suggestions for alternatives in my Transport Fit for the Future Report, and I welcome their early focus on the need to improve public transport, to provide a viable alternative option to commuters travelling by car.

Public bodies are focusing on reducing emissions from staff travel but need to go further

There are several good examples of public bodies looking at the way their staff travel and focusing their efforts on reducing emissions from commuting, through incentivising sustainable travel options and through the use of electric and hydrogen vehicles. This is encouraging, especially in areas where the public sector workforce makes up a large proportion of employees. For those who do not have a direct role in transport planning, it is an important area of focus in reducing transport-related emissions and improving physical activity.

Moving towards a low carbon society will require a dramatic shift in the way we move ourselves and our goods. Public bodies need to go further in how they deliver their services, for example, ensuring their services are easily accessible by public transport and by considering transport-related emissions in the context of how they procure goods and services.
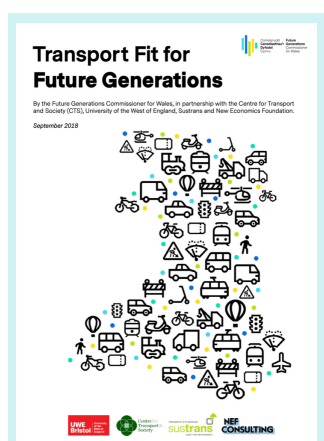
Mid and West Wales Fire and Rescue Service have introduced hydrogen-powered vehicles and electric bikes to encourage staff to walk, cycle or take public transport through incentives like 'Healthy Travel Charters'.

Sport Wales procured a self-charging petrol hybrid car as a replacement to one of their pool cars this year (2018-19).

Caerphilly County Borough Council have introduced electric vehicles to the Meals on Wheels service.

Well-being objectives relating to transport and the steps taken to meet them do not match the ambition on carbon reduction

My analysis of well-being objectives shows that some public bodies are starting to consider how their objectives on transport can have a broader impact on the environment and climate change.

For example:

One public body has a step to: 'Work with others to provide sustainable and low-carbon transport and infrastructure, providing improved and cheaper connectivity and mobility and associated economic benefits at reduced environmental cost and improved air quality.'

As a result they have purchase 40 electric vans, ten electric pool cars, a focus on green fleet management and funding for new walking and cycling routes has helped to deliver a 42% reduction in emissions.

While appreciating that local authorities have statutory responsibilities to maintain a safe highway network and that buses also use roads, ten of the 37 well-being objectives on transport include improving road infrastructure or introducing new road schemes, missing the point of the Environment (Wales) Act 2016, the Well-being of Future Generations Act and the Active Travel (Wales) Act 2013.

Some public bodies have objectives to introduce new road schemes alongside ones to improve the environment; showing a lack of integration. New developments should deter car use, help improve social cohesion and reduce social isolation. (Please see the sections on Planning and Housing in Chapter 5.)

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Achieve modal shift and reduce our reliance on cars

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What future generations need

Future generations will need easy access to an integrated, low carbon, affordable, reliable and efficient public transport network that improves health and activity levels and tackles issues such as air pollution, climate change and inequality. They will also need safe and easy access to walking and cycling options for travel.

Key to achieving this modal shift is greater support for, and investment in, public transport and active travel infrastructure to address congestion and air pollution. At the very minimum, 10% of Welsh Government's capital transport budget should be invested in active travel, and 50% should be dedicated to improving public transport. This is discussed in Transport Fit for Future Generations and my 10 Point Plan to Fund Wales' Climate Emergency.

Future generations will also need to move goods to their doorsteps in ways that respect people and the planet (for example, solar-powered drones or hyperloop trains).

They need Welsh Government to develop a new National Transport Strategy that is aligned with the Well-being of Future Generations Act:

- To provide a vision to revolutionise travel behaviours in Wales in ways that support environmental, economic, social and cultural well-being
- To help deliver against our decarbonisation targets
- To reinforce the transport hierarchy set out in Planning Policy Wales 10
- To integrate with other policies such as the new Clean Air Plan for Wales

Figure 8: The Sustainable Transport Hierarchy for Planning

Walking and Cycling

Public Transport

Ultra Low Emissions Vehicles

Other Private Motor Vehicles
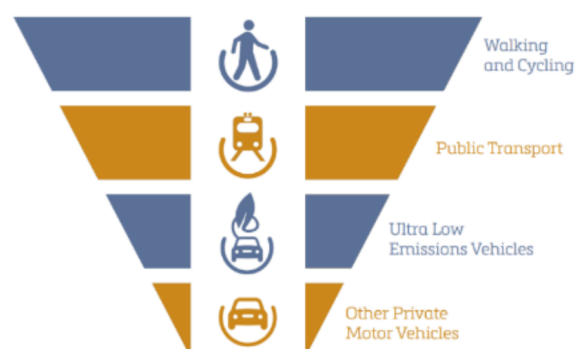
Source: Planning Policy Wales 10

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Where we are now

Over 80% of journeys to work in Wales are now by car - an increase of 9% since 2003. Car use has been rising across the UK since the early 1950s, while cycling, bus and rail use have generally been declining, although we have seen a small increase in rail use and cycling between 2003-2017. By planning and developing our towns and cities in ways that prioritise cars instead of people, we have allowed cars to become the dominant mode of travel. The way we currently travel is negatively affecting our health; transport is a major source of air, water and noise pollution, with air pollution contributing to around 2,000 deaths a year in Wales.

