

Appendix E

Appraisal of Programmes

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Integrated Journey Planning and Ticketing

ISA Objective	Score	Duration Certainty	Appraisal – Integrated Journey Planning and Ticketing
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	+	Long Term Medium	The NTDP positively contributes to ISA Objective 1, and a minor positive effect in the long term is predicted, with medium certainty. The integration of ticketing could help to make journeys quicker and easier, and therefore could reduce traveller stress.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long Term Medium	The NTDP positively contributes to ISA Objective 2, and a minor positive effect in the long term is predicted, with medium certainty. The NTDP includes measures to cap daily or weekly fares and would finalise the 'Fair Fares' plan. This would ensure fares remain affordable and would help to safeguard access to public transport for those on lower incomes. The plan would also develop a pre-payable card, to provide an alternative payment method for users without mobile devices or contactless cards, or those that wish to continue to pay in cash, widening the user base. The expansion of the integrated ticketing pilots would contribute to more equal access to the technology across Wales.
3. To support sustainable economic development and diversity	+	Long Term Medium	The NTDP positively contributes to ISA Objective 3, and a minor positive effect in the long term is predicted, with medium certainty. Measures to cap fares as part of the 'Fair Fares' project could encourage increased uptake of public transport, leading to benefits to the local economy.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long Term Low	The NTDP positively contributes to ISA Objective 4, and a minor positive effect in the long term is predicted, with low certainty. The integration of the existing TfW apps and the launch of the Traws Cymru App, along with the introduction of integrated ticketing, could make travel easier for tourists, improving access to Welsh culture and recreation.
5. To encourage the protection and promotion of the Welsh language	++	Long Term High	The NTDP positively contributes to ISA Objective 5, and a major positive effect in the long term is predicted, with high certainty. The integrated ticketing and journey planning would promote the Welsh language and contribute to this Objective, as the planned TfW and Traveline Cymru Apps will be available in both Welsh and English. It is assumed that in line with Welsh Government requirements, all signage and relevant material will be provided in both Welsh and English.
6. To reduce greenhouse gas emissions from transport	+	Long Term Medium	The NTDP positively contributes to ISA Objective 6, and a minor positive effect in the long term is predicted, with medium certainty. The plans to extend fare capping and provide integrated ticketing systems would ensure that journey costs are minimised and the transitions between modes are streamlined. This would therefore encourage users to take public transport, reducing the number of vehicles on the roads in the longer term and consequently, minimising greenhouse gas emissions from transport.

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ISA Objective	Score	Duration Certainty	Appraisal – Integrated Journey Planning and Ticketing
7. To enable climate change resilience	○	N/A	The programme is unlikely to contribute to the success of the Objective.
8. To protect and improve air quality	+	Long Term Medium	The NTDP positively contributes to ISA Objective 8, and a minor positive effect in the long term is predicted, with medium certainty. The plans to extend fare capping and provide integrated ticketing systems would ensure that journey costs are minimised and the transitions between modes are streamlined, and therefore encourage users to take public transport. This could reduce the number of vehicles on the roads and therefore minimise pollutants from transport, contributing to the improvement of local air quality.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	○	N/A	The programme is unlikely to contribute to the success of the Objective.
10. To promote the conservation and enhancement of heritage assets	○	N/A	The programme is unlikely to contribute to the success of the Objective.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	○	N/A	The programme is unlikely to contribute to the success of the Objective.
12. To ensure the sustainable use of natural resources	+	Long Term Medium	The NTDP positively contributes to ISA Objective 12, and a minor positive effect in the long term is predicted, with medium certainty. By encouraging drivers to change their travel mode to public transport through integrated ticketing and journey planning, the NTDP aims to minimise the number of cars on the road and therefore reduce fuel consumption in Wales.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long Term Medium	The NTDP positively contributes to ISA Objective 13, and a minor positive effect in the long term is predicted, with medium certainty. By encouraging the uptake of public transport by creating a smoother transport system and enabling multi-modal travel, the NTDP may reduce the number of cars in tranquil areas and therefore prevent additional noise and light pollution.

Behavioural Change and Monitoring

ISA Objective	Score	Duration Certainty	Appraisal – Behavioural Change and Monitoring
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	+	Long Term Medium	The NTDP positively contributes to ISA Objective 1, and a minor positive effect in the long term is predicted, with medium certainty. The programme includes initiatives to reduce car use in favour of active travel, which could encourage exercise and lead to an improvement in physical and mental health in the local population. Similarly, the programme could lead to an improvement in local air quality due to the reduction in vehicle emissions through the proposed Clean Air Day and anti-idling messaging, which should be beneficial for health.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long Term Low	The contribution of the NTDP to this ISA Objective is uncertain. The Behavioural Change & Monitoring programme would develop a demand management strategy, which could be beneficial to those on lower incomes if they are able to pay proportionally, rather than a flat rate for all. However, the detail of this strategy is yet to be finalised and therefore the performance against this Objective is uncertain.
3. To support sustainable economic development and diversity	○	N/A	The Behavioural Change & Monitoring programme is unlikely to contribute to this Objective.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	○	N/A	The Behavioural Change & Monitoring programme is unlikely to contribute to this Objective.
5. To encourage the protection and promotion of the Welsh language	+	Long Term High	The NTDP positively contributes to ISA Objective 5, and a minor positive effect in the long term is predicted, with high certainty. The guidance for the Corporate Joint Committees (CJCs), the updated WTS, the new NTDP and any additional strategies will be published in Welsh and English.
6. To reduce greenhouse gas emissions from transport	++	Long Term High	The NTDP positively contributes to ISA Objective 6, and a major positive effect in the long term is predicted, with high certainty. The suite of behavioural change guidelines that are to be produced, alongside working with the transport sector to promote sustainable transport choices should encourage more people to utilise public transport, reducing the volume of greenhouse gases released from transport. Similarly, the national air quality communications and anti-idling messages for drivers of private vehicles could minimise greenhouse gases emissions.
7. To enable climate change resilience	○	N/A	The Behavioural Change & Monitoring programme is unlikely to contribute to this Objective.

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ISA Objective	Score	Duration Certainty	Appraisal – Behavioural Change and Monitoring
8. To protect and improve air quality	+	Long Term Medium	The NTDP positively contributes to ISA Objective 8, and a minor positive effect in the long term is predicted, with medium certainty. The initiative to deliver national air quality communications and behavioural change campaigns such as Clean Air Day, combined with developing a strategy for behavioural change, would help to encourage people to use active and public transport over private vehicles, and therefore, lead to improved air quality due to a reduction in vehicular emissions. Similarly, the introduction of anti-idling measures to encourage stationary vehicles to turn off their engines would improve local air quality, particularly around schools, where vehicles are often stationary in traffic.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	○	N/A	The Behavioural Change & Monitoring programme is unlikely to contribute to this Objective.
10. To promote the conservation and enhancement of heritage assets	○	N/A	The Behavioural Change & Monitoring programme is unlikely to contribute to this Objective.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long Term Low	The NTDP positively contributes to ISA Objective 11, and a minor positive effect in the long term is predicted, with low certainty. The Behavioural Change & Monitoring programme may have a positive impact on biodiversity and geodiversity, as the programme aims to encourage lower private vehicle usage and would therefore result in lower emissions that can be harmful to ecosystems.
12. To ensure the sustainable use of natural resources	+	Long Term Low	The NTDP positively contributes to ISA Objective 12, and a minor positive effect in the long term is predicted, with low certainty. The suite of behavioural change guidelines that are to be produced, alongside working with the transport sector to promote sustainable transport choices could encourage more people to utilise public and active transport, reducing the volume of fossil fuels consumed in transportation. Similarly, the national air quality communications and anti-idling messages for drivers of private vehicles could minimise the volume of fossil fuels required in transport.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long Term Low	The NTDP positively contributes to ISA Objective 13, and a minor positive effect in the long term is predicted, with low certainty. By encouraging the uptake of public transport by encouraging behavioural change and enabling multi-modal travel, the NTDP may reduce the number of cars in tranquil areas and therefore prevent additional noise and light pollution.

Active Travel

ISA Objective	Score	Duration Certainty	Appraisal – Active Travel
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	++	Long Term Medium	The NTDP positively contributes to ISA Objective 1, and a major positive effect in the long term is predicted, with medium certainty. The Active Travel programme would positively contribute to the Objective, as the programme includes initiatives to encourage people to reduce their reliance on private vehicles and instead use active travel where possible. This would help improve mental and physical health in the community by increasing rates of exercise, particularly for school-aged students who would benefit from the school active travel initiatives. The reduction in private vehicle use would reduce emissions of pollutants from transport, which would lead to a cumulative benefit to improve the health of the local population.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long Term Medium	The NTDP positively contributes to ISA Objective 2, and a minor positive effect in the long term is predicted, with medium certainty. The Active Travel programme would positively contribute to the Objective, as widening the expansion of the cycle hire scheme would ensure more people can access the cycle hire facilities, thereby ensuring the NTDP is working towards equality if access. This is particularly effective in combination with the travel plan and support grants programme, which would ensure access to the scheme is available to all, including those on varying income levels. Discussions with Local Authorities and the development of the prioritisation tool would ensure that these schemes are adapted correctly to each local area, leading to improved and targeted social cohesion performance. As active travel is a free mode of transport, anyone can take part regardless of their economic situation, meaning that investment in active travel schemes will help to improve equality of access in Wales in terms of economic disparity. <i>Recommendation: The NTDP should ensure that active travel provision can be accessed by wheelchair users and those with disabilities.</i>
3. To support sustainable economic development and diversity	+	Long Term Low	The NTDP positively contributes to ISA Objective 3, and a minor positive effect in the long term is predicted, with low certainty. The NTDP Active Travel programme seeks to improve active travel routes. This would improve connectivity between towns and cities, and also enhance active travel around individual towns, which would improve access to employment. particularly for those that do not have access to personal vehicles, indirectly supporting sustainable economic development.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long Term Low	The NTDP positively contributes to ISA Objective 4, and a minor positive effect in the long term is predicted, with low certainty. The NTDP Active Travel programme seeks to improve active travel routes across Wales at a Local Authority level. This would improve connectivity between towns and cities, and also enhance active travel around individual towns, which would ensure reliable access to transport hubs and stations. This could improve access to cultural and recreational spaces, particularly where access has previously been limited for those without access to private vehicles.
5. To encourage the protection and promotion of the Welsh language	○	N/A	The Active Travel programme would not contribute to the success of this Objective.

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ISA Objective	Score	Duration Certainty	Appraisal – Active Travel
6. To reduce greenhouse gas emissions from transport	++	Long Term Medium	The NTDP positively contributes to ISA Objective 6, and a major positive effect in the long term is predicted, with medium certainty. The Active Travel Programme would help to encourage people to reduce reliance on private vehicles and instead use active travel routes. The behavioural change campaign would ensure the programme is tailored to the population and encourages the greatest number of people to swap to active transport methods where possible. The development of Station Travel Plans would help to integrate active travel routes into the public transport systems, further encouraging multi-modal transport without personal vehicles. This could reduce greenhouse gas emissions from transport in the long term.
7. To enable climate change resilience	-	Long Term Low	The NTDP potentially adversely contributes to ISA Objective 7, and a minor negative effect in the long term is predicted, with low certainty. The addition of new active travel paths may lead to increased flooding due to the increased area of land covered by impermeable surfaces, leading to reduced infiltration rates.
8. To protect and improve air quality	++	Long Term Medium	The NTDP positively contributes to ISA Objective 8, and a major positive effect in the long term is predicted, with medium certainty. The Active Travel Programme would help to encourage people to reduce reliance on private vehicles and instead use active travel routes. The behavioural change campaign would ensure the programme is tailored to the population and encourages the greatest number of people to swap to active transport methods where possible. This would reduce emissions of pollutants from transport locally, as a result.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+	Long Term Low	The NTDP could positively contribute to ISA Objective 9, and a minor positive effect in the long term is predicted with low certainty. The programme would seek to liaise with Local Authorities to establish the best routes and most appropriate methodologies for each area. It is assumed that any new routes or active travel infrastructure would not adversely impact the local landscape or townscape, but it is uncertain at this stage.
10. To promote the conservation and enhancement of heritage assets	+	Long Term Low	The NTDP could positively contribute to ISA Objective 10, and a minor positive effect in the long term is predicted with low certainty. The programme would seek to liaise with Local Authorities to establish the best routes and most appropriate methodologies for each area. The creation of active travel routes, along existing roads and networks could reduce the number of cars on the roads and therefore improve the setting of heritage assets. The Active Travel Act Guidance states ' <i>there may be local sensitivities around ... areas of high heritage value. These should be considered and addressed as part of the consultation and the use of appropriate materials should always be paramount.</i> ' It is therefore likely that new active travel routes would positively contribute to this ISA Objective.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long Term Low	The NTDP could positively contribute to ISA Objective 11, and a minor positive effect in the long term is predicted with low certainty. Increasing the use of active travel over the private car could reduce emissions from transport, which could lead to some benefits to local biodiversity. All active travel routes would be designed in line with the national Active Travel Guidance, which encourages vegetation planting and therefore could lead to improved biodiversity.
12. To ensure the sustainable use of natural resources	+	Long Term Low	The NTDP could positively contribute to ISA Objective 12, and a minor positive effect in the long term is predicted with low certainty. By increasing the number of active transport routes and encouraging people to use active transport rather than personal vehicles, a lower volume of fossil fuels would be used for transport.

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ISA Objective	Score	Duration Certainty	Appraisal – Active Travel
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+/-	Long Term Low	The NTDP could positively or negatively contribute to ISA Objective 13 in the long term with low certainty. By encouraging people to use active travel modes and reduce reliance on personal vehicles, there may be a reduction in traffic noise and light pollution from traffic. However, active travel routes would need to be lit to ensure public safety, and it is therefore uncertain how this programme would perform against the Objective.

Bus

ISA Objective	Score	Duration Certainty	Appraisal – Bus
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	+	Long Term Medium	<p>The NTDP could positively contribute to ISA Objective 1, and a minor positive effect in the long term is predicted with medium certainty. The creation of interchange hubs to enable better multi-modal transitions could help to reduce stress for users of the bus network, as it could provide a smoother transition within journeys. The introduction of new low-emissions buses could reduce the emission of pollutants, which would be beneficial to health.</p> <p><i>Recommendation: New infrastructure, including the interchange hubs, should include active travel provision, including cycle storage and safe walking routes.</i></p>
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long Term Medium	<p>The NTDP could positively contribute to ISA Objective 2, and a major positive effect in the long term is predicted with medium certainty. The new guidance on bus stop accessibility and further guidance to be developed could ensure that disabled people will be able to better access the bus system without discrimination. The development of a concessionary card scheme as set out in the NTDP could provide those eligible with reduced fares, ensuring people pay proportionally to their income, leading to improved social equality. The Learner Travel review could help to ensure that all of those in education are able to use public transport to attend educational facilities, which could in turn guarantee all learners are not disadvantaged by costs. The introduction of the fflecsi services will help to address first/last mile issues and extending the reach of the public transport offering in Wales.</p>
3. To support sustainable economic development and diversity	++	Long Term Medium	<p>The NTDP could positively contribute to ISA Objective 3, and a major positive effect in the long term is predicted with medium certainty. The development of a concessionary card scheme, as set out in the NTDP, could provide those eligible with reduced fares, ensuring people pay proportionally to their income, supporting sustainable economic development. The development of a new bus sector operating model could ensure buses operate at profit but without disadvantaging passengers. The Bus Services Support Grant, new bus sector operating model, and Covid-19 Bus Emergency Support Programme may each support the bus sector post-Covid and ensure long term economic sustainability of the bus system.</p>
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long Term Low	<p>The NTDP could positively contribute to ISA Objective 4, and a minor positive effect in the long term is predicted with low certainty. The redesign of the bus network and expansion of the fflecsi scheme could ensure continued access to cultural and recreational spaces.</p> <p><i>Recommendation: The redesign of the bus networks should include routes to key cultural features and recreational spaces and include enhanced frequencies of buses for larger cultural events.</i></p>
5. To encourage the protection and promotion of the Welsh language	++	Long Term High	<p>The NTDP could positively contribute to ISA Objective 5, and a major positive effect in the long term is predicted with high certainty. The Welsh Language Standards and associated guidance will ensure that all bus schemes are consistent and will similarly promote the use of the Welsh language within the bus sector.</p>

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ISA Objective	Score	Duration Certainty	Appraisal – Bus
6. To reduce greenhouse gas emissions from transport	+	Long Term Medium	The NTDP could positively contribute to ISA Objective 6, and a minor positive effect in the long term is predicted with medium certainty. The finalisation of financing and procurement of ULEV buses (both hydrogen and electric), could reduce emissions of greenhouse gases. The further development of Traws Cymru services, the development of a concessionary card scheme, as set out in the NTDP, and the creation of interchanges could reduce the number of personal vehicles, further reducing greenhouse gas emissions. Options for associated depot infrastructure to enable EV bus charging or hydrogen re-fuelling are also being developed. The use of these fuel types in replacement of diesel-powered buses will reduce the use of fossil fuels and therefore, reduce the generation of greenhouse gas emissions.
7. To enable climate change resilience	?	Long Term Low	The creation of new interchange hubs may lead to additional infrastructure, which could increase surface run off and therefore lead to increased flooding. This risk would be dependent on the design of the new interchange hubs.
8. To protect and improve air quality	+	Long Term Medium	The NTDP could positively contribute to ISA Objective 8, and a minor positive effect in the long term is predicted with medium certainty. The finalisation of financing and procurement of ULEV buses (both hydrogen and electric), could reduce emissions from transport. The development of a concessionary card scheme and the creation of interchanges could reduce the number of personal vehicles, further reducing emissions and contributing to improvements in air quality.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	?	Long Term Low	The contribution of the NTDP to this ISA Objective is uncertain in the long term with low certainty. The creation of new interchange hubs could have a positive or negative impact on landscape and townscape, depending on the location of the hub and its design.
10. To promote the conservation and enhancement of heritage assets	?	Long Term Low	The contribution of the NTDP to this ISA Objective is uncertain in the long term with low certainty. The creation of new interchange hubs could have a positive or negative impact on the setting and conservation of known and unknown heritage assets, depending on the location of the hub and its design.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long Term Low	The NTDP could positively contribute to ISA Objective 11, and a minor positive effect in the long term is predicted with low certainty. The creation of new interchange hubs, particularly in rural areas, could have a positive or negative impact on biodiversity and geodiversity, depending on the location of the hub and its design. The introduction of electric and hydrogen buses could reduce the emissions of pollutants. The increase in bus and public transport use, encouraged by a concessionary card scheme and improving transport provision for those in education, could reduce the emission of pollutants and therefore would be beneficial to biodiversity.
12. To ensure the sustainable use of natural resources	+	Long Term Low	The NTDP could positively contribute to ISA Objective 12, and a minor positive effect in the long term is predicted with low certainty. The introduction of electric and hydrogen vehicles could reduce the volume of fossil fuels used in transportation. The creation of interchange hubs, a concessionary card scheme and the expansion of the fflecsi scheme could encourage more people to use public transport over personal cars, which could further reduce the use of natural resources.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long Term Low	The NTDP could positively contribute to ISA Objective 12, and a minor positive effect in the long term is predicted with low certainty. The introduction of electric and hydrogen vehicles could reduce light and noise pollution in rural and tranquil areas, as these buses are quieter than diesel buses. Increased use of bus services could additionally reduce the number of vehicles on the road network, reducing noise and light pollution.