Changes in commuting mode in Wales, 2003-2017

Mode	2017 Mode share	2003-2017 Percentage change in use of each mode and change in average journey time	
Car	81%	+9%	+4 mins
Walk	8%	-18%	+5 mins
Bus	4%	-7%	+7 mins
Train	4%	+212%	+7 mins
Cycle	2%	+46%	+4 mins

Car share
Percentage change in numbers of car drivers and car passengers from 2003 to 2017

Driver +24% | Passenger -51%
Sometimes driver, sometimes passenger -21%

Source: Commuting Statistics, Department for Transport

National Assembly for Wales
Senedd Research

Our sedentary lifestyles and over-reliance on commuting by car are also contributing towards increasing levels of obesity, diabetes and stress; presenting a considerable challenge to public health.

Congestion also costs money. Drivers in Cardiff are losing 143 hours a year stuck in traffic during peak times, equivalent to around 19 full working days, at the cost of approximately £1,056 per driver. During peak times in the city centre, the average speed is just 9 mph and more than half of that time travelled during peak periods is spent in delay.

Communities are working with public bodies to propose better solutions, but this needs to go further to achieve modal shift that takes account of local need

I have seen encouraging initiatives coming from communities who are trying to improve public transport and active travel opportunities for their area through collaboration with local businesses and public services:

Ted Hand, Member of Magor Action Group on Rail, tells us in this video, why he thinks their community project for a walkway station is vital for future generations to come.

In Cardiff, parents and governors from five primary schools have worked with Cardiff Council to pilot a car ban, enforced with fixed penalty notices in the streets around their schools. They aim to encourage walking and cycling to school and to improve children's safety.

Welsh Government's Safe Routes in Communities Scheme is a good example too but despite this, I cannot see well-being objectives having enough focus on changing behaviour and encouraging the reduction of reliance on cars.

There is also a responsibility on public bodies and Public Services Boards to engage and work with communities to seek ideas and proposals for solutions, to gain an understanding of the way the current system works, along with opportunities for improvement, which will work for all.

The Welsh Transport Appraisal Guidance update in 2017 is a positive step taken by Welsh Government, but effective implementation is lacking

Following my intervention, the Well-being of Future Generations Act is now front and centre in this guidance for the assessment of transport options. It represents a significant change in how public bodies should go about their transport planning, encouraging a focus on reducing carbon emissions, equality of access, improving air quality, and promoting active travel.

However, as in so many policy areas, there is a significant implementation gap. Having worked alongside Welsh Government to produce the guidance, I am frustrated to see that in practice, it is not always used correctly. It should be used to identify the best mobility solution for an area, taking account of well-being goals and local objectives. The Welsh Transport Appraisal Guidance may not always be the place to start as it often presumes a transport issue and then a solution. A wider socio-economic study looking at all aspects of well-being may be more suitable.

My assessment of the application of the Welsh Transport Appraisal Guidance in several schemes shows that instead, it is often retrofitted after a specific solution (e.g. building a road or a bypass) has already been identified.

This appears to be partly driven by allocation of funding for specific schemes (through the National Transport Finance Plan and the Wales Infrastructure Investment Plan), which means that the Welsh Transport Appraisal Guidance isn't applied as intended.

"The WelTAG process has not been applied as intended. The justification for the road was published over six months after the WelTAG studies were commissioned. The studies started with the solution – a road - rather than the issues of concern. A flawed process leads to flawed decision making."

Public Correspondence

Welsh Government are providing funding without checking whether the Welsh Transport Appraisal Guidance has been applied correctly and in the absence of an overview of the collective impact of schemes on carbon reduction

Currently, 62% of capital transport funding in the updated Wales Infrastructure Investment Plan is for new roads, reinforcing the view that the starting point for the Welsh Transport Appraisal Guidance process is already defined by the funding that has been allocated.

Welsh Government needs to ensure that the Welsh Transport Appraisal Guidance is properly understood and is being applied correctly. This will require oversight and monitoring by Government, with funding being denied to schemes that cannot clearly demonstrate this.

Example: Tools such as the Well-being Impact Evaluation developed by Mott MacDonald, who have worked with me on embedding the Act within the construction industry, add value. It is the first framework to integrate the legal requirements of the Well-being of Future Generations Act and the United Nations Sustainable Development Goals into a clear methodology within Welsh Transport Appraisal Guidance and 5-Case Business Case process. It has been used to integrate well-being goals into the Pontypridd Integrated Transport Hub and Town Centre Masterplan.

There is not enough progress being made on a number of key transport indicators such as carbon emissions and modal shift, and in some cases they are going backwards. This will inhibit Wales' ability to meet a number of well-being goals

Between 2003-2017 walking and bus travel has declined

Around 57% of those recently surveyed by RAC said that they would be willing to use their cars less if the quality of public transport improved. The survey found that one of the main reasons that car dependency has continued to increase is because of the cut in provisions for public transport.