Rail

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	Access for all	+	Long Term Medium	The Access for All Programme could reduce stress and safety for disabled passengers by providing safer access, including additional lifts and step-free access. This would result in reduced traveller stress and improve mental and physical wellbeing.
	Cardiff Central Enhancement Projects	++	Long Term Medium	The Cardiff Central Enhancements Projects could improve mental, social and physical health through station upgrades, encouraging active travel, which would encourage physical exercise. The package would also help to reduce commuter times by bringing together multiple modes of transport, which would reduce stress.
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	+	Long Term Medium	The Ongoing Improvements Package seeks to create five community groups which would aim to deliver green infrastructure projects. This would help support community cohesion. The development of a Biodiversity Action Plan would also benefit mental health, as green infrastructure is beneficial for stress relief and wellbeing. The proposed capacity improvement between Shrewsbury and Wrexham would also help to improve access to services and facilities for residents in these locations, including access to healthcare facilities. The delivery of net zero would similarly benefit human health by reducing emissions and reducing risks associated with extreme weather.
	South Wales Mainline Strategic Development	+	Long Term Medium	The South Wales Mainline Strategic Development Programme, the Additional Stations between Cardiff and Severn Tunnel Junction package, and the Cardiff to Swansea New Stations Package, could each increase the availability and accessibility of services, reducing journey times and traveller stress. The Swansea to Severn Tunnel Junction Linespeed and Capacity Improvements package would be expected to shorten journey times, leading to reduced passenger stress and an improvement in mental wellbeing. Increased service could also help support more residents access healthcare facilities via rail services.
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	+	Long Term Low	The electrification of the lines between Cardiff and Swansea and between Penarth and the Vale of Glamorgan would reduce the emission of pollutants which can be detrimental to human health from burning fossil fuels to power the trains, and therefore could improve physical health of residents in the areas near the lines.
	Cardiff - Swansea inc New Stations package	+	Long Term Low	The Introduction of Additional Rail Services Package could improve social and mental health by providing more opportunity to travel by increasing the frequency of services and increasing their regularity, ensuring that there will be return services and reducing passenger stress. Increased service could also help support more residents access healthcare facilities via rail services.
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	+	Long Term Medium	The Introduction of New Rolling Stock could improve passenger comfort, leading to improved mental health. The new trains may be better equipped to improve accessibility and safety for disabled people. The Community Rail Project would improve social health by bringing together the community to work on a number of schemes, including station adoption and volunteer landscaping. This may also improve

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Cardiff – Swansea Electrification	+	Long Term Medium	mental health by providing additional green infrastructure at and around stations as part of the station floral display or garden. The Rail Social and Commercial Development Plan may expand the community element of the scheme, leading to further improvements in social and mental health, however details of the Plan are not yet available.
	Penarth/ Vale of Glamorgan Electrification	+	Long Term Medium	
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	+	Long Term Low	
	Introduction of new Rolling Stock	+	Long Term Low	
	Community Rail	+	Long Term Low	
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	Access for all	++	Long Term Medium	The Access for All Programme would improve social cohesion by delivering a programme of step-free access, tactile paving and adding lifts to currently inaccessible stations, thereby ensuring disability access. Similarly, the addition of changing places toilets would improve facilities for families at Shotton.
	Cardiff Central Enhancement Projects	+	Long Term Medium	The development and delivery of the Cardiff Central Enhancement Project, along with capacity improvements to stations across the Wales and Borders Network and Shrewsbury to Wrexham line, would enhance opportunities to attend sports and social events and provide a reliable service for those without access to personal vehicles. The programme of ongoing targeted improvements to stations across the Wales and Borders Network could improve social cohesion through the creation of community groups aiming to deliver green

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	+	Long Term Medium	<p>infrastructure projects. The capacity improvements between Shrewsbury and Wrexham could additionally improve access along the line to those without access to public transport.</p> <p>The South Wales Mainline Strategic Development Programme could contribute to equality and social cohesion, as the updated timetable model would be likely to increase the frequency of services, ensuring frequent access by public transport to services and facilities.</p>
	South Wales Mainline Strategic Development	+	Long Term Low	<p>The five additional stations between Cardiff and Severn Tunnel Junction, and the Cardiff to Swansea New Stations Package would be likely to improve access to Cardiff and to each station along the line, providing new opportunities to socialise and improving equality by creating public transport options that were not previously accessible to everyone. The new stations would provide more equitable services by creating more access points to the network, making journey times more consistent.</p>
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	+	Long Term Low	<p>The Swansea to Severn Tunnel Junction Linespeed and Capacity Improvements and Introduction of Additional Rail Services Packages could provide new opportunities for social cohesion by increasing service frequency. The capacity improvements could ensure more people are able to access the services.</p>
	Cardiff - Swansea inc New Stations package	+	Long Term Low	<p>The electrification of the lines between Cardiff and Swansea and between Penarth and the Vale of Glamorgan, are unlikely to affect the success of this Objective.</p> <p>The Introduction of Additional Rail Services Package could improve availability and access to services, providing new routes to previously underserved areas.</p> <p>The new rolling stock would include step-free access between trains and the platform, improving accessibility for disabled people and older people.</p>
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	+	Long Term Low	<p>The Community Rail Project would improve social cohesion by bringing together the community to work on a number of schemes, including station adoption and volunteer landscaping. By adopting a station, a community can advocate for changes that would most suit the users, leading to improved equity as communities would get the most benefit. The Rail Social and Commercial Development Plan may expand the community element of the scheme, leading to further improvements in social and mental health, however details of the Plan are not yet available.</p>
	Cardiff – Swansea Electrification	○	N/A	<p><i>Recommendations: Capacity and frequency enhancements should encourage late-night trains to provide access to public transport after later events to reduce reliance on taxis and personal vehicles.</i></p>
	Penarth/ Vale of Glamorgan Electrification	○	N/A	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	+	Long Term Low	
	Introduction of new Rolling Stock	+	Long Term Low	
	Community Rail	+	Long Term Low	
3. To support sustainable economic development and diversity	Access for all	+	Long Term Low	<p>Several of the packages could increase access to goods, education and services, attracting more investment and providing increased access to employment opportunities. These include the Cardiff Central Enhancement Project, the targeted improvements to stations across the Wales and Borders Network, The South Wales Mainline Strategic Development Programme, the five additional stations between Cardiff and Severn Tunnel Junction, and the Cardiff to Swansea New Stations Package.</p> <p>The Access for All Programme could assist disabled people and those with young families to use public transport more frequently and easily, thereby allowing these people to access goods and services more easily and contribute towards economic growth.</p> <p>The Programme of ongoing targeted improvements to stations across the Wales and Borders Network could encourage more people to use public transport through increasing capacities between Shrewsbury and Wrexham and the targeted improvements at stations across the Wales and Borders Network, which could lead to increased revenue.</p> <p>The Swansea to Severn Tunnel Junction Linespeed and Capacity Improvements package could provide new opportunities to access employment and create more commuter routes, which may boost the local economies.</p> <p>The electrification of the lines between Cardiff and Swansea and between Penarth and the Vale of Glamorgan are unlikely to affect this Objective.</p>
	Cardiff Central Enhancement Projects	+	Long Term Low	
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	+	Long Term Low	
	South Wales Mainline Strategic Development	+	Long Term Low	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	+	Long Term Low	<p>The Introduction of Additional Rail Services Package could improve access to employment by ensuring frequent and reliable train services around Wales. The increase in services could lead to increased passenger numbers, boosting local economies at and around the station facilities.</p> <p>The Introduction of New Rolling Stock could create more comfortable travel conditions, leading to increased use of trains and a boost to the transport industry and associated facilities.</p> <p>The Rail Social and Commercial Development Plan, as part of the Community Rail package could seek to support sustainable economic development, although details are not yet available.</p>
	Cardiff - Swansea inc New Stations package	+	Long Term Low	
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	+	Long Term Low	
	Cardiff – Swansea Electrification	O	N/A	
	Penarth/ Vale of Glamorgan Electrification	O	N/A	
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	+	Long Term Low	
	Introduction of new Rolling Stock	+	Long Term Low	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Community Rail	?	Long Term Low	
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	Access for all	+	Long Term Medium	The Access for All Programme would allow disabled users and families to better access public transport at a number of stations, including Abergavenny, Caerphilly and Llanelli, which would allow them to better access cultural and recreational spaces via train.
	Cardiff Central Enhancement Projects	+	Long Term Low	The Cardiff Central Enhancement Project could improve access to Cardiff by integrating transport options to allow for easier travel. The associated increase in capacity could increase visitor numbers to Cardiff Castle and the National Museum, with improved management of large crowds following events at the Principality Stadium.
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	+	Long Term Low	The Programme of ongoing targeted improvements to stations across the Wales and Borders Network could encourage more people to use public transport through increasing capacities between Shrewsbury and Wrexham and the targeted improvements at stations across the Wales and Borders Network, which could lead to improved access to Welsh cultural and recreational spaces from England and around the network.
	South Wales Mainline Strategic Development	+	Long Term Low	The South Wales Mainline Strategic Development Programme would update the timetabling along the line to increase services and improve regularity. This would provide new opportunities to access Welsh culture and recreational spaces along the mainline, with the long-term route connections widening the access corridor.
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	+	Long Term Low	The Additional Stations Package and Cardiff – Swansea inc New Station Package could each improve access by adding new stations to the network, providing new opportunities to reach cultural and recreational spaces by rail.
	Cardiff - Swansea inc New Stations package	+	Long Term Low	The Swansea to Severn Tunnel Junction Linespeed and Capacity Improvements package could provide new opportunities to access cultural and recreational spaces, including the Wye Valley and sports events at the Principality Stadium within South Wales.
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	+	Long Term Low	The electrification of the lines between Cardiff and Swansea and between Penarth and the Vale of Glamorgan, the introduction of new rolling stock and the Community Rail Projects are unlikely to impact this Objective.
	Cardiff – Swansea Electrification	0	N/A	The Introduction of Additional Rail Services Package could improve access to Welsh cultural and recreational spaces by improving the frequency and reliability of services. This would allow passengers to plan their journeys to cultural spaces more effectively and provide opportunity for those without access to personal vehicle to access the same spaces. This is particularly true in areas with low car ownership, which did not previously have a reliable and frequent train service, and services which would improve access to National Parks, like the Heart of Wales line.

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Penarth/ Vale of Glamorgan Electrification	○	N/A	
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	+	Long Term Low	
	Introduction of new Rolling Stock	○	N/A	
	Community Rail	○	N/A	
5. To encourage the protection and promotion of the Welsh language	Access for all	○	N/A	Each of the projects that form part of the rail programme would not contribute to this Objective.
	Cardiff Central Enhancement Projects	○	N/A	
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	○	N/A	
	South Wales Mainline Strategic Development	○	N/A	
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	○	N/A	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Cardiff - Swansea inc New Stations package	○	N/A	
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	○	N/A	
	Cardiff – Swansea Electrification	○	N/A	
	Penarth/ Vale of Glamorgan Electrification	○	N/A	
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	○	N/A	
	Introduction of new Rolling Stock	○	N/A	
	Community Rail	○	N/A	
6. To reduce greenhouse gas emissions from transport	Access for all	+	Long Term Medium	The Access for All Programme would improve station access at Abergavenny, Caerphilly and Llanelli, increasing the number of people able to use the train system. In turn, this would encourage more people to use public transport, resulting in a reduction in personal vehicle use and a reduction in greenhouse gas emissions.
	Cardiff Central Enhancement Projects	+	Long Term Medium	The Programme of ongoing targeted improvements to stations across the Wales and Borders Network could significantly reduce greenhouse gas emissions from transport. The capacity improvements and targeted improvements to stations could increase the number of people opting to take public transport, and therefore reduce the number of personal vehicles used. The installation of LED lighting at all stations would reduce the energy use of the stations. The installation of solar panels at the 20 largest stations and two depots would similarly reduce the burning of fossil fuels to supply the stations, and
	Programme of ongoing targeted improvements to stations across the	++	Long Term High	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Wales and Borders Network			therefore reduce the emission of fossil fuels. The net zero target by 2030 for all non-moving assets would also lead to a reduction in greenhouse gas emissions.
	South Wales Mainline Strategic Development	+	Long Term Low	The South Wales Mainline Strategic Development Programme and the Cardiff Central Enhancement Project could each encourage more people to use rail and public transport for longer journeys along the South Wales Main Line (SWML) by increasing service regularity and frequency, reducing the number of personal vehicles on the road and therefore reducing emissions of greenhouse gases.
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	+	Long Term Low	The Additional Stations Package and Cardiff – Swansea inc New Station Package could each encourage more people to travel by train by providing closer stations rather than by personal vehicles, which would reduce emissions of greenhouse gases.
	Cardiff - Swansea inc New Stations package	+	Long Term Low	The Swansea – Severn Tunnel Junction Linespeed and Capacity Improvements could reduce greenhouse gas emissions by increasing service frequency, encouraging more people to take the train over personal vehicles. The capacity improvements could ensure more people are able to choose public transport, further reducing personal vehicle use.
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	+	Long Term Low	The electrification of the lines between Cardiff and Swansea and between Penarth and the Vale of Glamorgan would convert the existing diesel routes to electric lines, allowing hybrid and electric trains to run between these locations. This would reduce the volume of diesel used and therefore reduce greenhouse gas emissions.
	Cardiff – Swansea Electrification	++	Long Term Medium	The Introduction of Additional Rail Services could encourage more people to use public transport over personal vehicles, by increasing service frequency and regularity. This could reduce the emissions of greenhouse gases from transport.
	Penarth/ Vale of Glamorgan Electrification	++	Long Term Medium	The new rolling stock introduced to the network could include more advanced technologies, which may be more fuel efficient or electric, leading to a reduction in greenhouse gas emissions. The Class 756 trains are tri-mode, meaning they can utilise the most appropriate technology for the route.
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	+	Long Term Low	The Community Rail Project could encourage more local people to use the rail system, especially those who would visit the station regularly as part of the station adoption programme.
	Introduction of new Rolling Stock	+	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Community Rail	+	Long Term Low	
7. To enable climate change resilience	Access for all	0	N/A	<p>No effects were identified for five of the programmes. These include: the Access for All Programme, the electrification of the lines between Cardiff and Swansea, the electrification of the lines between Penarth and the Vale of Glamorgan, the Introduction of Additional Rail Services package, and the Community Rail Project.</p> <p>It is currently uncertain how the Cardiff Central Enhancement Projects Programme, The South Wales Mainline Strategic Development Programme, Additional Stations Package and Cardiff – Swansea inc New Station Package would contribute to this ISA Objective, particularly the targeted station improvements and capacity improvements projects, which could require additional infrastructure, which could increase impermeable surfaces and lead to an increase in flood risk, although this would likely be minimal due to the city centre location of the station.</p> <p>The Programme of ongoing targeted improvements to stations across the Wales and Borders Network, through the Green Routes Project and Biodiversity Action Plan could expand the green infrastructure network, providing new infiltration routes for storm water, reducing flood risk and providing mitigation for extreme heat events.</p> <p>The Swansea – Severn Tunnel Junction linespeed and capacity improvements could require additional infrastructure, leading to the construction of impermeable services that increase flood risk, although this is uncertain at this stage.</p>
	Cardiff Central Enhancement Projects	?	Long Term Low	
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	+	Long Term High	
	South Wales Mainline Strategic Development	?	Long Term Low	
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	?	Long Term Low	
	Cardiff - Swansea inc New Stations package	?	Long Term Low	
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	?	Long Term Low	
	Cardiff – Swansea Electrification	0	N/A	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Penarth/ Vale of Glamorgan Electrification	○	N/A	
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	○	N/A	
	Introduction of new Rolling Stock	○	N/A	
	Community Rail	○	N/A	
8. To protect and improve air quality	Access for all	+	Long Term Medium	<p>The Access for All Programme would allow disabled users and families to better access public transport at a number of stations, including Abergavenny, Caerphilly and Llanelli, which would allow them better access when using the rail system, and in turn encourage more people to use public transport, resulting in a reduction in personal vehicle use and an improvement in local air quality.</p> <p>The Programme of ongoing targeted improvements to stations across the Wales and Borders Network could significantly reduce emissions from transport. The capacity improvements could increase the number of people opting to take public transport, and therefore reduce the number of personal vehicles used, leading to an improvement in local air quality. The Green Routes Project and Biodiversity Action Plan could expand the green infrastructure coverage, providing natural air filtration and improving local air quality.</p> <p>The South Wales Mainline Strategic Development Programme and The Cardiff Central Enhancement Projects could encourage more people to use rail and public transport for longer journeys along the SWML and to and from Cardiff by increasing service regularity, capacity and frequency, reducing the number of personal vehicles on the road and therefore improving local air quality.</p> <p>The Additional Stations Package and Cardiff – Swansea inc New Station Package could each encourage more people to travel by train by providing closer stations rather than by personal vehicles, which would reduce emissions of pollutants.</p> <p>The Swansea – Severn Tunnel Junction Linespeed and Capacity Improvements could reduce emissions by increasing service frequency, encouraging more people to take the train over personal</p>
	Cardiff Central Enhancement Projects	+	Long Term Medium	
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	++	Long Term High	
	South Wales Mainline Strategic Development	+	Long Term Medium	
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	+	Long Term Medium	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Cardiff - Swansea inc New Stations package	+	Long Term Medium	vehicles. The capacity improvements could ensure more people are able to choose public transport, further reducing personal vehicle use.
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	+	Long Term Medium	The electrification of the lines between Cardiff and Swansea and between Penarth and the Vale of Glamorgan would convert the existing diesel routes to electric lines, allowing hybrid and electric trains to run between these locations. This would reduce the volume of diesel used and therefore improve air quality by reducing the emission of pollutants.
	Cardiff – Swansea Electrification	+	Long Term Medium	The Introduction of Additional Rail Services could encourage more people to use public transport over personal vehicles, by increasing service frequency and regularity. This could reduce the emissions of pollutants from transport, leading to improved air quality.
	Penarth/ Vale of Glamorgan Electrification	+	Long Term Medium	The new rolling stock introduced to the network could include more advanced technologies, which may be more fuel efficient or electric, leading to a reduction in emissions of pollutants.
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	+	Long Term Medium	The Community Rail Project could encourage more local people to use the rail system, especially those who would visit the station regularly as part of the station adoption programme.
	Introduction of new Rolling Stock	+	Long Term Low	
	Community Rail	+	Long Term Low	
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	Access for all	O	N/A	No effects were identified for five of the programmes within this programme. These include: the Access for All Programme, the electrification of the lines between Cardiff and Swansea, the electrification of the lines between Penarth and the Vale of Glamorgan the Introduction of Additional Rail Services and the introduction of new rolling stock.
	Cardiff Central Enhancement Projects	?	Long Term Low	The Cardiff Central Enhancement Projects Programme could affect the distinctiveness of the townscape, but this would be dependent on the design of the station expansion.
	Programme of ongoing targeted improvements to stations across the	+/-	Long Term Low	The targeted station improvements and capacity improvements project could require additional infrastructure, which could adversely affect local landscapes and townscapes by disrupting views. Similarly, the addition of new solar panels could detract from the local landscape and townscapes. However, the Green Routes Project and Biodiversity Action Plan could expand the green infrastructure

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Wales and Borders Network			coverage, providing some screening of the infrastructure to protect the distinctiveness of townscapes. Overall, this package would contribute both positively and negatively to this ISA Objective.
	South Wales Mainline Strategic Development	+/-	Long Term Low	The South Wales Mainline Strategic Development Programme, the Additional Stations Package and the Cardiff – Swansea inc New Station Package could each require new infrastructure, , could require infrastructure expansion to provide more connecting routes.. However, the addition of new rail infrastructure could encourage the use of public transport and reduce the need for additional road infrastructure, which would have a beneficial effect on the local landscape and townscape. Overall, these packages would contribute both positively and negatively to this ISA Objective.
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	+/-	Long Term Low	The Swansea – Severn Tunnel Junction linespeed and capacity improvements could require the construction of additional infrastructure, which has the potential to impact local landscapes and townscapes. However, this would be dependent on the design and location of the new infrastructure, which is unknown at this stage.
	Cardiff - Swansea inc New Stations package	?	Long Term Low	The Community Rail Project, as station adopters are part of the local community, would likely protect and enhance the local townscapes and landscapes, as the communities would likely ensure the station is in keeping with the surroundings.
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	?	Long Term Low	
	Cardiff – Swansea Electrification	○	N/A	
	Penarth/ Vale of Glamorgan Electrification	○	N/A	
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	○	N/A	
	Introduction of new Rolling Stock	○	N/A	
	Community Rail	+	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
10. To promote the conservation and enhancement of heritage assets	Access for all	○	N/A	<p>No effects were identified for five of the packages. These are the Access for All Programme, the electrification of the lines between Cardiff and Swansea, the electrification of the lines between Penarth and the Vale of Glamorgan, the Introduction of Additional Rail Services and the introduction of new rolling stock.</p> <p>The Cardiff Central Enhancement Projects Programme could affect local heritage assets, particularly during construction, due to its city centre location. The design of the upgrades will determine the overall effect on heritage assets.</p> <p>The Programme of ongoing targeted improvements to stations across the Wales and Borders Network could require additional infrastructure, which could affect the setting of known and unknown heritage assets. Similarly, the addition of new solar panels at stations could detract from the setting of these assets. However, the Green Routes Project and Biodiversity Action Plan could expand the green infrastructure coverage, providing some screening of the infrastructure to protect the distinctiveness of townscapes. Overall, this package would contribute both positively and negatively to this ISA Objective.</p> <p>The South Wales Mainline Strategic Development Programme as part of the long-term strategic case, could require infrastructure expansion to provide more connecting routes. This could lead to changes in the setting of heritage assets, although this is unknown at this stage.</p> <p>The Additional Stations Package and Cardiff – Swansea inc. New Station Package could each require new infrastructure, which could change the setting of heritage assets, although the extent of this is not yet known.</p> <p>The Swansea – Severn Tunnel Junction linespeed and capacity improvements could require the construction of additional infrastructure, which has the potential to impact heritage assets and their settings. However, this would be dependent on the design and location of the new infrastructure, which is unknown at this stage.</p>
	Cardiff Central Enhancement Projects	?	Long Term Low	
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	+/-	Long Term Low	
	South Wales Mainline Strategic Development	?	Long Term Low	
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	?	Long Term Low	
	Cardiff - Swansea inc. New Stations package	?	Long Term Low	
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	?	Long Term Low	
	Cardiff – Swansea Electrification	○	N/A	
	Penarth/ Vale of Glamorgan Electrification	○	N/A	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	○	N/A	
	Introduction of new Rolling Stock	○	N/A	
	Community Rail	○	N/A	
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	Access for all	○	N/A	<p>No effects were identified for seven of the packages. These are: the Access for All Programme, the Cardiff Central Enhancement Project, the South Wales Mainline Strategic Development Programme, the electrification of the lines between Cardiff and Swansea package, the electrification of the lines between Penarth and the Vale of Glamorgan package, the Introduction of Additional Rail Services and the introduction of new rolling stock.</p> <p>The Green Routes Project and Biodiversity Action Plan, part of the programme of ongoing targeted improvements to stations across the Wales and Borders Network, could expand the green infrastructure coverage, providing new and enhanced spaces for biodiversity and enabling the protection of ecosystems.</p> <p>The Additional Stations Package and Cardiff – Swansea inc. New Station Package could each require development on greenfield sites to create new stations, which would reduce the available area for ecosystems and biodiversity. The extent of this is unknown at this stage as designs and locations of the stations are not yet known.</p> <p>The Swansea to Severn Tunnel Junction linespeed and capacity improvements could require the construction of additional infrastructure, which has the potential to reduce the land available for biodiversity. However, this would be dependent on the design and location of the new infrastructure, which is unknown at this stage.</p> <p>The Community Rail Project could enhance biodiversity through the creation of community gardens as part of the station adoption scheme. However, this would be the decision of the station adopters, and therefore it is uncertain how the project may contribute to the Objective.</p>
	Cardiff Central Enhancement Projects	○	N/A	
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	+	Long Term High	
	South Wales Mainline Strategic Development	○	N/A	
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	?	Long Term Low	
	Cardiff - Swansea inc. New Stations package	?	Long Term Low	
	Swansea – Severn Tunnel Junction linespeed and	?	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	capacity improvements			
	Cardiff – Swansea Electrification	○	N/A	
	Penarth/ Vale of Glamorgan Electrification	○	N/A	
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	○	N/A	
	Introduction of new Rolling Stock	○	N/A	
	Community Rail	+	Long Term Low	
12. To ensure the sustainable use of natural resources	Access for all	+	Long Term Medium	<p>The Access for All Programme would improve station access at Abergavenny, Caerphilly and Llanelli, increasing the number of people able to use the train system. In turn, this would encourage more people to use public transport, resulting in a reduction in personal vehicle use and a reduction in greenhouse gas emissions.</p> <p>The Cardiff Central Enhancement Projects Programme could encourage increased uptake of public transport by improving capacity and providing station upgrades, which could lead to a reduction in personal vehicle use and therefore a reduction in fossil fuels usage.</p> <p>The installation of LED lighting and solar panels, as part of the programme of ongoing targeted improvements to stations across the Wales and Borders Network would encourage a reduction in non-renewable energy consumption.</p> <p>The South Wales Mainline Strategic Development Programme could encourage more people to use rail and public transport for longer journeys along the SWML by increasing service regularity and frequency, reducing the number of personal vehicles on the road, and therefore reducing the use of fossil fuels.</p>
	Cardiff Central Enhancement Projects	+	Long Term Medium	
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	+	Long Term High	
	South Wales Mainline Strategic Development	+	Long Term Medium	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	+	Long Term Medium	<p>The Additional Stations Package and Cardiff – Swansea inc. New Station Package could encourage more people to use public transport by creating new stations. This would reduce the number of vehicles on the road and thereby reduce fossil fuel use.</p> <p>The Swansea – Severn Tunnel Junction linespeed and capacity improvements could reduce the number of people using personal vehicles, instead encouraging them to use public transport due to the increased convenience. This programme could therefore reduce the volume of fossil fuels used for transportation.</p> <p>The electrification of the lines between Cardiff and Swansea and between Penarth and the Vale of Glamorgan packages would reduce the use of fossil fuels, by ensuring electric and hybrid trains can run on these stretches of line.</p> <p>The Introduction of Additional Rail Services could encourage more people to use public transport, thereby reducing the volume of fossil fuels required for transport and ensuring sustainable use of natural resources.</p> <p>The new rolling stock introduced to the network could include more advanced technologies, which may be more fuel efficient or electric, leading to a reduction in fossil fuels used in transportation.</p> <p>The Community Rail package could encourage the use of public transport by creating a visually attractive station and ensuring its maintenance in line with community wishes.</p>
	Cardiff - Swansea inc New Stations package	+	Long Term Medium	
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	+	Long Term Medium	
	Cardiff – Swansea Electrification	+	Long Term Medium	
	Penarth/ Vale of Glamorgan Electrification	+	Long Term Medium	
	Introduction of additional rail services (requiring infrastructure works by Network Rail)	+	Long Term Low	
	Introduction of new Rolling Stock	+	Long Term Low	
	Community Rail	+	Long Term Low	
13. To enable the protection of tranquil areas and	Access for all	0	N/A	No effects were identified for six of the programmes. These are: the Access for All Programme, the programme of ongoing targeted improvements to stations across the Wales and Borders Network, the Cardiff Central Enhancement Projects Programme, Additional Stations Package, the Cardiff – Swansea

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
prevention of noise and light pollution	Cardiff Central Enhancement Projects	○	N/A	<p>inc. New Station Package, Swansea – Severn Tunnel Junction linespeed and capacity improvements programme, and the Community Rail Programme.</p> <p>The South Wales Mainline Strategic Development Programme could increase the frequency of services along the SWML, which runs near several tranquil areas including the Pembrokeshire Coastline and the Gower Peninsula. It is unknown at this stage whether additional infrastructure will be required to facilitate the frequency increases along the SWML, which may adversely affect tranquil areas.</p> <p>The electrification of the lines between Cardiff and Swansea and between Penarth and the Vale of Glamorgan would allow electric and hybrid trains to run on these lines. These vehicles are generally quieter than diesel-powered trains, and therefore would reduce noise effects on the surrounding areas, including along the south coast of Wales.</p> <p>The Introduction of Additional Rail Services could increase noise and light pollution by increasing the number of services through tranquil areas, particularly services that run through Snowdonia National Park – for example, the Tywyn – Pwllheli line.</p>
	Programme of ongoing targeted improvements to stations across the Wales and Borders Network	○	N/A	
	South Wales Mainline Strategic Development	?	Long Term Low	
	Additional Stations (5) between Cardiff and Severn Tunnel Junction	○	N/A	
	Cardiff - Swansea inc New Stations package	○	N/A	
	Swansea – Severn Tunnel Junction linespeed and capacity improvements	○	N/A	
	Cardiff – Swansea Electrification	+	Long Term Low	
	Penarth/ Vale of Glamorgan Electrification	+	Long Term Low	
	Introduction of additional rail services (requiring	-	Long Term Low	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Rail
	infrastructure works by Network Rail)			
	Introduction of new Rolling Stock	0	N/A	
	Community Rail	0	N/A	

North Wales Metro

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would be most beneficial to physical, mental and social health.
	Active Travel Local Connectivity: Stations and Transforming Towns	++	Long Term High	The Active Travel Programme could benefit physical and mental health by providing safe pathways to walk and cycle to and from stations. By focusing the development of routes around population centres like workspaces and colleges, and by prioritising the largest stations, the scheme could provide the most benefit to the most people, with future schemes to be developed around smaller stations.
	Interchange Hubs	+	Long Term Low	The creation of Interchange Hubs, including Shotton Interchange could reduce traveller stress by facilitating easier transition along multi-modal journeys, benefitting wellbeing and mental health. The integration of public transport and active travel routes could have a positive impact on physical health, as people may be encouraged to walk or cycle to and between the Interchange Hubs. The improvements at Shotton could also improve safety, by integrating the two stations and ensuring people utilise safer routes rather than the current route option to walk along the station platforms.
	Borderlands	+	Long Term Low	The Borderlands Scheme could help reduce traveller stress by increasing the regularity of services and reducing journeys times through the introduction of new rolling stock and strategic rail line improvements.
	North Wales Mainline Phases 1/2/3	+	Long Term Low	The North Wales Mainline Phases 1/2/3 Project would aim to increase and regulate services and improve line speeds, reducing traveller stress and improving mental wellbeing. The signalling and level crossing enhancements would improve the safety of pedestrians. The creation of a new station at Deeside could reduce commuting times due to its proximity to employment at Deeside Industrial Estate, reducing traveller stress.
	Deeside	+	Long Term Low	The North and West Wales Rail Innovation package could provide an alternative to private vehicle use for long and short journeys, reducing congestion on the roads and improving levels of stress. Each of the programmes could minimise pollutants that can be harmful to health and would therefore contribute positively to this ISA Objective.

¹ A workshop between Arcadis and Transport for Wales, undertaken on February 10th, 2022, has been used to inform the assessment and understand details of the proposed programmes.

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
	Shotton Interchange	+	Long Term Low	<i>Recommendation: New stations and interchanges should be located within walking distance of employment or residential centres.</i>
	North and West Wales Rail Innovation	+	Long Term Low	
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would best contribute to social cohesion and equality.
	Active Travel Local Connectivity: Stations and Transforming Towns	+	Long Term Low	Introducing Active Travel routes around stations would be beneficial towards this Objective, as the routes would be accessible to all. As active travel is a free mode of transport, anyone can take part regardless of their economic situation, this means investment in active travel schemes will help to improve equality of access in Wales in terms of economic disparity.
	Interchange Hubs	+	Long Term Low	The creation of Interchange Hubs, including Shotton Interchange, could ensure travel via public transport is easier and more efficient and could therefore help make public transport a more viable option for those with and without access to private vehicles. The inclusion of Interchange Hub guidance as part of the NTDP could ensure that all hubs are built to the same standards, ensuring equity across the station network.
	Borderlands	+	Long Term Low	The Borderlands Project may improve social cohesion by regulating train services and increasing their frequency between stations on the Welsh / English border. The project could also create a more regular train system to reduce inequality, providing a more secure transport option for those without access to private vehicles.
	North Wales Mainline Phases 1/2/3	+	Long Term Low	The North Wales Mainline Upgrades could increase train frequency to up to 4 trains per hour (tph), which would improve the viability of trains as a more reliable option for those without access to private vehicles, reducing inequalities. The creation of a new station at Deeside could similarly improve public transport options and reduce inequalities.
				The North and West Wales Rail Innovation Project could provide a new transport link between the major towns and cities in North and West Wales. This could improve services in areas that have previously had limited access to existing public transport options.

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
	Deeside	+	Long Term Low	<i>Recommendation: Capacity and frequency enhancements should encourage late-night trains to provide access to public transport after later events.</i>
	Shotton Interchange	+	Long Term Low	
	North and West Wales Rail Innovation	+	Long Term Low	
3. To support sustainable economic development and diversity	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would support sustainable economic development and diversity.
	Active Travel Local Connectivity: Stations and Transforming Towns	○	N/A	The creation and development of Interchange Hubs, including Shotton Interchange, would improve access to employment opportunities across the region by improving connectivity and providing routes to those who may not have access to a car.
	Interchange Hubs	+	Long Term Low	The Borderlands Project could support sustainable development through the creation and expansion of rail services between Wales and England, providing opportunities for employment and investment along the lines.
	Borderlands	+	Long Term Low	The North Wales Mainline Upgrades could increase train frequency and reliability, creating a more reliable commuter service and increasing access to employment. The addition of new platforms at Bangor and Llandudno would improve connections and reduce journey times by allowing trains to pass each other, creating an efficient commuter service.
	North Wales Mainline Phases 1/2/3	+	Long Term Low	The creation of a new station at Deeside would provide direct public transport to a major employment hub, supporting the expansion of the site and creating new options for employment.
	Deeside	+	Long Term Low	The North and West Wales Rail Innovation scheme would improve access around North and West Wales, providing increased access to employment in the area.

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
	Shotton Interchange	+	Long Term Low	
	North and West Wales Rail Innovation	+	Long Term Low	
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would best protect and promote culture and improve access to cultural and recreational spaces.
	Active Travel Local Connectivity: Stations and Transforming Towns	+	Long Term Low	The Active Travel Local Connectivity Package could improve access to public transport, from where cultural and recreational spaces could be reached. By increasing provision of active travel routes, more people may be able to access the local transport network, and therefore, access more spaces.
	Interchange Hubs	+	Long Term Low	The creation of Interchange Hubs could make it easier to access cultural and recreational spaces by providing a place to change transport mode efficiently. At Wrexham Gateway, this could be particularly beneficial as the masterplan design ensures distances between the football stadium and Interchange Hub would be within walking distance, further enhancing accessibility.
	Borderlands	+	Long Term Low	The Borderlands project could improve access to Welsh cultural and recreational spaces by increasing the frequency of the services. This would also create opportunity for tourism from England, where previously this may have been limited by rail capacity.
	North Wales Mainline Phases 1/2/3	+	Long Term Low	The North Wales Mainline Upgrades could increase train frequency and reliability, creating more reliable access to cultural and recreational spaces between Holyhead and Wrexham and English border cities like Chester.
	Deeside	+	Long Term Low	The creation of a new station at Deeside could improve access to cultural and recreational spaces by increasing access to the rail network and providing easier travel opportunities.
	Shotton Interchange	O	N/A	The scheme at Shotton Interchange would not be expected to contribute to this ISA Objective, as it would not improve access to the public transport network or facilitate additional rail services.
	North and West Wales Rail Innovation	+	Long Term Low	The North and West Wales Rail Innovation scheme could promote access to culture and recreational spaces by increasing public transport provision in the North of Wales, which has limited options compared to the south. The scheme could improve access to Anglesey and Snowdonia, as well as the larger towns and cities.
5. To encourage the protection and	Strategic Development including studies and	+	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
promotion of the Welsh language	analysis to inform future schemes			<p>The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by understanding how best to integrate Welsh language into the transport system.</p> <p>Each of the other packages under the North Wales Metro programme could have a positive or negative effect on this ISA Objective. The packages could improve connectivity around North Wales, particularly in rural areas, which have a high concentration of Welsh speakers, However, the packages may also increase commuting rates from England, which could lead to the dilution of the Welsh language, particularly around border towns.</p>
	Active Travel Local Connectivity: Stations and Transforming Towns	+/-	Long Term Low	
	Interchange Hubs	+/-	Long Term Low	
	Borderlands	+/-	Long Term Low	
	North Wales Mainline Phases 1/2/3	+/-	Long Term Low	
	Deeside	+/-	Long Term Low	
	Shotton Interchange	+/-	Long Term Low	
	North and West Wales Rail Innovation	+/-	Long Term Low	
6. To reduce greenhouse gas emissions from transport	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	<p>The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would be most effective at reducing greenhouse gases.</p> <p>The Active Transport Package could increase the number of people walking or cycling for shorter journeys, for example, around towns and to public transport options, thereby reducing greenhouse gas emissions from transport.</p>
	Active Travel Local Connectivity: Stations and Transforming Towns	++	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
	Interchange Hubs	+	Long Term Low	New Interchange Hubs could enable smoother transitions between transport modes, which would encourage people away from their cars by providing a better transport experience and could therefore lead to a reduction in greenhouse gas emissions.
	Borderlands	+	Long Term Low	The Borderlands Scheme, by reducing journey times and increasing capacity, could encourage more people to use public transport, particularly along the Wrexham to Liverpool line. This would reduce the number of personal vehicles on the road and reduce emissions of greenhouse gases. The option to update the rolling stock could include newer technologies, which may mean the new stock is more efficient or decarbonised, further reducing emissions.
	North Wales Mainline Phases 1/2/3	+	Long Term Low	The North Wales Mainline Upgrade could encourage more people to use public transport, supporting the reduction in greenhouse gas emissions. The conversion to new rolling stock could similarly minimise emissions by decarbonising the transportation at the local level.
	Deeside	+	Long Term Low	The creation of a new station at Deeside could encourage commuters to use public transport rather than drive, particularly those that work at the industrial estate adjacent the A494. The station upgrade at Shotton could similarly encourage the uptake of public transport.
	Shotton Interchange	+	Long Term Low	The North and West Wales Rail Innovation could help to decarbonise the transport system and reduce greenhouse gas emission by utilising light rail and encouraging people to use the new tram-train system rather than private vehicles.
	North and West Wales Rail Innovation	+	Long Term Low	
7. To enable climate change resilience	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would help improve resilience from climate changes.
	Active Travel Local Connectivity: Stations and Transforming Towns	0	N/A	The Active Travel Package would likely utilise existing infrastructure around stations to create the network of active travel routes and therefore would not adversely contribute to increasing flood risk. The Interchange Hub package may lead to an increase in impermeable surfaces as more infrastructure may be required, although the interchanges are likely to be within urban areas and therefore on previously developed sites.
	Interchange Hubs	-	Long Term Low	As part of the Borderlands Project, stations may require regeneration. This could improve resilience by integrating flood risk management into the new design. However, line upgrades may result in an increase of impermeable surfaces, increasing the risk of flooding.
	Borderlands	+/-	Long Term Low	The North Wales Mainline Upgrades could require additional infrastructure as part of the upgrade works, leading to increased coverage of impermeable surfaces and a possible increased flood risk. The NWML also runs along the north coast of Wales, and therefore the line is susceptible to coastal erosion.
	North Wales Mainline Phases 1/2/3	-	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
	Deeside	-	Long Term Low	The creation of a station at Deeside, and the integration of the two stations at Shotton, could remove permeable surfaces by developing on greenfield land. This could increase surface run off and increase flood risk, particularly as the existing rail line is within 400m of the River Dee.
	Shotton Interchange	-	Long Term Low	The North and West Wales Rail Innovation scheme could increase the area of impermeable surfaces, reducing infiltration rates and leading to increased flood risk. However, the scheme would likely try to use existing infrastructure and previously closed lines, which may minimise the area of required infrastructure.
	North and West Wales Rail Innovation	?	Long Term Low	
8. To protect and improve air quality	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would protect and improve air quality.
	Active Travel Local Connectivity: Stations and Transforming Towns	++	Long Term Low	Each of the packages could encourage the use of public transport, reducing the use of personal vehicles and the emission of pollutants from transport. This is particularly true for the Interchange Hubs, the North Wales Mainline Upgrades and North and West Wales Rail Innovation.
	Interchange Hubs	+	Long Term Low	The Active Transport Package could increase the number of people walking or cycling for shorter journeys, for example, around towns and to public transport options, thereby reducing emissions from transport that adversely impact air quality.
	Borderlands	+	Long Term Low	The Borderlands Scheme, by reducing journey times and increasing capacity, could encourage more people to use public transport, particularly along the Wrexham to Liverpool line. This would reduce the number of personal vehicles on the road and reduce emissions of PM ₁₀ and NO _x . The option to update the rolling stock could include newer technologies, which may mean the new stock is more efficient or decarbonised, further reducing emissions.
	North Wales Mainline Phases 1/2/3	+	Long Term Low	The conversion to new rolling stock could minimise emissions by utilising electric or hybrid trains, which would further reduce pollutant emissions.
	Deeside	+	Long Term Low	The creation of a new station at Deeside could encourage commuters to use public transport rather than drive, particularly those that work in and around Deeside and Aston. The station upgrade at Shotton could similarly encourage the uptake of public transport and reduce effects to local air quality.
	Shotton Interchange	+	Long Term Low	
	North and West Wales Rail Innovation	+	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would help to protect and enhance local townscapes and landscapes.
	Active Travel Local Connectivity: Stations and Transforming Towns	+	Long Term Low	The Active Travel Local Connectivity projects are likely to minimally affect landscape and townscape and could provide greenery and open spaces within built up areas approaching stations; therefore a positive effect has been predicted.
	Interchange Hubs	?	Long Term Low	The creation of new Interchange Hubs, including Shotton Interchange, could enhance or detract from the distinctiveness of the local townscape, as they are likely to be located within built-up or urban areas. At this stage, how the Interchange Hubs would affect this Objective is unknown, as designs are not yet available. The design of the Snowdonia transport hubs and 'gateway villages' would need to be designed to be sympathetic to the landscape and in line with the local design guidance, which would ensure their placement would not have adverse effects on the protected landscape.
	Borderlands	?	Long Term Low	The Borderlands Project may result in the upgrade of existing stations, regenerating the buildings and therefore improving the local townscapes. However, the design of the upgrades may influence the outcome of this project, and it is therefore assessed as uncertain.
	North Wales Mainline Phases 1/2/3	+/-	N/A	Works to the North Wales Mainline would likely be within existing stations and along existing routes, and therefore would have minimal effect on the landscape and townscape. However, works may be required to the Britannia Bridge, a key feature on the Menai Strait. The project therefore may temporarily adversely affect local landscape and townscape. As a result, this package has the potential to result in both positive and negative effects against this ISA Objective.
	Deeside	?	Long Term Low	The creation of a new station at Deeside would likely be within the urbanised area along the rail line and in the existing industrial estate. The new station is therefore unlikely to affect the local landscape and townscape.
	Shotton Interchange	0	N/A	The North and West Wales Rail Innovation could affect the local townscape and landscapes, particularly where new track would be created. The scheme would aim to utilise existing routes where possible, and therefore the effect the scheme could have on the landscapes and townscapes is uncertain.
	North and West Wales Rail Innovation	?	Long Term Low	
10. To promote the conservation and enhancement of heritage assets	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would conserve heritage assets.
	Active Travel Local Connectivity: Stations	+	Long Term Low	The Active Travel Local Connectivity projects are likely to minimally affect heritage assets and could provide greenery and open spaces within built up areas approaching stations, potentially improving the setting of heritage assets within towns.