Travel by train has increased, but public satisfaction is a major issue

The number of rail journeys taken in Wales reached a record high in 2018 at 31 million,

Wales has one of the lowest per capita spend on public transport in the UK

This has decreased from £74.7 million in 2012 - 13 to £45.4 million in 2016 – 17.

Wales also has only 3.32% of the UK's electric vehicle charging infrastructure, resulting in a lack of sustainable travel options and a further reliance on using cars.

This will need to be addressed by national, regional and local levels of governance, but greater investment from Welsh Government for the necessary infrastructure improvements is key.

"Everyday commuters who choose public transport are forced to suffer the overcrowding of early morning carriages… On the Barry Island train into Cardiff Central this morning, the conductor was having to physically push a final passenger on at each station, with commuters being left behind at every station from Cadoxton (so Dinas Powys, Eastbrook, Cogan, Grangetown) to Cardiff Central."

Public Correspondence

The commitments to funding the South Wales Metro (£738 million for the Core Valleys lines via the Cardiff City Deal), and the investment in rail through the £5 billion rail franchise is a step in the right direction, but cannot make up for the long-term and systematic under-investment Wales has suffered. Substantial and continuous investment in infrastructure will be required for many years to come. In the future, similar levels of funding should be made available to support similar Metro schemes in the Swansea Bay City region and the North Wales region.

I am encouraged to see Welsh Government introducing new legislation that gives local authorities new powers to reshape bus services across Wales. This new toolkit proposed in the Bus Services (Wales) Bill includes new powers for local authorities to run their own bus companies and to franchise bus services, as well as establishing new partnership agreements with operators, focussed on improving services for customers.

Following the Publication of my Ten Point Plan, in 2020-21 Welsh Government announced a £59 million (37%) increase in total spending on sustainable travel, along with the rise in capital investment in active travel, public transport and electric vehicle infrastructure by £80 million. While I am encouraged by these increases, the proportion of capital spent is still below the 60% level recommended in my 10 Point Plan.

Implementation of the Active Travel Act is lacking. Around 24% of all car trips across the UK are under two miles, meaning that a large proportion of these trips could be done by walking, cycling or scooting

Despite the Active Travel Act being introduced in 2013, levels of walking and cycling in Wales have stagnated or declined over the last six years.

Investment in active travel infrastructure needs to go alongside measures to support a change in attitudes of the public and decision-makers as well as increasing capacity on the ground in terms of funding and staff resources. My 10 Point Plan recommends an investment of £60 million per annum in active travel across Wales.

While I am encouraged by the commitments of Welsh Government (and local authorities) to increase active travel and public transport, the targets and resources remain limited and not ambitious enough to meet the needs of future generations. The commitment in 2019-20 of £60 million for active travel over the next three years is less than 10% of the total transport capital budget.

Welsh Government's target of getting 10% of people cycling once a week by 2026 is unambitious

By comparison, Cardiff's cycling and walking targets are 43% by 2030, (for travel to work journeys by Cardiff residents) albeit higher levels are likely to be more achievable in an urban setting.

While recognising the challenges posed by Wales' geography, Welsh Government need to adopt a more ambitious target. For example, following decades of investment, the modal share of cycling in the Netherlands is around 27% of all trips with 24% of the Dutch population cycling every day. Electric bikes could provide a practical solution for many areas.
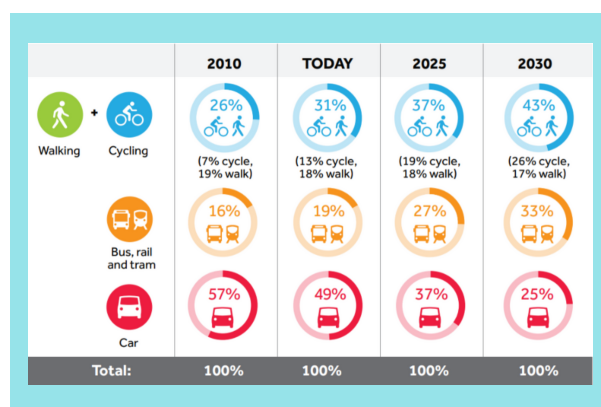
At a local level, pockets of excellent practice can be seen across Wales, and most public bodies are now seeking to promote active travel over private car usage in their well-being objectives and steps. Some are considering how transport impacts on air quality. Cardiff Council is leading the way by setting out progressive targets and plans for active travel and 14 other public bodies have included steps related to active travel in their well-being objectives.

Cardiff Public Services Board and the Vale of Glamorgan Public Services Board have signed up to a Healthy Travel Charter, containing commitments to support walking, cycling, public transport and ultra-low emission vehicle use. There are plans to extend the approach across Wales during 2020-21, starting with Gwent, Swansea Bay and North Wales. Over 20 major public sector organisations, including my office, have signed up to the Healthy Travel Charter to date.

A Business Charter has also been launched, with Higher and Further Education, and Third Sector Charters also in development.

Mid and West Wales Fire and Rescue Service have introduced hydrogen-powered vehicles and electric bikes in the Neath Port Talbot and Swansea areas; enabling staff in that area to move around the city more easily and reduce their carbon footprint.

Vale of Glamorgan - The Culverhouse Cross to Weycock Cross bus priority and cycling/walking scheme opened in March 2017. The scheme has resulted in the creation of 188 metres of cycle-path and bus lane, leading to significant time savings for buses and an increase in cycling in the area.

Cardiff and the Vale University Health Board launched a pilot scheme allowing local GPs in Cardiff to prescribe patients with a six-month membership to nextbike –with evidence showing regular cycling could cut the risk of death from heart disease by half. (Please see the section on a Healthier Wales in Chapter 3.)

While we know that reliability and integration of transport is a widespread issue that matters to people, it is important to note the nuances between demographics and geography. For instance, from our engagement in rural areas, there has been a greater focus on public transport than active travel.

Many living in rural areas view public transport provision as infrequent and disconnected, resulting in a lack of options to travel sustainably (locally or at distance), causing a barrier to accessing employment and activities that improve well-being. Low carbon road travel and reduced journeys are likely to be the best options for decarbonising travel for the majority of Wales' population outside urban areas.

The current transport strategy has not been updated since 2008 and therefore Wales lacks a transport vision and strategy designed to meet its well-being goals

The new version should be aligned with the aspirations and requirements of the Well-being of Future Generations Act. I am challenging Welsh Government to consider how this new strategy will deliver against all seven well-being goals, enabling the benefits of active travel to resolve many of the health and pollution challenges we face and to address the current inequalities in access to mobility.

I welcome the work currently being done by Government to explore 20 mph zones and to address parking on pavements, as both will help to address health and safety issues often faced by the most vulnerable, thereby contributing to more cohesive communities.

In March 2020, the UK Government published a consultation for how it will revolutionise UK transport to reduce greenhouse gas emissions and fight the climate crisis. Their vision, focussing on modal shift, is that:

- Public transport and active travel will be the first choice for our daily activities;
- We will use our cars less and be able to rely on a convenient, cost-effective and coherent public transport network.

Cardiff Council have published a Transport White Paper, prioritising clean air and instigating a shift from private car travel to walking, cycling and public transport. They are investing in cycle super-highways, cycle infrastructure schemes and the on-street cycle hire scheme (nextbike), which has become the most successful in the UK.

They are even considering introducing road user charging for vehicles travelling into the city. I would encourage other public bodies to consider Cardiff Council's example and find the best ways to set equally ambitious targets and actions for their regions.

Your Voice

In engaging with over 5,000 people, the below views are representative of the key issues which have been shared with my office in forming this report:

"Accessibility of transport because public transport is so difficult to access at the moment and I don't see it getting any better, there aren't even audio announcements on most trains, I don't even know if I am at the right stop. I am blind and the prospect of guard-less trains is a big worry, who is going to help with disabled or visually impaired people? At the moment the platforms are all different and the gap between the train and the platform varies, but there is a potential to put this right with the new metro system if people pay attention."
(The People's Platform)

"Natural Resources Wales have spoken to the users of our visitor sites over a number of years and found that one of the main barriers to participation can be public transport links. We believe that jointly influencing Local Authorities over matters such as rural public transport as well as doing as much as we can to 'sell' the benefits of going outdoors to everyone in Wales is key to help improve the well-being of current and future generations."
(Our Future Wales response from Natural Resources Wales)

"It's not so bad if you are on a main route but if you are off route then sometimes there is no way of getting out. - People move out of town to find work, leaving behind their elderly parents which others have to care for and support."
(The People's Platform)

"Many vulnerable elderly people are finding it so hard to access help with medical appointments, and access to the basics we all take for granted. A sustainable transport network has to be a major issue for Wales."
(The People's Platform)

"To travel to Cardiff from mid-Wales on train you have to go via England and it can take over 4.5 hours – this leads to more people driving – not very sustainable."
Our Future Wales event in Llandrindod

What future generations need

During the enforced lock-down in response to the COVID-10 crisis, we've already had a glimpse of the potential for technology to enable us to work remotely and the consequential reduction in air pollution and carbon. Over the next twenty years, new technologies will further reduce the need to travel, enable us to travel in more efficient ways, and therefore, determining a large part of the infrastructure our mobility system needs to invest in now.

We will have fewer vehicles, and these will be powered by clean energy and eventually progress to being autonomous. At the same time, 'mobility as a service' will provide access to different transport modes and drone delivery could relieve congestion in some places.

Technology can also reduce the overall need to travel altogether. More employers now offer flexible and remote working, decreasing the need to travel for work and so solutions to some mobility issues will increasingly be found in better digital connectivity. The proliferation of other technology, such as virtual reality, could reduce the demand for travel if people have the alternative of seeing the sites of the world from their back yard.

Where we are now

Our current transport system is based on 20th century approaches to mobility and is not fit for future generations

In the medium-term, low carbon transit (including hydrogen cars and electric trains), could help us deal with some of our immediate challenges, such as carbon emissions and pollution. Predictions show that battery-only (electric) and self-driving (autonomous) cars will become more commonplace, along with e-bikes and e-scooters.