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
	and Transforming Towns			The Interchange Hubs programmes and Shotton Interchange Project could each require new infrastructure, which may adversely affect known and unknown heritage assets and their settings. However, the design of the Interchanges is not known at this stage, and therefore it is uncertain what the effects of these package may be on this ISA Objective.
	Interchange Hubs	?	Long Term Low	The Borderlands Project may result in the upgrade of existing stations, regenerating the buildings and therefore improving the setting of heritage assets. However, the design of the upgrades may influence the outcome of this project, and it is therefore assessed as uncertain.
	Borderlands	+	Long Term Low	Works to the North Wales Mainline would likely be within existing stations and along existing routes, and therefore would have minimal effect on heritage features. However, works may be required to the Britannia Bridge, a Grade II listed bridge. The project therefore may temporarily adversely affect an important local heritage asset. As a result, this package has the potential to result in both positive and negative effects against this ISA Objective.
	North Wales Mainline Phases 1/2/3	+/-	Short Term Low	
	Deeside	+/-	Long Term Low	The creation of a new station at Deeside would likely be within the urbanised area along the rail line and in the existing industrial estate. The new station is therefore unlikely to affect local heritage, although unknown heritage assets may be affected by excavations to develop the new station.
	Shotton Interchange	?	Long Term Low	The North and West Wales Rail Innovation package could conserve heritage rail routes by integrating them into the new light rail links around North and West Wales. However, new infrastructure could affect the setting of heritage assets within the towns. As a result, this package has the potential to result in both positive and negative effects against this ISA Objective.
	North and West Wales Rail Innovation	+/-	Long Term Low	
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would enhance biodiversity and geodiversity.
	Active Travel Local Connectivity: Stations and Transforming Towns	++	Long Term Low	The Active Travel Local Connectivity project would likely utilise existing road infrastructure to create the routes and would be located in primarily urban and built-up areas near train stations. In line with the Active Travel guidance, the routes should be designed with the inclusion of formal or informal play-spaces and green infrastructure, which could provide ecosystem connectivity. Therefore, this package could positively contribute to the Objective.
	Interchange Hubs	-	Long Term Low	The Interchange Hub programmes would likely require new infrastructure, which may result in the loss of green spaces and biodiversity. However, the developments are likely to be within urban areas, where existing biodiversity would be likely to be limited, and it is therefore uncertain at this stage how the programmes would affect this Objective. Plans would be locationally sensitive, as interchanges within city centres would be unlikely to impact biodiversity and geodiversity, but interchanges within Snowdonia and Holyhead could significantly affect ecosystems.
	Borderlands	-	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
	North Wales Mainline Phases 1/2/3	-	Long Term Low	The Borderlands project could require increased land take as part of the rail line and stations upgrades, which could reduce the land available for biodiversity and ecosystems. The extent of the effects would be dependent on station design, which is not yet available.
	Deeside	-	Long Term Low	The North Wales Mainline Upgrades could require additional stations to be built as part of the works, which could result in the loss of biodiversity. However, studies into the additional stations are yet to be undertaken.
	Shotton Interchange	-	Long Term Low	The creation of a station at Deeside, and the integration of the two stations at Shotton, could involve development on greenfield land, leading to the potential loss of biodiversity.
	North and West Wales Rail Innovation	+/-	Long Term Low	The North and West Wales Rail Innovation would likely utilise existing rail lines where possible, however some additional infrastructure may be required which could result in the loss of greenfield land.
12. To ensure the sustainable use of natural resources	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	<p>The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would minimise resource use.</p> <p>Many of the packages could lead to a reduction in fossil fuel usage by providing improved public transport options and decarbonized transport routes and encouraging people to use public transport instead of personal vehicles. These include: the Interchange Hub package, Deeside, the North and West Wales Rail Upgrades and Shotton Interchange.</p> <p>The Active Travel Local Connectivity Projects could encourage more people to use active travel instead of personal transport through the design of safe and direct routes.</p> <p>The Borderlands Scheme, by reducing journey times and increasing capacity, could encourage more people to use public transport, particularly along the Wrexham to Liverpool line. This would reduce the number of personal vehicles on the road and reduce the volume of fossil fuels burnt. The option to update the rolling stock could include newer technologies, which may mean the new stock is more efficient or decarbonised, further reducing fossil fuel use.</p> <p>The North and West Wales Rail Innovation scheme could utilise light rail, which can be electrified and therefore could minimise the use of fossil fuels.</p>
	Active Travel Local Connectivity: Stations and Transforming Towns	+	Long Term Low	
	Interchange Hubs	+	Long Term Low	
	Borderlands	+	Long Term Low	
	North Wales Mainline Phases 1/2/3	+	Long Term Low	
	Deeside	+	Long Term Low	
	Shotton Interchange	+	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal - North Wales Metro ¹
	North and West Wales Rail Innovation	+	Long Term Low	
13. To enable the protection of tranquil areas and prevention of noise and light pollution	Strategic Development including studies and analysis to inform future schemes	+	Long Term Low	<p>The Strategic Development including studies and analysis to inform future schemes programme could help to design future programmes by undertaking appropriate assessments to determine the schemes that would enable the protection of tranquil areas and reduce noise and light pollution.</p> <p>The Active Travel to Stations Package could minimise noise and light pollution by encouraging people to walk or cycle rather than use private vehicles.</p> <p>Some schemes within the Interchange Hub package, like Wrexham and Bangor Gateways, would likely have minimal effects on the ISA Objective. However, the location of interchanges within Snowdonia and Holyhead could significantly increase noise and light pollution, with the creation of the new hubs producing light and noise that previously did not exist. However, these interchanges could reduce car numbers within the tranquil areas and condense the pollution to a single area, so it is therefore uncertain how this package could affect the protection of tranquil areas.</p> <p>No direct effects were identified against this ISA Objective for the Boderlands, North Wales Mainline Upgrades, Deeside Station and Shotton Interchange packages.</p> <p>The North and West Wales Rail Innovation Scheme could adversely affect tranquil areas by introducing a new rail line. However, the introduction of a new rail line which would minimise vehicle use within tranquil areas, reducing light and noise pollution from the road network.</p>
	Active Travel Local Connectivity: Stations and Transforming Towns	+	Long Term Low	
	Interchange Hubs	?	Long Term Low	
	Borderlands	○	N/A	
	North Wales Mainline Phases 1/2/3	○	N/A	
	Deeside	○	N/A	
	Shotton Interchange	○	N/A	
	North and West Wales Rail Innovation	+/-	Long Term Low	

Swansea Bay & West Wales (SBWW) Metro

ISA Objective	Project/Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	St Clears Station Reopening	+	Long Term Low	Each of the programmes could encourage people to use public transport or utilise decarbonised transport options, leading to a reduction in emission of harmful pollutants and improved public health.
	West Wales Rail Interchange Improvements	+	Long Term Low	The station reopening at St Clears will help to improve local community access to key regional healthcare services and provide active travel opportunities for shorter journeys, leading to improvements in health in the community.
	Swansea Bay Area Metro Phase 1 & 2	+	Long Term Low	The Swansea Bay Area Metro programme would aim to increase the frequency of public transport options and improve their regularity, thereby reducing the stress of passenger due to shorter journey times and increased confidence in the system. This may also be achieved through the introduction of timetable and ticket integration, with the bus and train regularity improvements increasing reliability and minimising confusion. The proposed improvements to connectivity in South West Wales would improve access to health services for those without access to a car. Similarly, the improvements to and introduction of interchanges would also have these benefits.
	Swansea Bay Hydrogen Fuel Cell Bus Project	?	Long Term Low	The effects of the proposed hydrogen fuel cell bus projects (Swansea Bay, Pembrokeshire, Traws Cymru T5 and TrawsCymru T6) is currently uncertain, due to the early stages of hydrogen technology and the lack of safety regulations surrounding the introduction of hydrogen buses.
	Pembrokeshire Hydrogen Fuel Cell Bus Project	?	Long Term Low	The proposed improvements to Active Travel routes around stations would positively contribute to this Objective by encouraging people to utilise active travel modes over the use of private vehicles and could therefore improve public health.
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	?	Long Term Low	The creation of Interchange Hubs could reduce traveller stress by ensuring easier transition along multi-modal journeys, benefitting wellbeing and mental health. The integration of public transport and active travel routes could have a positive impact on physical health, as people may be encouraged to walk or cycle to and between the Interchange Hubs.
				The Swansea to Aberystwyth Rail link and the West Wales Interchange programme could encourage people to take public transport along the west coast, which would reduce the number of cars on the roads and therefore reduce the volume of harmful emissions released. The rail link would also

² A workshop between Arcadis and Transport for Wales, undertaken on February 4th 2022, has been used to inform the assessment and understand details of the proposed programmes.

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	?	Long Term Low	<p>improve access to National Parks and Areas of Outstanding Natural Beauty in West Wales, like the Gower Peninsula and Snowdonia, encouraging hiking and other rural exercise.</p> <p><i>Recommendations:</i> It is recommended that with the introduction of digital tickets and integrated ticketing, the option for paying by cash and using paper tickets should be maintained.</p>
	Active Travel to Stations	++	Long Term Medium	
	Interchange Hubs	+	Long Term Medium	
	Swansea Aberystwyth Rail Link	+	Long Term Low	
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	St Clears Station Reopening	+	Long Term Medium	The reopening of a station at St Clears would aim to reduce reliance on cars and ensure access to public transport is available to the 12% of households in St Clears and the 18% of households in Carmarthenshire without a car, thereby improving equal opportunities to employment and transport.
	West Wales Rail Interchange Improvements	+	Long Term Low	The Swansea Bay Area Metro Programme, the SWML improvements and the Swansea to Aberystwyth Rail Link would provide new and more frequent public transport routes by train and by bus, allowing more people to take public transport and improving access to services and facilities in areas that have previously had limited public transport options. This could improve social cohesion by improving opportunities to access employment and recreational events. Improving access to the public transport network would lead to a reduction in inequality.
	Swansea Bay Area Metro Phase 1 & 2	+	Long Term Low	
	Swansea Bay Hydrogen Fuel Cell Bus Project	○	N/A	The Swansea to Aberystwyth Rail Link would improve social and employment connections along the west coast, thereby positively contributing to social cohesion and equality.
	Pembrokeshire Hydrogen Fuel Cell Bus Project	○	N/A	By improving the transition between different transport modes as part of the West Wales Rail Interchange Improvements package, the NTDP would enable more people to access public transport and therefore improve social connection and work towards equality. This is particularly applicable for the potential new interchange at Milford Haven, as the interchange would include a new station and would therefore expand connections across West Wales.

Appraisal of Programmes

ISA Objective	Project/Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	○	N/A	<p>The introduction of hydrogen fuel buses is unlikely to contribute to the success of the Objective.</p> <p>Introducing Active Travel routes around stations would be beneficial towards this Objective, as the routes would be accessible to all. As active travel is a free mode of transport, anyone can take part regardless of their economic situation, this means investment in active travel schemes will help to improve equality of access in Wales in terms of economic disparity.</p> <p>The creation of Interchange Hubs could ensure travel via public transport is easier and more efficient and could therefore help make public transport a more viable option for those with and without access to private vehicles. The inclusion of Interchange Hub guidance as part of the NTDP could ensure that all hubs are built to the same standards.</p>
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	○	N/A	
	Active Travel to Stations	+	Long Term Low	
	Interchange Hubs	+	Long Term Low	
	Swansea Aberystwyth Rail Link	+	Long Term Low	
3. To support sustainable economic development and diversity	St Clears Station Reopening	+	Long Term Medium	<p>The new station at St Clears would increase access to both employment centres and labour markets by making regional transport more efficient and reducing congestion and journey times. The reopening would provide the opportunity for further development in St Clears that can be supported by the new station, having benefits to the local economy.</p> <p>By increasing the number of trains and potentially creating new stations along the network as part of the Swansea Bay Area Metro Programme, it is likely that there will be increased access to employment areas as a result of improving connections into Central Swansea, Carmarthen and Milford Haven. The improvements would also allow greater connectivity between English cities and West Wales, increasing opportunities between these areas and benefiting the Welsh economy. The improvements may particularly be felt at Milford Haven, which is a key employment area that would benefit from the programme.</p> <p>The introduction of hydrogen buses could help to develop a wider hydrogen economy, creating jobs and providing new skills to improve access to employment opportunities.</p> <p>The proposed new Active Travel routes are unlikely to significantly contribute to this Objective.</p> <p>The enhancement to stations and the introduction of new interchanges as part of the West Wales Rail Interchange and Interchange Hubs programmes would improve access to employment across the region by improving connectivity and providing routes to those who may not have access to a car.</p>
	West Wales Rail Interchange Improvements	+	Long Term Medium	
	Swansea Bay Area Metro Phase 1 & 2	+	Long Term High	
	Swansea Bay Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Pembrokeshire Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	+	Long Term Medium	

Appraisal of Programmes

ISA Objective	Project/Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	+	Long Term Low	The Swansea to Aberystwyth Rail link could improve access between the two cities and encourage investment and travel in these areas. This could improve access to employment opportunities and encourage tourism.
	Active Travel to Stations	○	N/A	
	Interchange Hubs	+	Long Term High	
	Swansea Aberystwyth Rail Link	+	Long Term Low	
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	St Clears Station Reopening	+	Long Term Medium	<p>The reopening of the station at St Clears would improve access to Pembrokeshire National Park by running trains through the station to Milford Haven and Fishguard, and summer trains that run to Tenby, thereby improving access to Welsh recreational spaces on the coast.</p> <p>Improvements to stations and the creation of interchanges in West Wales and as part of the West Wales Rail Interchange Improvements and Interchange Hub packages would enable wider access to culture and recreational spaces by amalgamating the transport methods to become one location, making journeys easier. Improving connectivity across West Wales would improve access to Pembrokeshire Coast and Brecon Beacons National Parks, as well as to historic cultural assets. Similarly, the Aberystwyth to Swansea Rail Link would improve access to culture and recreational spaces along the west coast and into North Wales, increasing opportunity and access to cultural and recreational spaces.</p> <p>By increasing the number of services and potentially creating new stations along the network as part of the Swansea Bay Area Metro Programme, it is likely that there will be increased access to cultural and recreational spaces as a result, including the Pembrokeshire coast.</p> <p>The Active Travel to Stations Package could improve access to public transport, from where cultural and recreational spaces could be reached. By increasing provision of active travel routes, more people may be able to access the local transport network, and therefore, access more spaces.</p> <p>The introduction of hydrogen buses is unlikely to contribute to this Objective.</p>
	West Wales Rail Interchange Improvements	+	Long Term Low	
	Swansea Bay Area Metro Phase 1 & 2	+	Long Term Medium	
	Swansea Bay Hydrogen Fuel Cell Bus Project	○	N/A	
	Pembrokeshire Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	○	N/A	