However, we must guard against a too much focus on electric and autonomous vehicles. There is a risk in us simply replacing petrol vehicles with electric ones, in that we miss opportunities to make the connections between active travel and health, walking and community cohesion and a failure to facilitate the necessary modal shift.

I have seen little evidence of public bodies, including Welsh Government, applying future trends and scenarios to setting and meeting their well-being objectives on transport

GO-Science's report on the future of mobility provides predictions on when we may see different technology innovations in transport. It predicts the emergence of flying cars at the same time as self-driving trains and suggests that delivery by droids and drones will be widespread by 2040. Wales needs to be ambitious in its plans to develop and adopt future-focussed infrastructure in Wales.

In December 2019, Cardiff Council produced a Smart City roadmap, which outlines the progress made so far, as well as future improvements that will be made, in its quest to become a Smart City. One of the Missions outlined in the roadmap is for a 'Mobile and Sustainable city' which, amongst other things, uses the latest technology to keep Cardiff moving, and explores infrastructure requirements for autonomous vehicles. Some of the actions the Council is planning include formulating a strategy for Intelligent Transport Systems and investigating integrated ticketing systems for Cardiff and the wider region.

Dubai, on the other hand has conducted its first test of a drone taxi service that they are hoping will be proliferated across the city in the future.

Technological advancements such as hyperloop trains will help reduce travel times and can help reduce car use. The new transit system should be safer, faster, lower cost, more convenient, immune to weather, sustainable and self-powering, resistant to earthquakes and not disruptive. The development and proliferation of this technology will have huge social and economic benefits. So far, there have been no pilot journeys with passengers, but there are hopes that the first viable services will be up and running by 2030.

Barcelona, Spain, is one of the best examples of a Smart City, and the improvements it has made to achieve that include being one of the first cities to introduce a bike-sharing system and having a bus transit system that stands out for sustainable mobility and decreasing emissions, with the help of hybrid buses. This system also has smart bus shelters utilizing solar panels to provide energy for the screens that show waiting times.

Technology	2025	2030	2040
Electric cars	Emerging	Widespread	Widespread
Level 4 passenger vehicle automation	Niche	Emerging	Widespread
Level 5 passenger vehicle automation	Developing	Niche	Widespread
Electric LGVs/vans	Emerging	Widespread	Widespread
Electric HGVs	Niche	Emerging	Emerging
Level 4 truck automation	Developing	Niche	Widespread
Level 5 truck automation	Developing	Developing/Niche	Emerging
Truck platoons	Niche	Emerging	Widespread

Technology	2025	2030	2040
Flying cars	Developing	Niche	Emerging
Delivery drones	Niche	Emerging	Widespread
Droids (ground-based drones)	Niche	Emerging	Widespread
Hyperloop	Developing	Niche	Niche
Autonomous underground trains	Niche	Niche	Emerging
Autonomous overground trains	Niche	Niche	Emerging
Autonomous freight trains	Niche	Niche	Emerging

Source - 'The Future of Mobility: A time of unprecedented change in the transport system.'

Some public bodies have started investing in improving electric vehicles charging infrastructure but more needs to be done

Wales is behind all other UK nations in terms of electric vehicle coverage, with only 617 charging points (3.32% of UK's total), compared with 1863 in the South West, and only 30 rapid chargers compared to around 3,000 across the British Isles. As part of the budget, Welsh Government had made a commitment for £2 million funding over two years (2018-20) in electric vehicle charging points, and I am encouraged by the additional £30 million in the 2020-21 budget to support an electric vehicle transformation programme, including funding for ultra-low emission refuse vehicles. This compares to almost £37 million invested by Scottish Government in electric vehicle infrastructure to date, to fund an additional 1,500 electric vehicle charging points, 100 electric buses and new ultra-low emission vehicles in the public sector fleet.

I also welcome the Assembly Economy, Skills and Infrastructure Committee's call that new residential developments in Wales should include provisions for electric vehicle charging. However, while investing in electric vehicle infrastructure is important, there is a risk that we focus too much on these solutions in the short-term while neglecting to focus on reducing the need to travel and invest adequately in better public transport and active travel infrastructure.

Positive progress includes work in the Gwent area. A project across the five Public Services Boards is providing the evidence for a regional approach to electric vehicle charging infrastructure.

Monmouthshire Conty Council - With the support of the council, Riversimple are preparing a 12-month trial of 20 hydrogen fuel cell cars in Monmouthshire. They are also part of a joint commission to undertake an electric vehicle feasibility study, with work underway to determine the potential infrastructure for charging points.

Powys County Council will be introducing electrical vehicle charging points in council-owned car parks.

With a UK-wide ban on new diesel, petrol or hybrid vehicles coming into force by 2035 at the latest, Wales needs to ensure the essential infrastructure is in place, while ensuring mobility options are affordable for all.

Consider mobility as a route to wider well-being

What future generations need

Public bodies and Public Services Boards should be setting well-being objectives that seek to change behaviour around mobility and consider connectivity in its widest sense, rather than simply improving infrastructure. They need to plan and deliver mobility in a way that simultaneously improves health, encourages community cohesion and supports carbon reduction.

Where we are now

There are promising signs of public bodies making the connection between transport and wider well-being, but we need to see this across the board

Throughout the majority of public body and Public Services Board well-being objectives, the links to economic well-being and infrastructure are clear; however, not all of them are demonstrating connections with other aspects of well-being, such as social inclusion.

In setting objectives, public bodies and Public Services Boards are recognising the importance of connectivity to other aspects of well-being; however, their interpretation of connectivity is still too focused on road transport.

The links to the well-being goal 'A More Equal Wales' are important, but often omitted. For example, while public bodies' interpretation of connectivity is often focused on road transport, nearly 25% of Welsh households do not have access to a car and around 40% of job seekers say that a lack of personal transport or poor public transport is a key barrier to employment.

Current transport planning decisions do not comprehensively reflect different travel patterns for different groups

Reports of racism and discrimination on public transport have increased in the last few years. There are often accessibility issues for people with disabilities and older people, and lack of transport options has been shown to increase loneliness and isolation.

Across the 295 well-being objectives set by public bodies and the 94 objectives set by Public Services Boards, there are 37 objectives set by 25 public bodies, and 14 objectives set by 12 Public Services Boards, relating to transport.

295	94	37	14
well-being objectives in total set by public bodies	well-being objectives in total set by PSBs	well-being objectives set by 25 public bodies relating to transport	well-being objectives set by 12 PSBs, relating to transport
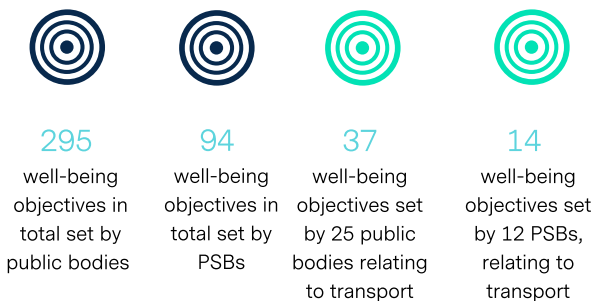
Public body objective examples:

- 'Connected Communities: Communities are connected and have access to goods and services locally, online and through good transport links.'
- 'People can travel easily around the county and beyond.'
- 'To grow a strong local economy with sustainable transport that attracts people to live, work and play here.'

Most of the objectives describe transport as a solution to connecting people with jobs, town centres or services often ignoring the different needs of women older people and disabled people

For example, 'Developing the transport infrastructure and employment sites, and transport services, widening access to employment and training sites.'

However, the mode of connecting people and why the public body or Public Services Board sees this as important is varied, with some objectives and steps on transport referring to other aspects of life such as education, housing, decarbonisation, community cohesion, digital connectivity and walking/cycling routes.

Public Services Board objective example:
- Objective: 'We will support our residents and our communities.'
- Step: 'Review the passenger transport offer for our communities and working with residents, we will provide a service that is fit for purpose.'

Public body objective example:
One public body has a step to: 'Work with others to provide sustainable and low carbon transport and infrastructure providing improved and cheaper connectivity and mobility and associated economic benefits at reduced environmental cost and improved air quality.'

There are multiple charitable trusts in Wales who deliver community outreach work but funding from local authority partners has been cut in recent years. It will be vital to look at the voluntary sector and what they are doing to support active and healthy communities, and to support those organisations to increase access and reach of their programmes.

We are not seeing transport decisions set within the context of placemaking, as required by Planning Policy Wales 10

(Please see the section on Planning in Chapter 5 for more information.)

Planning Policy Wales was updated in December 2018 and places a much greater focus on placemaking to support the development of more sustainable and resilient communities, encouraging the availability of services locally to reduce the need to travel.

The recent COVID-19 crisis has shown how we are able to embrace different ways of working, utilising technology to support remote working, and the impact this change in behaviour has had on travel patterns, reducing air pollution and emissions in a relatively short period of time. When transport decisions are being made using the Welsh Transport Appraisal Guidance, these should consider opportunities provided by technology and potential changes in how we live and work, as well as all aspects of a 'place' rather than considering specific routes in isolation.


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Some public bodies are demonstrating how their objectives on transport can have a broader impact on the environment and climate change and on tackling issues such as loneliness and isolation.

Monmouthshire is a semi-rural county, where loneliness has a significant impact on people's health and well-being and where a lack of transport also limits the ability of people to access training and employment. Monmouthshire County Council has worked with Government Digital Services to find an innovative solution to addressing this issue.

Box Clever Digital has proposed a solution called 'Thrive'; a digital platform aiming to boost skills and increase connections between people in their local community to prevent loneliness, reducing referrals into health and social care services. 'Thrive' also uses technology to unlock the potential of under-utilised transport provision, including ridesharing.