Appraisal of Programmes

ISA Objective	Project/Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Active Travel to Stations	+	Long Term Low	
	Interchange Hubs	+	Long Term Low	
	Swansea Aberystwyth Rail Link	+	Long Term Low	
5. To encourage the protection and promotion of the Welsh language	St Clears Station Reopening	+/-	Long Term Low	Each of the other packages under the SBWW programme could have a positive or negative effect on this ISA Objective. The packages could improve connectivity around West Wales, particularly in rural areas, which have a high concentration of Welsh speakers, However, the packages may also increase tourism, which could lead to the dilution of the Welsh language.
	West Wales Rail Interchange Improvements	+/-	Long Term Low	
	Swansea Bay Area Metro Phase 1 & 2	+/-	Long Term Low	
	Swansea Bay Hydrogen Fuel Cell Bus Project	○	N/A	
	Pembrokeshire Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	○	N/A	
	Active Travel to Stations	+/-	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Interchange Hubs	+/-	Long Term Low	
	Swansea Aberystwyth Rail Link	+/-	Long Term Low	
6. To reduce greenhouse gas emissions from transport	St Clears Station Reopening	+	Long Term High	<p>The reopening of the station at St Clears aims to promote travel via train and reduce reliance on cars in the area and would therefore reduce greenhouse gas emissions associated with personal car movement. Additionally, improvements to active travel routes and infrastructure, such as cycle storage that encourage increased active modes would help reduce emissions from local car journeys.</p> <p>New interchanges and improvements to existing stations (as part of the West Wales Rail Interchange Improvements and Interchange Hub programmes) to enable smoother transitions between transport modes may encourage people away from their cars by providing a better transport experience and could therefore lead to a reduction in greenhouse gas emissions.</p> <p>Improving the frequency of trains and reducing journey times as part of the works to the Swansea Bay Metro scheme would encourage travellers to use public transport, reducing the total emissions from transport. Improvements to the SWML would allow for the line to be electrified and decarbonised to further reduce emissions of greenhouse gases. Additionally, the introduction of electric buses would further reduce greenhouse gas emissions from transport.</p> <p>The introduction of hydrogen buses would lead to reductions in greenhouse gas emissions, as the buses would not release methane or carbon dioxide at the point of use. However, as the projects are small-scale trials, the extent of the benefit is unknown at this stage, but future expansion of the project could result these benefits being wider spread and more significant.</p> <p>The Active Transport Package could increase the number of people walking or cycling for shorter journeys, for example, around towns and to public transport options, thereby reducing greenhouse gas emissions from transport.</p> <p>The Swansea to Aberystwyth Rail Link could encourage people to use public transport between the two cities, rather than use private vehicles which would lead to a reduction in greenhouse gas emissions.</p> <p><i>Recommendations: If trials are successful, the NTDP should ensure it supports the expansion of hydrogen and electric buses and the introduction of hybrid trains to further decarbonise the network. Monetary incentives, such as caps on daily transport costs, could be implemented within the NTDP to encourage public transport use and minimise emissions from personal vehicles</i></p>
	West Wales Rail Interchange Improvements	+	Long Term Low	
	Swansea Bay Area Metro Phase 1 & 2	+	Long Term Low	
	Swansea Bay Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Pembrokeshire Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Active Travel to Stations	++	Long Term Low	
	Interchange Hubs	+	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Swansea Aberystwyth Rail Link	+	Long Term Low	
7. To enable climate change resilience	St Clears Station Reopening	+/-	Long Term Low	<p>The reconstruction of the station at St Clears would utilise the site of the former station and yard and would therefore minimise the potential increase in hardstanding and associated increase in surface water run-off. However, the site lies within a flood plain and would therefore be susceptible to the effects of climate change.</p> <p>The planned West Wales Rail Interchange Improvements and the Swansea Bay Area Metro could adversely contribute to this Objective, as expansion of the stations to create interchange hubs may decrease drainage and increase the risk of flooding. In addition, an increase in asphalt or other man-made surfaces would increase the effects of extreme heat events. These may be alleviated through the design of the enhancements and the options taken forward, however these are not known at this stage.</p> <p>The introduction of hydrogen buses is unlikely to contribute to this Objective.</p> <p>The Active Travel Package would be likely to utilise existing infrastructure around stations in line with the Active Travel Act guidance to create the network of active travel routes and therefore would not adversely contribute to increasing flood risk.</p> <p>The Interchange Hub package may lead to an increase in impermeable surfaces as more infrastructure may be required, although the interchanges are likely to be within urban areas and therefore on previously developed sites.</p> <p>The development of the Swansea to Aberystwyth Rail Link could increase the area of impermeable surfaces, leading to a reduction in infiltration and therefore increasing the risk of flooding. It is possible that some of the route may run along the west coast of Wales, and therefore could be at risk of coastal erosion. However, there is no design available at this stage and therefore it is uncertain the effect of the package on climate change resilience.</p> <p><i>Recommendations: The development and route selection of the Swansea to Aberystwyth Rail link should consider future resilience to flooding and coastal erosion, as well as to extreme weather events, with the route avoiding coastlines where possible.</i></p>
	West Wales Rail Interchange Improvements	-	Long Term Low	
	Swansea Bay Area Metro Phase 1 & 2	?	Long Term Low	
	Swansea Bay Hydrogen Fuel Cell Bus Project	○	N/A	
	Pembrokeshire Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	○	N/A	
	Active Travel to Stations	+	Long Term Low	
	Interchange Hubs	-	Long Term Low	
	Swansea Aberystwyth Rail Link	?	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
8. To protect and improve air quality	St Clears Station Reopening	+	Long Term High	<p>The reopening of the station at St Clears aims to promote travel via train and reduce reliance on cars in the area and would therefore reduce pollutant emissions associated with personal car movement. Additionally, improvements to active travel routes and infrastructure, such as cycle storage that encourage increased active modes would help reduce emissions from local car journeys. New interchanges and improvements to existing stations to enable smoother transitions between transport modes as part of the West Wales Rail Interchange Improvements and Interchange Hub programmes would encourage people away from their cars by providing a better transport experience, and therefore lead to a reduction in transport-associated air pollutants.</p> <p>Improving the frequency of trains and buses and reducing journey times as part of the works to the Swansea Bay Metro scheme would encourage drivers to use public transport, reducing the total emissions from transport. Improvements to the SWML would allow for the line to be electrified to further reduce emissions of pollutants that contribute to poor air quality.</p> <p>The introduction of hydrogen buses would lead to improvements in local air quality, as the buses would only emit water at the point of use. However, as the projects are small-scale trials, the extent of the benefit is unknown at this stage, but future expansion of the project could result in these benefits being wider spread and more significant.</p> <p>The Active Transport Package could increase the number of people walking or cycling for shorter journeys, for example, around towns and to public transport options, thereby reducing emissions from transport that adversely impact air quality.</p> <p>The Swansea to Aberystwyth Rail Link could encourage people to use public transport between the two cities, rather than use private vehicles which would lead to a reduction in emissions and an improvement in air quality.</p>
	West Wales Rail Interchange Improvements	+	Long Term Low	
	Swansea Bay Area Metro Phase 1 & 2	+	Long Term Low	
	Swansea Bay Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Pembrokeshire Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Active Travel to Stations	++	Long Term Low	
	Interchange Hubs	+	Long Term Low	
Swansea Aberystwyth Rail Link	+	Long Term Low		
9. To protect and enhance the local distinctiveness of our	St Clears Station Reopening	+	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
landscapes and townscapes	West Wales Rail Interchange Improvements	+	Long Term Low	<p>The reopening and redevelopment of the station at St Clears could adversely impact the landscape and townscape through the reconstruction of the train station. However, the redevelopment has the potential to regenerate the site, which currently consists of warehousing and car parking..</p> <p>The West Wales Rail Interchange Improvements Programme could positively or negatively affect this Objective, though as plans for interchanges are still at early stages it is currently unknown how this programme would impact the Objective.</p> <p>The Swansea Bay Area Metro Programme may positively or negatively impact this Objective. The increased frequency of buses and trains would likely utilise existing routes and would therefore minimise effects on landscape and townscape. However, it is possible that some minor infrastructure upgrades would be required, which could positively or negatively impact the Objective depending on the design and location.</p> <p>The introduction of hydrogen buses is unlikely to contribute to this Objective.</p> <p>By expanding active travel routes to stations throughout the SBWW Metro area, it is possible that the new routes could enhance the townscape, through the addition of street vegetation and appropriate design, as recommended in the Active Travel Act guidance. Due to the urban location of the stations, it is likely that active travel infrastructure in this area would not significantly disrupt the townscape.</p> <p>The creation of new Interchange Hubs could enhance or detract from the distinctiveness of the local townscape, as they are likely to be placed within built-up or urban areas. At this stage, how the Interchange Hubs would affect this Objective is unknown, as designs are not yet available.</p> <p>The Swansea to Aberystwyth Rail Link could negatively affect this Objective. The development of the rail link could enhance or detract from the local landscape and townscape. It is possible that some of the route may run along the west coast of Wales or through predominantly agricultural land within a rural area, and therefore could adversely impact the distinctiveness of the landscape.</p>
	Swansea Bay Area Metro Phase 1 & 2	+/-	Long Term Low	
	Swansea Bay Hydrogen Fuel Cell Bus Project	○	N/A	
	Pembrokeshire Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	○	N/A	
	Active Travel to Stations	+	Long Term Low	
	Interchange Hubs	?	Long Term Low	
	Swansea Aberystwyth Rail Link	-	Long Term Low	
10. To promote the conservation and enhancement of heritage assets	St Clears Station Reopening	○	N/A	<p>The reopening of the station at St Clears is unlikely to affect any heritage assets, as assessed within the Environmental Appraisal and Action Plan.</p> <p>The West Wales Interchange Improvements and Interchange Hubs programmes could each require new infrastructure, which may adversely impact known and unknown heritage assets and their</p>
	West Wales Rail Interchange Improvements	?	Long Term Low	

Appraisal of Programmes

ISA Objective	Project/Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Swansea Bay Area Metro Phase 1 & 2	?	Long Term Low	settings. However, the design of the Interchanges is not known at this stage, and therefore it is uncertain what the effects of these package may be on this ISA Objective.
	Swansea Bay Hydrogen Fuel Cell Bus Project	○	N/A	The Swansea Bay Area Metro Programme would likely utilise existing roads for bus frequency enhancement and existing rail lines for increasing rail frequency, however, some additional infrastructure may be required in and around Swansea Bay and it is therefore uncertain how this package may affect nearby known and unknown heritage assets.
	Pembrokeshire Hydrogen Fuel Cell Bus Project	○	N/A	The introduction of hydrogen buses is unlikely to contribute to this Objective.
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	○	N/A	The Active Travel to Stations package could enhance the setting of heritage assets, through the addition of street vegetation and appropriate design, as recommended in the Active Travel Act guidance. Due to the urban location of the stations, it is likely that active travel infrastructure in this area would not significantly affect the setting of heritage assets.
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	○	N/A	It is unknown at this stage to what extent the Swansea to Aberystwyth Rail Link could contribute to the conservation of heritage assets, as the route corridor has not yet been selected. The location and design of the new routes could affect numerous heritage assets along the route.
	Active Travel to Stations	+	Long Term Low	
	Interchange Hubs	?	Long Term Low	
	Swansea Aberystwyth Rail Link	-	Long Term Low	
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	St Clears Station Reopening	+	Long Term Medium	The Environmental Appraisal and Action Plan relating to the reopening of the St Clears station calls for additional surveys to be undertaken to determine the ecological baseline, and it is assumed that these will be undertaken accordingly. It is likely, therefore, that the relevant baseline would be considered in the design, and positive effects pursued.
	West Wales Rail Interchange Improvements	-	Long Term Low	The West Wales Interchange Improvements and Interchange Hub programmes would likely require new infrastructure, which may result in the loss of green spaces and biodiversity. However, the developments are likely to be within urban areas, where existing biodiversity may be limited, and it is therefore uncertain at this stage how the programmes would affect this Objective.
	Swansea Bay Area Metro Phase 1 & 2	-	Long Term Low	The Swansea Bay Area Metro Programme would likely utilise existing roads for bus frequency enhancement and existing freight lines for increasing rail frequency, however, some additional

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Swansea Bay Hydrogen Fuel Cell Bus Project	○	N/A	<p>infrastructure may be required in and around Swansea Bay, and it is therefore uncertain how this package may affect surrounding biodiversity and geodiversity assets.</p> <p>The introduction of hydrogen buses is unlikely to contribute to this Objective.</p> <p>The Active Travel to Stations Package would likely utilise existing road infrastructure to create the routes and would be located in primarily urban and built-up areas near train stations. The routes are likely to integrate green infrastructure, which could improve ecosystem connectivity</p> <p>It is unknown at this stage to what extent the Swansea to Aberystwyth Rail Link could contribute to the conservation of biodiversity, as the route corridor has not yet been selected. However, each of the options would traverse agricultural and greenfield land, and therefore would be likely to result in the loss of biodiversity and geodiversity to some extent.</p>
	Pembrokeshire Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	○	N/A	
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	○	N/A	
	Active Travel to Stations	+	Long Term Medium	
	Interchange Hubs	?	Long Term Low	
	Swansea Aberystwyth Rail Link	-	Long Term Low	
12. To ensure the sustainable use of natural resources	St Clears Station Reopening	+	Long Term Low	<p>Several of the packages aim to reduce reliance on private vehicles and encourage people to use public transport, which would reduce the amount of fossil fuels used in transportation. These packages are: The reopening of the station at St Clears, the West Wales Interchange Improvements and the Interchange Hubs packages, Swansea to Aberystwyth Rail Link and the Active Travel package.</p> <p>The Swansea Bay Area Metro Programme could encourage people to use public transport by increasing the frequency of bus and rail connections, and by integrating the bus and rail timetables and introducing integrated ticketing. Improving the line speed between Swansea, Carmarthen and Milford Haven would allow the train to compete with the speed of car journeys over a longer distance. The introduction of hydrogen buses to the Swansea Bay Metro system would reduce the volume of fossil fuels used for transportation.</p> <p>The hydrogen fuel cell bus projects would each contribute to a reduction in use of fossil fuels for public transportation. As the projects are small-scale trials, the extent of the benefit is unknown at this stage, but future expansion of the project could result in greater value. The introduction of hydrogen</p>
	West Wales Rail Interchange Improvements	+	Long Term Low	
	Swansea Bay Area Metro Phase 1 & 2	+	Long Term Low	
	Swansea Bay Hydrogen Fuel Cell Bus Project	+/-	Short Term Low	

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ISA Objective	Project/Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Pembrokeshire Hydrogen Fuel Cell Bus Project	+/-	Short Term Low	<p>buses would also require the extraction of additional resources, such as metals for the fuel cell, leading to depletion of these resources. However, it is likely that the hydrogen would be acquired from nearby plants in South Wales, where it is produced as a by-product of industry.</p> <p>The expansion of active travel routes could reduce personal car use, leading to more people being encouraged to change their travel style, further reducing resources used.</p>
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	+/-	Short Term Low	
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	+/-	Short Term Low	
	Active Travel to Stations	+	Long Term Low	
	Interchange Hubs	+	Long Term Low	
	Swansea Aberystwyth Rail Link	+	Long Term Low	
13. To enable the protection of tranquil areas and prevention of noise and light pollution	St Clears Station Reopening	○	N/A	<p>The reopening of the station at St Clears is unlikely to contribute to this Objective.</p> <p>It is uncertain at this stage what effects the West Wales Interchange Improvements programme may have on tranquil areas as the package is still in early stages of development.</p> <p>The Swansea Bay Area Metro Programme would likely focus improvements to the public transport network within the Swansea urban area, and therefore would not contribute to the protection of tranquil areas.</p> <p>The introduction of hydrogen buses, in combination with electrifying the existing bus fleet as part of the Swansea Bay Area Metro and West Wales Interchange packages, could help to contribute towards this Objective, as hydrogen buses are generally quieter than diesel buses. The use of these new buses in tranquil areas could help to reduce noise pollution, particularly through Pembrokeshire and less urbanised areas.</p> <p>The Active Travel to Stations Package could minimise noise and light pollution by encouraging people to walk or cycle rather than use private vehicles.</p> <p>The creation of Interchange Hubs is unlikely to contribute to this Objective, as the hubs are likely to be within populated areas and would therefore be unlikely to affect tranquility or noise and light pollution.</p>
	West Wales Rail Interchange Improvements	?	Long Term Low	
	Swansea Bay Area Metro Phase 1 & 2	○	N/A	
	Swansea Bay Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Pembrokeshire Hydrogen Fuel Cell Bus Project	+	Long Term Low	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Swansea Bay & West Wales Metro ²
	Traws Cymru T5 Hydrogen Fuel Cell Bus Project	+	Long Term Low	The Swansea to Aberystwyth Rail Link could either positively or negatively impact this Objective, as the creation of a new line may contribute additional noise and light pollution during construction and operation. A secondary effect of the package may be that the new train services on the new line may replace some of the volume of road traffic travelling between Swansea and Aberystwyth, but the extent of this is unknown at this stage.
	Traws Cymru T6 Hydrogen Fuel Cell Bus Project	+	Long Term Low	
	Active Travel to Stations	+	Long Term Low	
	Interchange Hubs	○	N/A	
	Swansea Aberystwyth Rail Link	+/-	Long Term Low	

Cardiff and Central Region (CCR) Metro

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Low	It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective. Schemes that include provision of active travel routes would positively contribute to this Objective, as increased walking and cycling would improve the physical health of the local people, while increasing time outside would also be beneficial to mental health.
	CVL Enhancements Package	+	Long Term Medium	The Central Valleys Line (CVL) Enhancement package is likely to include provision for active travel, which will encourage users to walk or cycle for their journeys and therefore supports improvement in physical health and wellbeing. Pentrebach in particular is assumed to be designing around objectives to encourage a modal shift towards active travel and focussing on public health. Similarly, the CVL Extensions package will improve active travel options around Cardiff, and around the potential new stations at Hirwaun and Aberdare.
	CVL Extensions Package	+	Long Term Low	Extending and enhancing the non-CVL package would include provision for active travel, which will encourage users to walk or cycle, leading to improved public health around Ebbw Fach and additional stations.
	Valley Line Enhancement and Extensions (non-CVL) Package	+	Long Term Low	The Local Station/ Interchange enhancement package includes recommendations for first and last mile active travel routes to encourage multi-modal trips, which may lead to additional walking miles and an improvement in mental and physical health. The works to Pentrebach would include provisions to include safety along active travel routes for pedestrians and cyclists. In Penarth, the recommendation to combine works including active travel routes would encourage the uptake of active travel, leading to improvements to health and also help to reduce the number of private vehicles on the road. Many of the schemes are at early stages, so it is therefore uncertain at this stage how significant the effects may be.
	Local Station/ Interchange Enhancements Packages	+	Long Term Low	The addition of an active travel corridor between Cardiff and Newport could encourage the use of cycle and walking to commute and travel between the two cities. This would have a significant positive effect on mental and physical health. By segregating pedestrians and cyclists from vehicle traffic, the plan significantly improves safety on the roads.
	Active Travel Package	++	Long Term High	The Bus and Bus Rapid Transport Package includes provisions to enhance the quality of active travel interchange, which should encourage people to use active travel options. By reducing

³ A workshop between Arcadis and Transport for Wales, undertaken on February 8th 2022, has been used to inform the assessment and understand details of the proposed programmes.

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
	Bus and Bus Rapid Transit Package	+	Long Term Low	<p>journey times, traveller stress may be reduced, which would positively contribute to this Objective and be beneficial to the mental health of the population.</p> <p>Due to the early stages of the Metro Enhancement Corridor package, it is not possible to determine how significant the impact of this plan would be on this Objective.</p>
	Metro Enhancement Framework Corridor Studies	?	Long Term Low	<p>All schemes that would decrease personal car use and encourage the use of public transport would contribute to the success of this Objective, as highway safety would be improved by reducing the risk of accident. The increased use of public transport would also reduce air pollution, leading to improved physical health in the local population.</p>
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Medium	<p>It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective.</p> <p>By increasing the number of trains at Merthyr Tydfil and potentially implementing a tram/train system at Ely Mill, it is likely that there will be increased social connection in these areas as a result of CVL enhancements. Similarly, improvements in journey times at Ely Mill, Rhymney and Pontypridd will contribute to improvements in social cohesion by allowing more seamless travel.</p>
	CVL Enhancements Package	+	Long Term Medium	<p>The CVL Extension package would provide improved connections between the towns in the valley and Cardiff, improving transport provision to rural areas where communities are heavily reliant on cars. The extensions package would provide improved opportunities to travel improving social equality for those without access to cars.</p>
	CVL Extensions Package	+	Long Term Medium	<p>Increasing access to larger towns in South East Wales would increase social cohesion and mental well-being by expanding access to employment and social opportunities along the Ebbw Valley line and between Bridgend and Cardiff, by providing opportunities for all residents to access transportation. The creation of transport hubs at Bridgend and Ewenny Road would ensure smoother travelling and create easier access to a variety of transport modes for all, as well as through increasing the number of trains through Ebbw Vale. Due to the early stages of these project proposals, it is unknown to what extent social equality could be reached.</p>
	Valley Line Enhancement and Extensions (non-CVL) Package	+/-	Long Term Low	
	Local Station/ Interchange Enhancements Packages	+	Long Term Low	<p>A number of the local station/interchange package plans are in the early stages of development, and it is therefore uncertain at this stage how they would contribute to the improvement of social cohesion. It is likely that new multi-modal interchanges would encourage movement and improve access to jobs and essential services for all, by integrating and streamlining public transport services, although the extent of this is unknown at this stage.</p>
	Active Travel Package	+	Long Term Medium	<p>By providing safe walking routes, the Active Travel package creates the conditions for social equality, as the routes would be accessible by all between Newport and Cardiff. Active travel routes provide low-cost transport journeys to the public, and therefore, help to ensure accessibility is fair and achievable at every income level.</p>
	Bus and Bus Rapid Transit Package	+/-	Long Term Low	

ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
	Metro Enhancement Framework Corridor Studies	+	Long Term Low	The Bus and Bus Rapid Transport and Metro Enhancement Corridor packages are currently at in the early stages of development, and it is therefore uncertain at this stage how the packages would contribute to the improvement of social cohesion and equality. It is assumed that the Bus and Bus Rapid Transport and Metro Corridors will be designed to ensure accessibility for all and improve access to employment across the region.
3. To support sustainable economic development and diversity	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Medium	It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective. The CVL enhancements are likely to support sustainable economic development by improving transport connectivity and encouraging public transport use. Pentrebach in particular is assumed to be designed around objectives around encouraging improved access to employment, supporting the Hoover Strategic Regeneration Area Masterplan for economic growth. Similarly, Pontypridd will support commercial development with the transport provision.
	CVL Enhancements Package	+	Long Term Low	The CVL Extension package would be likely to support the economic development of rural areas by improving public transport connections to Cardiff and other major population and employment areas. The suggested improvement in connection between Cardiff Central and Cardiff Bay would similarly support the economic development of Cardiff and ensure equitable distribution.
	CVL Extensions Package	+	Long Term Low	Increasing access to larger towns in South East Wales through the Valley Line Enhancements and Extensions package would increase access to employment along the Ebbw Valley line and between Bridgend and Cardiff by raising train frequency or providing a shuttle bus service. It is likely that whichever option is taken forward, the improvement in connectivity would provide sustainable economic growth.
	Valley Line Enhancement and Extensions (non-CVL) Package	+	Long Term Low	Improvements to, and the introduction of, multi-modal transport hubs through the Local Station/ Interchange Enhancement package would help to streamline journeys taken on public transport, improving access to employment opportunities, and therefore having benefits to the local economy.
	Local Station/ Interchange Enhancements Packages	+	Long Term Low	The Active Travel package would help to support those who commute between Newport and Cardiff, strengthening the economic links between the cities and supporting the economic development of the Cardiff and Central Region.
	Active Travel Package	+	Long Term Low	By increasing the frequency of bus transport and providing new interchange hubs, the BRT package may improve connectivity around the region, improving access to jobs. The extent of this is uncertain at this stage, although the development of the Severn Tunnel Junction Station would enable greater movement between England and South Wales, enhancing opportunities for employment. Extending working hours of the bus network would improve access to the night-time economy and boost businesses in towns.
	Bus and Bus Rapid Transit Package	+	Long Term Low	By expanding the Metro corridor to Chepstow and Bridgend, the Metro enhancement corridor studies would ensure economic development and growth is spread across the South East of
	Metro Enhancement Framework Corridor Studies	+	Long Term Low	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
				Wales and the Cardiff region. As this package is still in the early stages of development, the significance is uncertain at this stage but may change as the plans develop.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Low	It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective. By enhancing the CVL network, the NTDP seeks to improve access to cultural and recreational spaces and improve capacity on the network during larger events to enable greater attendance. Additionally, in Pentrebach there is an importance around improving transport capacity for tourism, thereby emphasising Welsh culture and access to cultural spaces. All of the plans are expected to improve transport connectivity, and therefore enable cultural and recreational spaces to be accessed by more people.
	CVL Enhancements Package	+	Long Term Low	By extending the CVL network, the NTDP will improve access to cultural and recreational spaces from more rural areas, and also improve access to those cultural assets in rural areas. The extension between Hirwaun and Aberdare would ensure better access to leisure and recreational opportunities including access to the Brecon Beacons and increasing the frequency of services on the network around Cardiff would better accommodate the spikes of movement around key recreational events held in the city centre.
	CVL Extensions Package	+	Long Term Low	The introduction of transport hubs at Bridgend and Ewenny Road could promote Welsh culture through improving access to events and spaces along the line. The introduction of a new rail spur at Abertillery would further enhance access to cultural events across south Wales by providing opportunity for the reopening of section of the line between Abertillery and Llanhilleth and increasing the frequency of services.
	Valley Line Enhancement and Extensions (non-CVL) Package	+	Long Term Low	By improving walking and cycling routes through Newport and to Cardiff, the Active Travel package would improve access to cultural and recreational spaces like Tredegar House in Newport and for events held at the Principality Stadium.
	Local Station/ Interchange Enhancements Packages	+	Long Term Low	The BRT package would improve connectivity around Cardiff through the implementation of rapid transit schemes and new bus routes. Due to this package being in the early stages of development, the significance of this package is uncertain. The development of the Severn Tunnel Junction rail-based Park and Ride would improve access to South Wales from England by allowing users to cross into Wales by car or bus and then continue their journey by train into Newport and Cardiff.
	Active Travel Package	+	Long Term Low	
	Bus and Bus Rapid Transit Package	+	Long Term Low	
	Metro Enhancement Framework Corridor Studies	?	Long Term Low	As part of the Metro Enhancement Framework package, the eastward expansion of the corridor to Chepstow would allow greater access to cultural and recreational spaces from the Wye Valley and across the border to England, and westward towards Bridgend. At this stage the configuration of the corridors is unknown, and it is therefore uncertain how this package would perform against this objective.