Transport for Wales has ambitious plans to transform the provision of rail services across Wales, and Transport for Wales Rail Services plans to develop Community Transport Hubs, but this will take time, and we are unlikely to see the full impact for several years. However, the procurement exercise outlined how the new rail franchise demonstrated how this would contribute to the seven well-being goals.
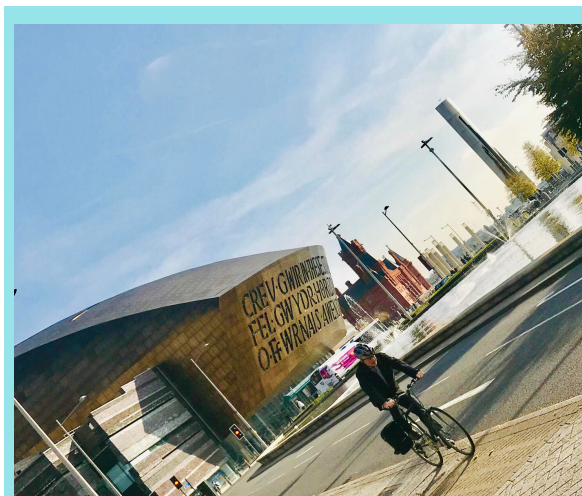
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Transforming Transport – For People, For Places, For Wales
Alignment to the Well-Being of Future Generations Act

A globally responsible Wales
- Energy for stations and the overhead wires will come from 100% zero carbon energy, with at least 50% sourced in Wales
- Supporting sustainable, socio-economic development through our procurement approach
- Develop 1500 additional park and ride spaces across Wales to encourage rail travel
- Investing £738m to electrify the Central Metro network

A Wales of vibrant culture and thriving Welsh language
- Promoting the continued revival of the Welsh language through bilingual customer information, a contact centre and supporting the National Eisteddfod
- Fund all staff who want to learn Welsh and support them to learn
- Providing access to Wales' vibrant culture and natural heritage working with Visit Wales to develop a new rail and tourism strategy

A Wales of cohesive communities
- Employing Customer and Community Ambassadors to encourage a greater sense of community around the rail network
- Improve business opportunities for local SME's/TSE's based in Wales
- Doubling the number of Community Rail Partnerships, with 90% of stations to be adopted

A prosperous Wales
- Create 600 new jobs, investing in 30 apprenticeships every year
- Moving the Keolis UK headquarters and Global Rail Division to Wales
- Building a new Amey design office in Wales
- 95% of journeys will be made on brand new trains
- We will increase capacity by 65%
- We will create a true 7-day railway with new Sunday and Bank Holiday services

A resilient Wales
- Encouraging use of public transport e.g. via integrated journey planning tools promoting onward travel and off-peak/advanced fares
- More than 50% of new trains will be assembled in Wales
- Investing £194m in building new and upgrading existing stations
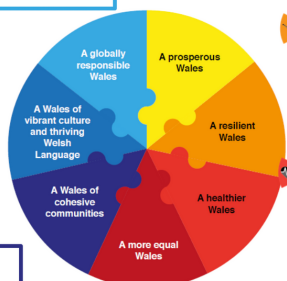
A healthier Wales
- Promoting active travel, new cycle storage and safe, well-lit walking routes to encourage people to make healthier choices
- Community Ambassadors working with local communities, encouraging and training people to use the rail network
- Mental health awareness training for all staff

A more equal Wales
- Developing a new fares structure to ensure price is not a barrier to using the network
- Become an accredited Living Wage employer by 2021 to be cascaded through our supply chain
- During off-peak, cheaper fares will be introduced including, under 16s being able to travel free with a paying adult, and the age limit for half fares will be increased from 16 to 18 across Wales
- Close working with Disability groups to improve accessibility and set up a new accessibility panel for ongoing input

© Transport for Wales

- Demographics and circumstances
- Transport behaviour
- Practical factors
- Social factors
- Psychological factors

Source: UK Government Office of Science report on the Future of Mobility

There will be no one solution to the big transport issues we are facing today, as mobility patterns are driven by many factors identified in The Centre for Economics and Business Research's report on the future economic and environmental costs of gridlock in 2030.

They concluded that the optimal solution to congestion issues is likely to be a mixture of measures, such as improved public transport; encouragement of pragmatic solutions like car-pooling and telecommuting; and making use of technological solutions such as multi-modal routing and real-time traffic management.

These factors have been taken into consideration when drafting my recommendations.

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Transport

Recommendations for Welsh Government

Key Recommendation

Welsh Government should set a national target for modal shift to enable people to adopt low carbon modes of travel over the next decade. This target should be linked to the milestones developed to support the national indicators.

Policy Recommendations

Welsh Government should:

- Allocate at least 50% of capital transport spend on improving bus and train services, providing long-term funding wherever possible.

- Explore the business case for introducing free public transport for young people in Wales.

- Adopt an approach to transport planning that supports 20-minute neighbourhoods i.e. with good local, sustainable transport and active travel options.

- Use financial and tax-raising powers to explore all levers to constrain current transport patterns and achieve ambitious modal shift including: increasing fuel duty and company car tax; restricting parking in city centres; and introducing a distance-based charge for driving within five miles in urban areas.

- Explore the potential of Mobility as a Service (MaaS) to provide flexible alternative transport solutions.

- Fully integrate transport, housing and land use planning to minimise the need for people to travel.

- Transport for Wales Rail Services should ensure it undertakes a comprehensive equality impact assessment at the planning and design stages for any new transport infrastructure. This should take into account access of current services as well as understanding how new transport will affect the different mobility pattern requirements of different groups.