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
5. To encourage the protection and promotion of the Welsh language	Strategic development including studies and analysis to inform future schemes and extensions	+/-	Long Term Low	Each of the other packages under the CCR Metro programme could have a positive or negative effect on this ISA Objective. The packages could improve connectivity around South Wales, particularly in rural areas, which have a higher concentration of Welsh speakers, However, the packages may also increase tourism, which could lead to the dilution of the Welsh language.
	CVL Enhancements Package	+/-	Long Term Low	
	CVL Extensions Package	+/-	Long Term Low	
	Valley Line Enhancement and Extensions (non-CVL) Package	+/-	Long Term Low	
	Local Station/ Interchange Enhancements Packages	+/-	Long Term Low	
	Active Travel Package	+/-	Long Term Low	
	Bus and Bus Rapid Transit Package	+/-	Long Term Low	
	Metro Enhancement Framework Corridor Studies	+/-	Long Term Low	
6. To reduce greenhouse gas emissions from transport	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Medium	It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective. Plans within the CVL Enhancement package include measures to minimise greenhouse gases from transport by encouraging the public to move from private vehicle travel to public transport. This would primarily be achieved through increasing the number of trains per hour at a number of stations within towns and cities, expanding Park and Ride schemes, and improving active travel

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
	CVL Enhancements Package	+/-	Long Term Low	<p>routes around stations. Electrification of a number of lines, particularly at Ely Mill, would reduce greenhouse gas emissions at the point of use by reducing the fleet of diesel-powered trains. Similarly, the CVL Extension package would include expanding electrification. A number of these schemes are in the early stages of development, so the scoring against this Objective is uncertain, but may change as plans progress.</p> <p>The conversion of existing heavy rail lines to tram/train technology and increasing electrification as part of the Valley Line Enhancement package would help to reduce the use of fossil fuels and associated emissions. The integration of active travel routes around stations would further work to minimise emissions from private vehicle used to travel to and from the stations, with Bus Rapid Transport routes reducing traffic delays and idle times by providing exclusive bus routes to minimise transport emissions.</p> <p>Each of the proposed local station interchanges would integrate active travel routes as part of plans to encourage the first and last mile of journeys to be made via active transport. For example, this would be done at Pentrebach by upgrading existing pathways and providing a new active travel footbridge over the River Taff. By streamlining connections at local interchange hubs, more people could be encouraged to use public transport over private cars, thereby reducing vehicular emissions of greenhouse gases.</p> <p>By improving the active travel links through Newport and to Cardiff, the Active Travel package could reduce use of the M4 by private vehicle and associated road congestion, leading to reduced greenhouse gas emissions. The creation of a safe and effective active transport corridor could significantly reduce car usage.</p> <p>The introduction of BRT and improving bus frequencies would encourage the use of public transport over private car use or encourage drivers to minimise their journeys by using Park and Ride services, and therefore, reduce greenhouse gas emissions. The significance of the effect of this package against the Objective is dependent on which options are taken forward.</p> <p>The Metro Enhancement Framework Corridor package would aim to modernise and expand public transport routes, helping to reduce reliance on personal car use and minimise vehicular emissions.</p>
	CVL Extensions Package	+/-	Long Term Low	
	Valley Line Enhancement and Extensions (non-CVL) Package	+	Long Term Low	
	Local Station/ Interchange Enhancements Packages	+	Long Term Low	
	Active Travel Package	++	Long Term Low	
	Bus and Bus Rapid Transit Package	+	Long Term Low	
	Metro Enhancement Framework Corridor Studies	+	Long Term Low	
7. To enable climate change resilience	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Low	<p>It is assumed that Strategic Development and Metro Enhancement Framework Studies would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective.</p> <p>Each of the plans within the CVL Enhancement and Extension packages seek to design out flood risk by avoiding high risk areas, but there is minimal detail on how the packages could ensure resilience to other effects of climate change, such as extreme heat events and coastal erosion.</p> <p>The additional hardstanding proposed at new stations and with additional track could lead to increased rainwater surface run-off, contributing to flash flooding and increased heat in urban areas from man-made surfaces. Similarly, the enhancement and extension of the CVL may</p>
	CVL Enhancements Package	-	Long Term Medium	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
	CVL Extensions Package	-	Long Term Medium	<p>contribute to increasing flood risks around Abertillery by building the transport hub within a flood plain.</p> <p>The Local Station Interchange packages may each increase hardstanding by creating new car parks, expanding stations and increasing the number of bus stops, thereby reducing infiltration rates and increasing the possibility of surface water flooding.</p> <p>The creation of active travel routes may be designed to increase hardstanding through the creation of pavements and cycle paths, reducing infiltration rates and increasing the risk of surface run off. Similarly, the BRT expansion package could lead to new infrastructure and an expansion of hardstanding around Cardiff and Newport. The extent to which this may happen is uncertain at this stage.</p>
	Valley Line Enhancement and Extensions (non-CVL) Package	-	Long Term Medium	
	Local Station/ Interchange Enhancements Packages	-	Long Term Medium	
	Active Travel Package	-	Long Term Medium	
	Bus and Bus Rapid Transit Package	-	Long Term Medium	
	Metro Enhancement Framework Corridor Studies	-	Long Term Low	
8. To protect and improve air quality	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Medium	<p>It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunities to contribute to the Objective.</p> <p>The electrification of trains proposed within the Ely Mill Outline Business Case within the CVL Enhancement package would improve air quality along the lines by reducing the number of diesel-powered trains and therefore release air pollutants. Each of the proposed plans aim to encourage public transport use over personal car use, which would lead to a reduction in vehicle emissions, and consequently help improve local air quality.</p> <p>The conversion of parts of the CVL between Hirwaun and Aberdare to electric or hybrid vehicles would minimise pollutants along the route. The integration of active travel routes around stations would equally encourage users away from personal vehicles and therefore improve air quality around the routes. Introducing hybrid technology and active travel improvements will reduce emissions from road travel and improve air quality at a local level. Bus Rapid Travel systems within Cardiff could reduce idle times, and therefore reduce the emissions of PM_{10s} and other pollutants.</p>
	CVL Enhancements Package	+	Long Term Low	
	CVL Extensions Package	+	Long Term Low	
	Valley Line Enhancement and	+/-	Long Term Low	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
	Extensions (non-CVL) Package			The integration of active travel routes around stations and transport hubs within the CVL Extension package would further work to minimise pollutants from private vehicles, with Bus Rapid Transport routes reducing idle times and therefore helping to minimise transport-associated emissions.
	Local Station/ Interchange Enhancements Packages	+/-	Long Term Low	Each of the proposed local station interchanges would include the integration of active travel routes as part of plans to encourage the first and last mile of journeys to be made via active transport. By streamlining connections at local interchange hubs, more people would be encouraged to use public transport, thereby reducing vehicular pollutants which lead to the worsening of air quality.
	Active Travel Package	+	Long Term Low	By improving the active travel links through Newport and to Cardiff and reducing the number of cars on the road, the Active Travel package would reduce use of the M4 by private vehicles and transport-associated congestion, leading to improved air quality.
	Bus and Bus Rapid Transit Package	+	Long Term Low	The introduction of BRT and improving bus frequencies would encourage people to take public transport options over private car use or encourage drivers to minimise their journeys by using Park and Ride schemes and therefore, reduce transport-associated air pollution. The significance of the effect of this package against the Objective is dependent on which options are taken forward.
	Metro Enhancement Framework Corridor Studies	+/-	Long Term Low	The Metro Enhancement Corridors would aim to modernise and expand public transport routes, minimising vehicular emissions and improve local air quality. As the plans are still in development, the effects of this package might change as the schemes are finalised.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Low	It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunities to contribute to the Objective. The plan for Pentrebach within the CVL Enhancement package includes supporting the Hoover Strategic Regeneration scheme, which would aim to improve the townscape. However, as there are no designs for any of the enhancement plans, it is not possible at this stage to determine the effect these would have on this Objective.
	CVL Enhancements Package	+/-	Long Term Low	The extension of the CVL to Hirwaun could affect views into or from Brecon Beacons National Park, thereby detracting from the distinctiveness of the landscape and townscape. However, the extension could enhance the landscape in areas, as the extension of the line could result in the redevelopment of an existing coal washing plant.
	CVL Extensions Package	+/-	Long Term Medium	By upgrading local infrastructure to develop local transport interchanges, the NTDP may positively or negatively affect the surrounding landscape and townscape, particularly area within or adjacent to National Parks and AONBs. The extent of the impact would be dependent on the location and detailed design of the proposals, and this is uncertain for many schemes at this stage.
	Valley Line Enhancement and Extensions (non-CVL) Package	+/-	Long Term Low	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
	Local Station/ Interchange Enhancements Packages	+/-	Long Term Low	<p>By expanding active travel routes through Newport and to Cardiff, it is possible that the new routes could enhance or detract from the distinctiveness of the townscape, but the extent of this is unknown at this stage.</p> <p>As the exact routes for BRT and bus interchanges are not yet known, it is uncertain at this stage how the Bus and Bus Rapid Transit package could impact the townscape or landscape. Similarly, the Metro Enhancement Corridor studies are in the early stages of development, and the exact location of required infrastructure is not yet known.</p>
	Active Travel Package	+/-	Long Term Low	
	Bus and Bus Rapid Transit Package	+/-	Long Term Low	
	Metro Enhancement Framework Corridor Studies	+/-	Long Term Low	
10. To promote the conservation and enhancement of heritage assets	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Medium	<p>It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective.</p> <p>As part of the CVL Enhancement package, the plan for Pontypridd includes supporting and promoting heritage assets, which would aim to improve the setting and resilience of these cultural features. However, as there are no designs for any of the enhancement plans, it is not possible at this stage to determine the effect the other plans would have on this Objective.</p> <p>The plans for expansion of the CVL network through the development of new stations, platform expansions and increasing modal options, could impact the setting of known and unknown heritage assets. However, as there are no designs for any of the extension plans, it is not possible at this stage to determine the effect the other plans would have on this Objective.</p> <p>Improvements to, and the creation of, local interchange hubs have the potential to improve or detract from the setting of heritage assets and to aid in the uncovering of as yet unknown heritage assets. As designs have not yet been finalised, the extent of this is uncertain at this stage.</p> <p>The route of the proposed active travel corridors through Newport and between Newport and Cardiff could affect how the setting of heritage assets may change, and which assets could be affected. The trans-Newport route active travel is currently out for consultation, so the effects are not yet known.</p>
	CVL Enhancements Package	?	Long Term Low	
	CVL Extensions Package	?	Long Term Low	
	Valley Line Enhancement and Extensions (non-CVL) Package	?	Long Term Low	
	Local Station/ Interchange Enhancements Packages	?	Long Term Low	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
	Active Travel Package	?	Long Term Low	As the routes for the planned packages are not yet known, it is uncertain at this stage how each will impact heritage assets and their settings. This is particularly true around the creation of interchange hubs and the proposed active travel corridors through Cardiff and to Newport. The Metro Enhancement Packages would aim to improve connections between Cardiff and Bridgend, and between Newport and Chepstow and the Eastern Valleys. The design of the new transport links, particularly where the scheme would require additional infrastructure, has the potential to positively or adversely impact heritage assets.
	Bus and Bus Rapid Transit Package	?	Long Term Low	
	Metro Enhancement Framework Corridor Studies	?	Long Term Low	
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Medium	It is assumed that studies would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective. The CVL Enhancement and Extension packages would aim to increase public transport offerings, including increasing the number of trains per hour to each South Wales valley head and to each of Cardiff and Newport could encourage people to use public transport, and therefore reduce transport emission, which adversely affect biodiversity. Several proposals, including the creation of a rail spur at Abertillery, could lead to losses in biodiversity through the loss of greenfield land. However, the reduction in pollution from road transport as a result of increased public transport use could be beneficial for biodiversity. The proposed development of local stations and interchanges to improve multi-modal connectivity could lead to the expansion of infrastructure and the potential loss of greenfield land, particularly where a station would be required to be relocated. The extent of the potential loss of land is unknown at this stage. The proposed routes for the active travel corridor between Cardiff and Newport could adversely impact the protected wildlife habitats in the Gwent Levels, subject to further study. At this stage it is unknown if this is the selected route. The package aims to encourage public transport use, which would reduce emissions that can be harmful to biodiversity. The bus and BRT package could cause disruption to wildlife due to increasing frequency of buses, and the addition of new infrastructure could reduce the land available for biodiversity and ecosystems, however, there are likely to be positive effects to biodiversity due to the promotion of public transport use over personal car use, and therefore positive and negative effects could arise. The Metro Enhancement Framework Corridor Studies may include upgrade of rail lines between Cardiff and Bridgend via the Vale of Glamorgan, which could include additional land take and the loss of biodiversity. As the plan has not yet been finalised, it is uncertain the extent of the loss of biodiversity, although some loss is likely, leading to negative effects. However, the scheme aims to reduce the number of private vehicles on the road, which would reduce emissions from transport, leading to a positive effect on biodiversity.
	CVL Enhancements Package	+/-	Long Term Low	
	CVL Extensions Package	+/-	Long Term Low	
	Valley Line Enhancement and Extensions (non-CVL) Package	+/-	Long Term Low	
	Local Station/ Interchange Enhancements Packages	+/-	Long Term Low	
	Active Travel Package	+/-	Long Term Low	
	Bus and Bus Rapid Transit Package	+/-	Long Term Low	

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
	Metro Enhancement Framework Corridor Studies	+/-	Long Term Low	
12. To ensure the sustainable use of natural resources	Strategic development including studies and analysis to inform future schemes and extensions	+	Long Term Low	<p>It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective.</p> <p>The CVL Extension and Enhancement packages plans each aim to reduce the number of personal car use through increasing public transport use, thereby reducing the amount of fossil fuel consumed by petrol and diesel-powered private vehicles. Additionally, a number of the plans aim to introduce low carbon transport, further minimising use of natural resources. In Rhymney, the introduction of a Park and Ride scheme would reduce the length of many drives in individual cars and minimise the use of fossil fuels.</p> <p>The expansion of active travel routes, and the aim of the Cardiff Bay and Cardiff Central links to encourage modal shift towards active travel and public transport use, will further reduce personal car use. The bus and BRT package may similarly reduce fuel consumption. By improving local interchanges to accommodate multi-modal travel and improve the ease of use, more people would be encouraged to change their travel style, further reducing resources used. The extent to which each of these would meet the Objective is uncertain at this stage, as many of the schemes are in the early stages of optioneering and therefore may not be taken forward.</p>
	CVL Enhancements Package	+/-	Long Term Low	
	CVL Extensions Package	+/-	Long Term Low	
	Valley Line Enhancement and Extensions (non-CVL) Package	+/-	Long Term Low	
	Local Station/ Interchange Enhancements Packages	+/-	Long Term Low	
	Active Travel Package	+/-	Long Term Low	
	Bus and Bus Rapid Transit Package	+/-	Long Term Low	
	Metro Enhancement Framework Corridor Studies	+/-	Long Term Low	
13. To enable the protection of tranquil areas and prevention	Strategic development including studies and	+	Long term	It is assumed that studies and analysis would inform the strategic development of the schemes in order to maximise opportunity to contribute to the Objective.

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ISA Objective	Project/ Package	Score	Duration Certainty	Appraisal – Cardiff and Central Region Metro ³
of noise and light pollution	analysis to inform future schemes and extensions		Low	<p>The CVL Enhancement package plans would each aim to minimise car use, reducing noise and light from roads.</p> <p>The CVL Extension package would extend rail lines through to Hirwaun, which borders Brecon Beacons National Park. The extensions here would therefore pose a risk of increasing noise and light pollution to an internationally designated Dark Sky Reserve and tranquil area, particularly during the construction phase. The extension of train lines could increase disruption in areas that previously did not have rail connections. Increasing the number of train services would increase noise and light pollution in certain areas, although the use of electric or hybrid trains may be quieter than diesel trains, reducing noise and light pollution.</p> <p>The expansion of local stations and multi-modal interchanges would encourage drivers to take public transport over private car use and may therefore reduce noise and pollution from cars in tranquil areas, particularly in Abergavenny, which is a base of tourism for the Brecon Beacons, although the extent of this is not known at this stage. Other options for local station interchanges are in predominantly urban areas and would therefore not contribute to the protection of tranquil areas. The use of electric or hybrid trains may be quieter than diesel trains, reducing noise and light pollution.</p> <p>The active travel package could encourage car users to cycle or walk their journey, leading to a reduction in noise from vehicles on the surrounding road network. However, the routes would require new lighting for safety, and it is therefore not known how this significant this negative effect would be.</p> <p>The bus and BRT package would be initially limited to Cardiff and Newport, which are two heavily urbanised areas, and are therefore unlikely to contribute to the protection of tranquil areas.</p> <p>The Metro Enhancement Framework may lead to additional rail lines through the Vale of Glamorgan, a predominantly rural area, and produce additional sources of noise and light pollution, although the extent of this is not known at this stage.</p> <p><i>Recommendations: The NTDP should include provision for light and noise targets around tranquil areas and the Brecon Beacons International Dark Sky Reserve, to ensure no adverse effects are caused within tranquil areas.</i></p>
	CVL Enhancements Package	+/-	Long Term Low	
	CVL Extensions Package	-	Long Term Low	
	Valley Line Enhancement and Extensions (non-CVL) Package	+/-	Long Term Low	
	Local Station/ Interchange Enhancements Packages	+/-	Long Term Low	
	Active Travel Package	○	N/A	
	Bus and Bus Rapid Transit Package	○	N/A	
	Metro Enhancement Framework Corridor Studies	+/-	Long Term Low	

Strategic Road Network

ISA Objective	Score	Duration Certainty	Appraisal – Strategic Road Network
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	+	Long Term High	The NTDP positively contributes to ISA Objective 1, and a minor positive effect in the long term is predicted, with high certainty. By updating the Road Safety Framework and delivering an Annual Programme of Safety Improvements, the Strategic Road Network (SRN) programme is likely to positively contribute to this Objective by reducing the likelihood of road traffic accidents. The improvements to the soft estates as part of the programme could be beneficial for mental health with the addition of green infrastructure and physical health, as the vegetation could filter harmful pollutants from the air. Improvements in the provision of active travel routes could also encourage people to walk or cycle, leading to improvements in physical health and wellbeing.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	O	N/A	Neutral. No direct impact identified.
3. To support sustainable economic development and diversity	+	Long Term Low	The NTDP positively contributes to ISA Objective 3, and a minor positive effect in the long term is predicted, with low certainty. The major improvement package may positively or negatively impact on this Objective, however it is currently on hold, and therefore the contribution towards the Objective is unknown at this stage. The programme may encourage personal vehicle use and commuting through the development of the Highways Technology Systems Strategy, which would improve driver safety and reduce journey times, boosting the local economy. Similarly, the Road Safety Framework and routine maintenance would improve driver safety and encourage the use of the road network.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long Term Low	The NTDP positively contributes to ISA Objective 4, and a minor positive effect in the long term is predicted, with low certainty. The Major Improvement Programme may affect this Objective; however, it is currently on hold. It is assumed that the improvements would increase regional and national connectivity, and therefore improve access to cultural and recreational spaces. The Annual Programme of Maintenance and Renewal will ensure that routes to and from cultural and recreational spaces are supported, with the intelligent transport systems strategy and delivery ensuring routes are kept open and traffic flowing. The Active Travel Improvement Programme could ensure alternative routes to cultural and recreational spaces in and around cities and towns, allowing those without access to private vehicles to attend events.
5. To encourage the protection and promotion of the Welsh language	O	N/A	Neutral. No direct impact identified.
6. To reduce greenhouse gas emissions from transport	-	Long Term Low	The NTDP could potentially adversely contribute to ISA Objective 5, and a minor negative effect in the long term is predicted, with low certainty. The SRN programme could increase or maintain the number of private vehicles on the road network, as the routine maintenance and safety improvements would likely encourage people to use personal vehicles.

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ISA Objective	Score	Duration Certainty	Appraisal – Strategic Road Network
			rather than public transport or active travel, and therefore would not lead to a reduction in greenhouse gas emissions. The Active Travel Improvement programme may encourage people to use the active travel network, but this would likely be for short journeys only and would not significantly reduce the generation of greenhouse gas emissions. <i>Recommendation: It is recommended that improvements to the SRN should include provision of EV charging stations.</i>
7. To enable climate change resilience	+/-	Long Term Low	The NTDP could positively or negatively contribute to ISA Objective 7, in the long term, with low certainty. The Major Improvement Programme could increase surface run-off and lead to increased flooding should additional infrastructure and impermeable surfaces be required, preventing the infiltration of rainwater. As the programme is on hold, it is uncertain how this will perform against the Objective at this stage. The Soft Estates improvements could alleviate some flood risk issues, by providing routes for infiltration to minimise surface water run-off and providing shade to mitigate the effects of heat events.
8. To protect and improve air quality	-	Long Term Low	The NTDP could potentially adversely contribute to ISA Objective 8, and a minor negative effect in the long term is predicted, with low certainty. The SRN programme could increase or maintain the number of private vehicles on the road network, as the routine maintenance and safety improvements would likely encourage people to use personal vehicles and therefore increase pollutant emissions. The Active Travel Improvement programme may encourage people to use the active travel network, but this would likely be for short journeys only and would not significantly reduce the generation of transport-associated air pollutants. The Biodiversity and Soft Estates Improvements Programme could provide air filtration services, minimising pollutants and improving air quality, potentially minimising the significance of negative effects.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	?	Long Term Low	New roads built as part of the Major Asset Renewal and Major Improvement Programmes could have the potential to adversely impact the local landscape and townscape, depending on their designs and proximity to designated landscapes. As the programme is in the early stages of development, it is uncertain what the effect of the SRN programme on landscape would be.
10. To promote the conservation and enhancement of heritage assets	?	Long Term Low	New roads and infrastructure built as part of the Major Asset Renewal and Major Improvement Programmes could adversely impact local heritage assets and settings, depending on the infrastructure designs and proximity to assets. As the programme is in the early stages of development, it is uncertain what the effect of the SRN programme on landscape would be.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	?	Long Term Low	New roads built as part of the Major Asset Renewal and Major Improvement Programmes could adversely impact biodiversity and geodiversity, depending on the design and proximity of the new roads to geoparks and biodiversity assets. The Annual Biodiversity and Soft Estate Improvement Programme, updates and delivery could improve biodiversity along the road network and therefore protect native species. As the programme is in the early stages of development, it is uncertain what the effect of the SRN programme on landscape would be.
12. To ensure the sustainable use of natural resources	-	Long Term Low	The NTDP could potentially adversely contribute to ISA Objective 12, and a minor negative effect in the long term is predicted, with low certainty. The SRN programme could increase or maintain the number of private vehicles on the road network, as the routine maintenance and safety improvements would likely encourage people to use personal vehicles and therefore not lead to a reduction in use of natural resources like fossil fuels.

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ISA Objective	Score	Duration Certainty	Appraisal – Strategic Road Network
13. To enable the protection of tranquil areas and prevention of noise and light pollution	-	Long Term Low	The NTDP could potentially adversely contribute to ISA Objective 13, and a minor negative effect in the long term is predicted, with low certainty. The construction and operation of new roads built as part of the Major Asset Renewal and Major Improvement Programmes could adversely affect tranquil areas, particularly if new assets are built or roads are upgraded within or adjacent to a tranquil area. Annual routine and cyclic maintenance could have additional noise effects during the works.

Streets and Parking

ISA Objective	Score	Duration Certainty	Appraisal – Streets and Parking
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	+	Long Term Low	The NTDP positively contributes to ISA Objective 1, and a minor positive effect in the long term is predicted, with low certainty. The introduction of a default 20mph speed limit following any successful trials would contribute to improvements in health and safety for road users in Wales by decreasing the likelihood and seriousness of road traffic collisions. The introduction of legislation that would increase Local Authorities' powers to enforce street and pavement parking laws, which would improve pedestrian safety by ensuring parking is reduced on pavements, maintaining safe routes for pedestrians.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long Term Low	The NTDP positively contributes to ISA Objective 2, and a minor positive effect in the long term is predicted, with low certainty. The NTDP includes reference to developing parking policies that support equality, but it is not known at this stage what those policies will be. The introduction of legislation that would increase LA powers to enforce street and pavement parking laws would improve disability access, leading to improvements in equality. <i>Recommendation: The policies designed should include provision for disabled and family parking.</i>
3. To support sustainable economic development and diversity	○	N/A	Neutral. No direct impact identified.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long Term Low	The NTDP positively contributes to ISA Objective 1, and a minor positive effect in the long term is predicted, with low certainty. The plan to support Local Authorities in adopting developer-built roads will ensure that roads are maintained adequately and ensures access to cultural and recreational is preserved.
5. To encourage the protection and promotion of the Welsh language	○	N/A	Neutral. No direct impact identified.
6. To reduce greenhouse gas emissions from transport	+/-	Long Term Low	The NTDP could positively or negatively contribute to ISA Objective 6 in the long term with low certainty. The NTDP will support Local Authorities to enable behavioural change programmes to discourage. It is unknown at this stage how this will be undertaken. The 20mph speed limit trials and eventual roll-out would minimise greenhouse gas emissions by reducing speeds and improving traffic flow. The Demand Management Strategy could encourage the use of electric vehicles and active travel for shorter journeys, which would positively contribute to the success of this Objective. The guidance to support the adoption of developer-built roads would encourage continued road building and car use and would therefore increase or maintain greenhouse gas emissions. The Streets and Parking Programme therefore may positively or negatively contribute towards this Objective.
7. To enable climate change resilience	-	Long Term Low	The NTDP could potentially adversely contribute to ISA Objective 7, and a minor negative effect in the long term is predicted, with low certainty. The support of street and parking development would result in increases in the footprint of hardstanding, and lead to increasing surface water run-off and flood events.

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ISA Objective	Score	Duration Certainty	Appraisal – Streets and Parking
			<i>Recommendation: The NTDP should encourage streets and car parks to incorporate surface water retention measures where possible. New parking and streets should minimise black surfaces where possible to reduce impacts from urban heating.</i>
8. To protect and improve air quality	+/-	Long Term Low	The NTDP could positively or negatively contribute towards ISA Objective 8, with low certainty in the long term. Reducing speed limits can significantly reduce emissions of pollutants such as NO ₂ and PM _{10s} by improving traffic flow and reducing idling times. The Demand Management Strategy would encourage the use of electric vehicles and active travel for shorter journeys, which would positively contribute to the success of this Objective. The guidance to support the adoption of developer-built roads would encourage continued road building and car use and would therefore increase or maintain greenhouse gas emissions.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	○	N/A	Neutral. No direct impact identified.
10. To promote the conservation and enhancement of heritage assets	○	N/A	Neutral. No direct impact identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	○	N/A	Neutral. No direct impact identified.
12. To ensure the sustainable use of natural resources	+/-	Long Term Low	The NTDP could positively or negatively contribute towards ISA Objective 8, with low certainty in the long term. The streets and parking proposals both encourage and discourage the use of private vehicles. By supporting modal shifts to active travel and public transport. And reducing the speed limit to 20mph, the NTDP could reduce rates of fuel consumption and minimise resource use. However, supporting the adoption of roads could ensure roads are well maintained and therefore encourage private car use and vehicle consumption.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	○	N/A	Neutral. No direct impact identified.

Air Quality

ISA Objective	Score	Duration Certainty	Appraisal – Air Quality
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	+	Long Term High	<p>The NTDP positively contributes to ISA Objective 1, and a minor positive effect in the long term is predicted, with low certainty. The Air Quality programme could positively contribute to this Objective, as the measures, including the production of the Technical Advice Note 11 (TAN11) and updates to the Clean Air Strategy, would aim to minimise pollutants that are harmful to human health. As the advice is not yet released, the details are not yet available and therefore the significance of the effect may change as details become available. The cycle and pedestrian training within the 2020 Clean Air Plan could improve safety on the roads, and it is assumed that this will be carried forward into the updated Plan.</p> <p><i>Recommendation: The new Clean Air Strategy should include specific targets for reducing NO₂, ground-level ozone and particulate matter (PM) for high-pollution areas to ensure air quality is improved, which would benefit physical health.</i></p>
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long Term Low	<p>The Air Quality programme could positively contribute to this ISA Objective in the long term, with low certainty. The development of proposals to strengthen powers as part of Clean Air (Wales) Act and new Clean Air Plan could reduce geospatial inequalities by improving air quality along roads, particularly benefitting local residents.</p>
3. To support sustainable economic development and diversity	○	N/A	<p>Neutral. No direct impact identified.</p>
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	○	N/A	<p>Neutral. No direct impact identified.</p>
5. To encourage the protection and promotion of the Welsh language	○	N/A	<p>Neutral. No direct impact identified.</p>
6. To reduce greenhouse gas emissions from transport	++	Long Term Low	<p>The NTDP positively contributes to ISA Objective 6, and a major positive effect in the long term is predicted, with low certainty. It is assumed that updates to the Clean Air Plan would follow on from the guidance of the 2020 Clean Air Plan, which states “<i>all proposals should demonstrate how they...avoid, minimise or mitigate emission of greenhouse gases</i>”, which would help to reduce the generation of greenhouse gas emissions. The updated plan could also encourage behavioural changes through public awareness and supporting workplaces to encourage decarbonised</p>

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ISA Objective	Score	Duration Certainty	Appraisal – Air Quality
			transport methods. Similarly, the strengthening of powers to tackle engine idling would be beneficial to reducing greenhouse gas emissions by reducing unnecessary fuel burning.
7. To enable climate change resilience	○	N/A	Neutral. No direct impact identified.
8. To protect and improve air quality	++	Long Term Low	The NTDP positively contributes to ISA Objective 8, and a major positive effect in the long term is predicted, with low certainty. It is assumed that updates to the Clean Air Plan would follow on from the guidance of the 2020 Clean Air Plan, which commits to a “range of co-ordinated actions to deliver significant reductions in public and environmental exposure to harmful airborne pollutants from all sources”, which would ensure air pollution is reduced. The plan also includes provisions for increasing the number of electric vehicles, including electric refuse vehicles, which would reduce emissions further. Similarly, the strengthening of powers to tackle engine idling would reduce harmful emissions. Encouraging behavioural change through education could also reduce fuel consumption by encouraging people to use public transport or car sharing, and the refreshment of the Active Journeys Programme would additionally ensure journeys to school avoid the use of personal vehicles.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	○	N/A	Neutral. No direct impact identified.
10. To promote the conservation and enhancement of heritage assets	○	N/A	Neutral. No direct impact identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long Term High	The NTDP positively contributes to ISA Objective 11, and a minor positive effect in the long term is predicted, with high certainty. The Air Quality programme would likely positively contribute to this Objective, as the implementation of the new Clean Air Plan and production of the TAN11 would likely lead to a reduction in pollutant emissions which adversely affect biodiversity and can increase erosion rates.
12. To ensure the sustainable use of natural resources	+	Long Term High	The NTDP positively contributes to ISA Objective 12, and a minor positive effect in the long term is predicted, with high certainty. The 2020 Clean Air Plan sets out a commitment to introduce ultra-low emissions vehicles to Local Authorities, for example refuse lorries. The anti-idling measures contained within the NTDP, including proposals to strength LA powers, would ensure fossil fuels are not used when a vehicle is stationary, ensuring minimal fuel is wasted.
13. To enable the protection of tranquil areas and prevention	+	Long Term High	The NTDP positively contributes to ISA Objective 13, and a minor positive effect in the long term is predicted, with high certainty. The new TAN11 could include guidance related to noise and soundscapes, and it is assumed that this would include reference to best practice within tranquil areas.

Appraisal of Programmes

ISA Objective	Score	Duration Certainty	Appraisal – Air Quality
of noise and light pollution			<i>Recommendation: Development within tranquil areas is limited to prevent emission of noise, light or air pollution, and that works should only take place within social hours. TAN11 could include guidance related to increasing vegetation screening around roads and additional infrastructure to minimise noise and light pollution in tranquil areas.</i>

EV Charging

ISA Objective	Score	Duration Certainty	Appraisal – EV Charging
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	+	Long Term High	The NTDP positively contributes to ISA Objective 1, and a minor positive effect in the long term is predicted, with high certainty. The addition of new EV charging points at workplaces, tourist destinations and along the SRN may encourage more people to buy electric vehicles, which could lead to a reduction in harmful emissions released from the use of petrol- and diesel-powered vehicles, and therefore lead to an improvement in health.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+/-	Long Term Low	The NTDP could positively or negatively contribute to ISA Objective 2 in the long term with low certainty. The EV Charging programme would only be applicable to those who can afford electric vehicles, and therefore would not help to support economic equality, leading to negative effects against this objective. The energy forecourt rapid charging hubs and phase 2 of the strategic road network charging project would provide charging points at least every 20 miles of the SRN, thereby ensuring rural communities have the same access to charging points as urban communities, leading to positive effects against this objective.
3. To support sustainable economic development and diversity	○	N/A	Neutral. No direct impact identified.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	○	N/A	Neutral. No direct impact identified.
5. To encourage the protection and promotion of the Welsh language	○	N/A	Neutral. No direct impact identified.
6. To reduce greenhouse gas emissions from transport	++	Long Term Medium	The NTDP positively contributes to ISA Objective 6, and a major positive effect in the long term is predicted, with medium certainty. The addition of new EV charging points at workplaces, tourist destinations and along the SRN would help to encourage more people to buy electric vehicles, which could lead to a reduction in greenhouse gas emissions.

Appraisal of Programmes

ISA Objective	Score	Duration Certainty	Appraisal – EV Charging
7. To enable climate change resilience	-	Long Term Low	<p>The NTDP potentially adversely contributes to ISA Objective 7, and a minor negative effect in the long term is predicted, with low certainty. The new infrastructure required for the 18 rapid charging sites on the SRN and the rapid charging hubs may lead to an increase in impermeable surfaces for car parking spots, which in turn may lead to reduced surface run-off and flooding. The increase in artificial surfacing may also lead to increased prevalence of extreme heat events, particularly in urban areas.</p> <p><i>Recommendation: The NTDP should aim to ensure new EV charging points utilise brownfield land where possible.</i></p>
8. To protect and improve air quality	+	Long Term Medium	<p>The NTDP positively contributes to ISA Objective 18, and a minor positive effect in the long term is predicted, with medium certainty. The addition of new EV charging points at workplaces, tourist destinations and along the SRN would help to encourage more people to buy electric vehicles, which could lead to a reduction in pollutant emissions and an improvement in local air quality.</p>
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	○	N/A	<p>Neutral. No direct impact identified.</p>
10. To promote the conservation and enhancement of heritage assets	○	N/A	<p>Neutral. No direct impact identified.</p>
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+/-	Long Term Low	<p>The NTDP could positively or negatively contribute to ISA Objective 11 in the long term with low certainty. The new infrastructure required for the 18 rapid charging sites on the SRN and the rapid charging hubs may lead to an increase in the built environment, removing space for ecosystems. However, the promotion of electric vehicles would reduce emissions of pollutants, which would be beneficial for biodiversity.</p>
12. To ensure the sustainable use of natural resources	+	Long Term Medium	<p>The NTDP positively contributes to ISA Objective 11, and a minor positive effect in the long term is predicted, with medium certainty. The addition of new EV charging points at workplaces, tourist destinations and along the SRN would help to encourage more people to buy electric vehicles, which could lead to a reduction in fossil fuels used for vehicles.</p>
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long Term Low	<p>The NTDP positively contributes to ISA Objective 11, and a minor positive effect in the long term is predicted, with low certainty. Electric vehicles are quieter than petrol or diesel vehicles, and therefore encouraging the use of electric vehicles by increasing charging points may minimise noise pollution.</p>

Third Sector

ISA Objective	Score	Duration Certainty	Appraisal – Third Sector
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	++	Long Term Low	The NTDP positively contributes to ISA Objective 1, and a major positive effect in the long term is predicted, with low certainty. The creation of community transport groups and the Community Challenge Fund, including peer-mentoring for volunteers could improve social health in neighbourhoods by providing a new neighbourhood group and fostering community strength. As part of the Third Sector programme, there will be better access to health services which will work towards reducing health inequalities. The NTDP has a focus on community transport and working to improve coverage of community transport so that it can be accessed more easily and by more communities. The introduction of grants to accommodate the purchase of bicycles and low-emission vehicles could bring about an increase in active travel and exercise, as well as reduce harmful emissions, both of which may positively contribute to improvements in physical and mental health.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	++	Long Term Medium	The NTDP positively contributes to ISA Objective 2, and a major positive effect in the long term is predicted, with medium certainty. The introduction of Neighbourhood / Community Transport Partnerships, the creation of local community transport funds, car clubs, and a rural and urban shared mobility transport / Mobility as a Service (MaaS) trial could ensure rural and urban equity and guarantee an improvement in social cohesion. The local level community transport groups could be beneficial to ensure funding reaches those that need it most and enable to purchase of electric bicycles and cargo bicycles in areas they are required. The collaboration partnerships that are aimed to provide maintenance could ensure the longevity of the scheme, which when combined with the accelerated skills training programme could create jobs and self-reliance within the community.
3. To support sustainable economic development and diversity	+	Long Term Low	The NTDP positively contributes to ISA Objective 13, and a minor positive effect in the long term is predicted, with low certainty. The introduction of grants would ensure that local communities are not economically hindered by the purchase of low-emission vehicles and home charging points, and the NTDP would therefore support sustainable economic development. The collaboration partnerships that are aimed to provide maintenance could ensure the longevity of the scheme, which when combined with the accelerated skills training programme could create or improve access to jobs.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long Term Low	The NTDP positively contributes to ISA Objective 4, and a minor positive effect in the long term is predicted, with low certainty. The Third Sector programme would improve access around towns and cities by developing a framework for shared mobility solutions and creating a fund to purchase electric bicycles, which may lead to improved access to cultural and recreational spaces. The integration of emerging technologies and services as part of the MaaS pilot schemes could further ensure access is promoted.
5. To encourage the protection and promotion of the Welsh language	O	N/A	Neutral. No direct impact identified.

Appraisal of Programmes

ISA Objective	Score	Duration Certainty	Appraisal – Third Sector
6. To reduce greenhouse gas emissions from transport	+	Long Term Low	The NTDP positively contributes to ISA Objective 6, and a minor positive effect in the long term is predicted, with low certainty. The introduction of grants to accommodate the purchase of bicycles could lead to an increase in active travel in replacement of personal car use, which would reduce the emissions of greenhouse gases. In addition, grants to purchase low-emission vehicles would help encourage a reduction in petrol- and diesel-powered vehicles, which would further help to decrease the volume of greenhouse gases emitted from transport-related sources. The car club scheme could similarly reduce emissions, and it is assumed that collaboration between TfW and local communities to develop schemes would ensure low emissions are prioritised as a response to the climate emergency, although this is uncertain.
7. To enable climate change resilience	○	N/A	Neutral. No direct impact identified.
8. To protect and improve air quality	+	Long Term Low	The NTDP positively contributes to ISA Objective 8, and a minor positive effect in the long term is predicted, with low certainty. The introduction of grants to accommodate the purchase of bicycles could lead to an increase in active travel in replacement of personal car use, which would reduce the emissions of pollutants. In addition, grants to purchase low-emission vehicles would help encourage a reduction in petrol- and diesel-powered vehicles, which would further help to decrease the volume of air pollutants emitted from transport-related sources. The car club scheme could similarly reduce emissions and lead to improved air quality.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	○	N/A	Neutral. No direct impact identified.
10. To promote the conservation and enhancement of heritage assets	○	N/A	Neutral. No direct impact identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long Term Low	The NTDP positively contributes to ISA Objective 11, and a minor positive effect in the long term is predicted, with low certainty. The programme would create a fund for the purchase of electric bicycles and support car share schemes, reducing emissions from transport that can be harmful to ecosystems and biodiversity.
12. To ensure the sustainable use of natural resources	+	Long Term Low	The NTDP positively contributes to ISA Objective 13, and a minor positive effect in the long term is predicted, with low certainty. The introduction of grants to accommodate the purchase of bicycles would encourage the uptake of active travel, which would minimise the use of fossil fuels. In addition, grants to purchase low-emission vehicles would help encourage a reduction in petrol- and diesel-powered vehicles, which would further help to decrease the volume of fossil fuels used for transport. The car club scheme could similarly reduce the number of personal vehicles travelling, and similarly reduce fuel usage.