Transport

Recommendations for Welsh Government

Process Recommendations

In their day to day actions Welsh Government should stop:

- Following a 'predict and provide' model for the development of transport strategies.

- Prioritising investment in building new roads.

- Allowing plans for car-dependent, out of town buildings and developments with poor access to public transport links.

- Allowing incorrect implementation of the WelTAG Guidance and only provide funding for schemes that have applied WelTAG properly.

- Prioritising car travel over other modes, including allowing developments and office spaces with large car parks, focussing on car parking space while neglecting to support people to take public transport and provide high-quality cycle facilities

- Allocating short-term annual funding based on competitive bids.

In their day to day actions Welsh Government should start:

- Following a 'decide and provide' model for the development of transport strategies.

- Prioritising support and investment in bus and train services across Wales to offer affordable public transport.

- To focus on behaviour change to incentivise people to travel sustainably.

- To better coordinate and communicate alternatives to driving.

- Measuring the carbon impact of transport investment and the carbon impact of transporting goods to ensure decision are supporting our emission targets.

- To provide long-term funding for sustainable transport schemes.

- Prioritising support and investment in walking and cycling infrastructure to achieve wider benefits to people and communities.

Transport

Advice on setting well-being objectives for All Public Bodies and Boards covered by the Well-being of Future Generations Act (including Welsh Government)

Please refer to the chapter on Setting Good Well-being Objectives, but in setting their objectives specifically in relation to transport, all public bodies and boards covered by the Well-being of Future Generations Act (including Welsh Government) should:

- Collaborate and involve a wider set of people to review and design well-being objectives such as bus and public transport users; walkers and cyclists; schools; local business; community groups and others. This could lead to public bodies understanding the broader benefits and steps they can take to improve all aspects of well-being through transport.

- Set well-being objectives on transport which are shaped towards meeting all the well-being goals, especially a goal of A Healthier Wales, A More Equal Wales and A Wales of Cohesive Communities.

- Clearly show how they are integrating their objectives on transport with their other objectives.

- Move beyond setting well-being objectives and steps that respond to the transport problems of today; and instead, use long-term horizon scanning to mould the way we may need to move in future.

- Set out clearly how their objectives on transport and mobility align with carbon reduction targets.

- Seek to change behaviour around mobility and consider connectivity in its widest sense, rather than simply improving infrastructure.

In setting their steps, public bodies and boards covered by the Well-being of Future Generations Act (including Welsh Government) should focus in the following areas and should:

- Move away from traditional transport planning (such as road infrastructure) and onto a combination of alternative solutions that support the reduction of carbon emissions.

- Commit as a public body and/or Public Services Boards to implement a Healthy Travel Charter in their area to encourage staff to use sustainable transport modes when travelling to work and within work. They should also encourage other local public bodies (not in the Public Services Board) and private businesses to sign too.

- Focus more on cultural and behavioural change by continuously promoting sustainable modes of transport and adopting strategies to discourage and restrict car use.

- Involve people to understand the reasons why they need to be connected to certain amenities and what would incentivise walking, cycling and using public transport.

- Seek to drive a modal shift and low carbon transport emissions in their own organisations as well as seeking to change public behaviour

Transport

Recommendations for all public bodies and boards covered by the Well-being of Future Generations Act (including Welsh Government)

Process Recommendations

In their day to day actions they should stop:

- Retrofitting WelTAG guidance when a solution (e.g. bypass) has already been identified.

- Prioritising car travel over other modes (especially for business travel) while neglecting to support people to take public transport and provide high quality cycle facilities.

- Building large car parks for new retail developments and office spaces.

- Allowing housing developments to progress before providing sustainable transport options.

In their day to day actions they should start:

- Making transport decisions informed by the views of people and the community as a first step. They should engage with representatives of all groups being affected by these decisions, including young people, BAME communities, older people and people with disabilities.

- Prioritising provision of high-quality cycle facilities, encourage active travel and support people to take public transport.

- Prioritising the development of active travel infrastructure from the onset of all new developments.

- Ensuring that your transport decisions are fully integrated with housing and land-use planning to minimise the need to travel.

- Using WelTAG 17 as soon as in issue relating to transport is identified, as opposed to retrofitting once a decision on a solution has been made.

- Collaborating with businesses to explore opportunities for creating viable bus services which can operate for other purposes, especially in rural areas. Scotland, Switzerland and Ireland operate schemes where the bus service doubles up for postal delivery and carrying passengers.

Resources / Useful Information

Future Generations Commissioner for Wales

- [Transport fit for Future Generations Report](#)

- [Future Generations Framework](#)

- [Future Generations Framework for Scrutiny](#)

- [Future Generations Framework for service design](#)

Welsh Government

- [WG Future Trends Report](#)

- [WelTAG](#)

- [Planning Policy Wales](#)

Other

- Senedd Research: [Devolution 20 – Travel in Wales: Is there a revolution still to come?](#)

- Department for Transport: [Transport Statistics for Great Britain 2018](#)

- Senedd Research: [Research Briefing Air Quality](#)

- Natural Resources Wales: [State of Natural Resources Report (2016)](#)

- European Union Commission: [The Future of Road Transport](#)

- UK Government (Office of Science): [Future of Mobility – UK Government](#)