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ISA Objective	Score	Duration Certainty	Appraisal – Third Sector
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long Term Low	The NTDP positively contributes to ISA Objective 13, and a minor positive effect in the long term is predicted, with low certainty. The introduction of grants to accommodate the purchase of bicycles could bring about an increase in active travel, which would reduce the number of personal vehicles and vehicle-related noise and light pollution. In addition, grants to purchase low-emission vehicles would help encourage a reduction in petrol- and diesel-powered vehicles, which would further help to decrease noise and light pollution. The car club scheme could similarly reduce the number of private vehicles on Wales's roads.

Taxis & Personal Hire Vehicles

ISA Objective	Score	Duration Certainty	Appraisal – Taxi and Personal Hire Vehicles
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	+	Long Term Low	The NTDP positively contributes to ISA Objective 1, and a minor positive effect in the long term is predicted, with low certainty. The development of a national licensing database and training courses for drivers and operators could help to increase road safety and the safety of passengers when using taxi and private hire vehicles, however the certainty of this is low. The taxi decarbonisation action plan and green taxi pilot could reduce the emissions of PM _{10s} and NO _x , leading to improved public health.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long Term High	The NTDP positively contributes to ISA Objective 2, and a minor positive effect in the long term is predicted, with high certainty. Increasing the numbers of Wheelchair Accessible Vehicles will help to ensure wheelchair users can access the same opportunities as those that don't need Wheelchair Accessible Vehicles, ensuring equality and increasing social cohesion. The formalisation of taxi-bus arrangements in rural areas will similarly ensure equitable access to opportunities for residents in more rural areas. The stakeholder engagement programme would likely also positively contribute to this Objective, by ensuring opinions are received from people of all backgrounds. <i>Recommendation: The NTDP and White Paper on taxi/PHV licensing should include provision for disabled users and the driver training should include best practice guidelines to ensure disabled users have better access to private hire vehicles. The stakeholder engagement on potential reforms should take into account all opinions from people of a range of backgrounds to ensure the reforms would benefit the most people.</i>
3. To support sustainable economic development and diversity	+	Short Term Low	The NTDP positively contributes to ISA Objective 3, and a minor positive effect in the short term is predicted, with low certainty. The 'try before you buy' electric taxi initiative allows taxi drivers to make an important financial decision with previous experience of electric vehicles, supporting individual and local economic opportunities. The expansion of the taxi network could similarly provide opportunities for employment for taxi drivers and enhance opportunities to access employment for those who rely on taxis for mobility.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long Term High	The NTDP positively contributes to ISA Objective 4, and a minor positive effect in the long term is predicted, with high certainty. Increasing access to personal hire vehicles and taxis will help to ensure wider access to cultural and recreational spaces, increasing social cohesion. The formalisation of taxi-bus arrangements in rural areas will similarly ensure equitable access to opportunities.
5. To encourage the protection and promotion of the Welsh language	○	N/A	It is assumed that in line with Welsh Government requirements, all signage and relevant material will be provided in both Welsh and English. <i>Recommendation: The national training course should be provided in both Welsh and English. .</i>

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ISA Objective	Score	Duration Certainty	Appraisal – Taxi and Personal Hire Vehicles
6. To reduce greenhouse gas emissions from transport	+	Long Term Low	The NTDP positively contributes to ISA Objective 6, and a minor positive effect in the long term is predicted, with low certainty. The try before you buy green taxi pilot encourages taxi drivers to swap their vehicles for more environmentally friendly options by reducing the risk around the expensive purchase. This would be likely to reduce the number of petrol- or diesel-powered taxis on Wales's roads, and therefore would have benefits in relation to greenhouse gas emissions. The development and implementation of the taxi decarbonisation plan will additionally contribute to a reduction in greenhouse gas emissions, but the plan has not yet been developed and it is therefore uncertain how effective this will be.
7. To enable climate change resilience	○	N/A	Neutral. No direct impact identified.
8. To protect and improve air quality	+	Long Term Low	The NTDP positively contributes to ISA Objective 8, and a minor positive effect in the long term is predicted, with low certainty. The try before you buy green taxi pilot encourages taxi drivers to swap their vehicles for more environmentally friendly options by reducing the risk around the expensive purchase. This would be likely to reduce the number of petrol- or diesel-powered taxis on the roads, and therefore would have benefits in relation to air quality. The development and implementation of the taxi decarbonisation plan will additionally contribute to a reduction in greenhouse gas emissions, but the plan has not yet been developed. The roll out of decarbonised vehicles and the Taxi Decarbonisation Plan would likely contribute to a reduction in emissions of pollutants, but the plan has not yet been developed and it is therefore uncertain how effective this will be.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	○	N/A	Neutral. No direct impact identified.
10. To promote the conservation and enhancement of heritage assets	○	N/A	Neutral. No direct impact identified.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	+	Long Term Low	The NTDP positively contributes to ISA Objective 11, and a minor positive effect in the long term is predicted, with low certainty. Supporting taxi drivers to buy electric vehicles and the proposed taxi decarbonisation plan would likely reduce the volume of pollutants released from petrol- and diesel-powered taxis and PHVs, which can be harmful to biodiversity.
12. To ensure the sustainable use of natural resources	+	Long Term Low	The NTDP positively contributes to ISA Objective 12, and a minor positive effect in the long term is predicted, with low certainty. Supporting taxi drivers to buy electric vehicles and the proposed taxi decarbonisation plan would likely reduce the number of petrol- and diesel-powered taxis and PHVs, thereby contributing to the sustainable use of natural resources.

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ISA Objective	Score	Duration Certainty	Appraisal – Taxi and Personal Hire Vehicles
13. To enable the protection of tranquil areas and prevention of noise and light pollution	0	N/A	Neutral. No direct impact identified.

Freight and Logistics

ISA Objective	Score	Duration Certainty	Appraisal – Freight and Logistics
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	?	Long Term Low	Due to the new Logistics and Freight Plan currently being in development and discussions with key stakeholders ongoing, it is unknown at this stage how the programme will contribute to this Objective.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	?	Long Term Low	As the New Freight and Logistics Plan is yet to be developed and discussions with key stakeholders are ongoing, it is therefore uncertain how the plan will contribute to this Objective.
3. To support sustainable economic development and diversity	+	Long Term Low	<p>The NTDP positively contributes to ISA Objective 3, and a minor positive effect in the long term is predicted, with low certainty. The NTDP promotes the development and roll-out of a new multi-modal Logistics and Freight Plan for Wales, and ongoing engagement with key stakeholders and the Cross-Whitehall Freight Group. It is therefore assumed that the plan will prioritise economic uplift and an increase in freight movement over land. Ongoing discussions with key sector bodies will ensure industry support and encourage economic development. The adoption of the NTDP may positively contribute to ISA Objective 3 through the creation of jobs in across Wales.</p> <p><i>Recommendation: The strategy should seek to reduce barriers between UK countries and lead to an increase in efficiency, leading to wider economic development.</i></p>
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	○	N/A	Neutral. No direct impact identified.
5. To encourage the protection and promotion of the Welsh language	○	N/A	Neutral. No direct impact identified.

Appraisal of Programmes

ISA Objective		Score	Duration Certainty	Appraisal – Freight and Logistics
6.	To reduce greenhouse gas emissions from transport	+	Long Term Low	The NTDP could positively contribute to ISA Objective 6, and a minor positive effect in the long term is predicted, with low certainty. The Logistics and Freight Plan is currently in development and is expected to include specific targets and projects aimed at reducing greenhouse gases through the electrification or decarbonisation of freight vehicles.
7.	To enable climate change resilience	?	Long Term Low	As the Freight Group and key sector stakeholder discussions are ongoing and the multi-modal Logistics and Freight Plan is not yet released, it is uncertain at this stage how the Programme will contribute to the success of this Objective.
8.	To protect and improve air quality	?	Long Term Low	As the new Logistics and Freight Plan is currently in development, it is unknown at this stage how the NTDP will seek to reduce pollutant emissions from freight and logistical transport.
9.	To protect and enhance the local distinctiveness of our landscapes and townscapes	?	Long Term Low	As the new Logistics and Freight Plan is currently in development, it is unknown at this stage how the NTDP will seek to reduce emissions from freight and logistical transport. The existing Freight Strategy ⁴ includes a hierarchical approach to new infrastructure, placing increased importance on maximising the potential of existing infrastructure, but could still result in the expansion of the freight network and therefore adversely impact local landscape and townscapes.
10.	To promote the conservation and enhancement of heritage assets	?	Long Term Low	As the new Logistics and Freight Plan is currently in development, it is unknown at this stage how the NTDP will seek to reduce emissions from freight and logistical transport. The existing Freight Strategy ⁵ includes a hierarchical approach to new infrastructure, placing increased importance on maximising the potential of existing infrastructure, but could still result in the expansion of the freight network and therefore adversely impact local landscape and townscapes.
11.	To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	-	Long Term Low	The NTDP potentially adversely contributes to ISA Objective 11, and a minor negative effect in the long term is predicted, with low certainty. Measures to increase freight capacity could lead to the disruption of wildlife corridors through increased vehicle movement and expansion of infrastructure.
12.	To ensure the sustainable use of natural resources	?	Long Term Low	As the Freight Group and key sector stakeholder discussions are ongoing and the multi-modal Logistics and Freight Plan is not yet released, it is currently uncertain how the programme will perform against this Objective..
13.	To enable the protection of tranquil areas and prevention of noise and light pollution	-	Long Term Low	The NTDP potentially adversely contributes to ISA Objective 13, and a minor negative effect in the long term is predicted, with low certainty. Measures to increase freight capacity may result in an increase in noise and light pollution resulting from the increased number of vehicles and trains.

⁴ <https://gov.wales/sites/default/files/publications/2017-08/wales-freight-strategy.pdf>

⁵ <https://gov.wales/sites/default/files/publications/2017-08/wales-freight-strategy.pdf>

Ports

ISA Objective	Score	Duration Certainty	Appraisal - Ports
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	0	N/A	Neutral - no direct effect identified.
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	+	Long Term Low	The NTDP positively contributes to ISA Objective 2, and a minor positive effect in the long term is predicted, with low certainty. The adoption of the NTDP may positively contribute to Objective 2 through the creation of jobs in more rural areas surrounding the ports. A minor positive score has been identified at this stage, as the strategy is yet to be developed and therefore a majorly positive score may be assessed on completion of the strategy.
3. To support sustainable economic development and diversity	+/-	Long Term Low	The NTDP could positively or negatively contribute to ISA Objective 3 in the long term with low certainty. The NTDP promotes the development and roll-out of a new ports and maritime strategy for Wales, and ongoing engagement with key stakeholders. It is therefore assumed that the strategy will prioritise economic uplift and work with the maritime sector, particularly as a response to Brexit and related changes in sea freight movement. The strategy will seek to reduce barriers to investment to encourage greater use of seaports and increase efficiency, leading to wider economic development. The assessed score against Objective 3 therefore may increase in significance, on publication of the Ports and Maritime Strategy. TfW will work with the Marine Energy Programme to support opportunities for a variety of offshore renewable energy types, including tidal stream and floating offshore wind. By working with individual ports, the most appropriate technology for each area would be identified and implemented, allowing for opportunities for new revenue streams.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long Term Low	The NTDP positively contributes to ISA Objective 4, and a minor positive effect in the long term is predicted, with low certainty. The ongoing engagement and development of the ports and maritime strategy with the two major ferry operators may lead to an increase in tourism from locations accessible by boat (e.g., the Republic of Ireland and Liverpool) leading to higher visitor numbers to Wales and the promotion of cultural spaces and attractions.

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ISA Objective	Score	Duration Certainty	Appraisal - Ports
5. To encourage the protection and promotion of the Welsh language	○	N/A	Neutral – no direct effect identified.
6. To reduce greenhouse gas emissions from transport	+	Long term Low	The NTDP positively contributes to ISA Objective 6, and a minor positive effect in the long term is predicted, with low certainty. The identification and implementation of renewable energy practices at ports could allow for emissions offsetting from the marine transport sector. The proposed new ports and maritime strategy will seek to 'maintain high standards for sustainability', which may include a reduction in greenhouse gas emissions. The assessed score is therefore likely to improve once details of the Strategy are finalised.
7. To enable climate change resilience	?	Long Term Low	It is assumed that the NTDP will aim to minimise potential effects on flooding and coastal erosion, as well as factoring in resilience to extreme heat events. As the Ports and Maritime Strategy is not yet released, the score is currently assessed as uncertain.
8. To protect and improve air quality	+/-	Long Term Low	The NTDP could positively or negatively contribute to ISA Objective 8 in the long term with low certainty. The UK Maritime 2050 Plan considers a target for emissions of air quality pollutants, which may lead to increased efficiency of ships and other port vehicles. The strategy states " <i>impact on ... air quality will be close to zero</i> " by 2050. As ports and maritime are not devolved, it is anticipated the proposed Welsh strategy will be in line with the UK-wide strategy. However, the proposed increase in reliance on sea freight may lead to a total increase in air pollutants.
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	?	Long Term Low	The NTDP could have a positive or negative impact on this Objective, but the extent of this is unknown at this stage, particularly if further infrastructure is required at and around ports.
10. To promote the conservation and enhancement of heritage assets	?	Long Term Low	The NTDP could have a positive or negative impact on this Objective, but the extent of this is unknown at this stage.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	-	Long Term Low	The NTDP potentially adversely contributes to ISA Objective 11, and a minor negative effect in the long term is predicted, with low certainty. Measures to increase capacity and co-location at ports may result in the loss or damage of marine or shoreline habitats and ecosystems. <i>Recommendations: Plans for offshore energy production should include measures to conserve or enhance maritime biodiversity where possible.</i>
12. To ensure the sustainable use of natural resources	+	Long Term High	The NTDP positively contributes to ISA Objective 12, and a minor positive effect in the long term is predicted, with high certainty. The identification and implementation of renewable energy practices at ports would allow for decreased reliance on fossil fuels and natural resources.

Appraisal of Programmes

ISA Objective	Score	Duration Certainty	Appraisal - Ports
13. To enable the protection of tranquil areas and prevention of noise and light pollution	-	Long Term Low	The NTDP potentially adversely contributes to ISA Objective 13, and a minor negative effect in the long term is predicted, with low certainty. Measures to increase capacity and co-location at ports may result in an increase of noise and light pollution resulting from increased works.

Aviation

ISA Objective	Score	Duration / Certainty	Appraisal - Aviation
1. To contribute to an improvement in physical, mental and social health and well-being for all, including contributing towards a reduction in health inequalities across Wales	-	Long term Low	The NTDP potentially adversely contributes to ISA Objective 1, and a minor negative effect in the long term is predicted, with low certainty. The continued operation of flights from Cardiff Airport, including ground operations and vehicles, may adversely impact physical health by emitting pollutants that can cause breathing and lung issues. <i>Recommendation: The Welsh Government should engage in discussion with CIAL to ensure targets within the Environmental Flight Plan are met.</i>
2. To create the conditions within which an improvement in social cohesion and equality can be achieved	-	Long term Medium	The NTDP potentially adversely contributes to ISA Objective 2, and a minor negative effect in the long term is predicted, with low certainty. The programme of works for Aviation focuses heavily on Cardiff Airport, located in South Wales, with limited outcome likely for those living in North or Mid Wales. This may accentuate within Wales equality, where South Wales receives improvements to aviation that the North does not, and the employment opportunities the airport provides. <i>Recommendation: The NTDP should look to improve aviation connectivity between the North and South of Wales or improve public transport access to all accessible airports for those living in the North or Mid-Wales.</i>
3. To support sustainable economic development and diversity	+	Long term Medium	The NTDP positively contributes to ISA Objective 3, and a minor positive effect in the long term is predicted, with medium certainty. The planned programmes will likely support the financial viability of Cardiff Airport, and therefore will enable travel opportunities for work and encourage investment in Wales. Working alongside Welsh Government and the UK Government would ensure a cohesive approach to development and continued economic growth for CIAL and South Wales in line with the UK Aviation Strategy. Current reviews as part of the UK Build Back Better Strategy could lead to increased use of the airport for travel and freight, providing benefits to the local economy.
4. To protect and promote Welsh culture and improve access to cultural and recreational spaces	+	Long term Low	The NTDP positively contributes to ISA Objective 4, and a minor positive effect in the long term is predicted, with low certainty. The continued support and emphasis on improving financial viability for Cardiff Airport could help improve access to Welsh cultural assets and encourage the promotion of these to visitors from outside Wales. However, the certainty of this is low.
5. To encourage the protection and promotion of the Welsh language	0	N/A	Neutral. No direct impact identified.
6. To reduce greenhouse gas	+/-	Long term Low	The NTDP could positively or negatively contribute to ISA Objective 6 in the long term with low certainty. The existing CIAL Environmental Flight Path has supported the reduction of carbon emissions by 53% over the past 8 years and reduced natural gas consumption by 29% and will continue to enable these reductions. The introduction of electric

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ISA Objective	Score	Duration / Certainty	Appraisal - Aviation
emissions from transport			vehicle charging points to car parks could encourage the use of hybrid or electric vehicles, contributing to the success of this objective. Similarly, the plan to install a solar PV farm on site will further aid in the reduction of emissions associated with travel and the airport. However, due to the nature of aviation, large volumes of greenhouse gases are released and any plans to increase flight numbers will lead to an increase in greenhouse gas emissions. Therefore, positive and negative effects in relation to greenhouse gas emissions would be expected. <i>Recommendation: The NTDP should encourage the next iteration of the Environmental Flight Path to build on this work and aim to reduce fossil fuel use and emissions further through ongoing discussion with CIAL, including by increasing the number of electric vehicle charging points, and the number of electric vehicles within airport operations.</i>
7. To enable climate change resilience	○	N/A	Neutral. No direct impact identified.
8. To protect and improve air quality	+/-	Long term Low	The NTDP could positively or negatively contribute to ISA Objective 8 in the long term with low certainty. The existing Environmental Flight Path has promoted the use of electric vehicles from the public and as part of Cardiff Airport's fleet, alongside encouraging planes to taxi with one engine where possible, will contribute to improving air quality at and around the airport. However, due to the nature of aviation, large volumes of emissions are released and any plans to increase flight numbers will lead to an increase in pollutants emitted, reducing air quality in and around the airport. Therefore, positive and negative effects in relation to greenhouse gas emissions would be expected. <i>Recommendation: The NTDP should encourage further plans and programmes as part of the Cardiff Airport Environmental Flight Path that would improve air quality through ongoing discussion with CIAL, including improved public transport services to Cardiff Airport.</i>
9. To protect and enhance the local distinctiveness of our landscapes and townscapes	+/-	Long Term Low	The NTDP could positively or negatively contribute to ISA Objective 9 in the long term with low certainty. The NTDP could have a positive or negative impact on this Objective, but the extent of this is unknown at this stage, particularly if further infrastructure, like additional car parking, is required at and around airports in response to increased passenger numbers. The plans to develop a solar farm on the airport site could adversely impact the landscape and townscape surrounding the airport.
10. To promote the conservation and enhancement of heritage assets	?	Long Term Low	The NTDP and development of the solar farm could impact the setting of nearby heritage assets, but the extent of this is unknown at this stage.
11. To promote the conservation and enhancement of biodiversity, geodiversity and ecosystems	○	N/A	Neutral. No direct impact identified.

Appraisal of Programmes

ISA Objective	Score	Duration / Certainty	Appraisal - Aviation
12. To ensure the sustainable use of natural resources	+	Short term Low	The NTDP positively contributes to ISA Objective 12, and a minor positive effect in the short term is predicted, with low certainty. The current iteration of the Environmental Flight Path states that Cardiff Airport will be powered by renewable and clean energy sources, thereby reducing reliance on natural resources, particularly fossil fuels. There has already been a reduction in natural gas consumption of 29% in the last eight years. Plans within the NTDP to work with the UK Government to deliver the aviation strategy, including supporting the industry in the development of cleaner fuels to reduce the air quality effects of aviation fuels, will help to ensure resources are used sustainably. The Flight Path contains measures to increase recycling rates and reduce single use plastics, both of which would contribute to the sustainable use of resources.
13. To enable the protection of tranquil areas and prevention of noise and light pollution	+	Long term Low	The NTDP positively contributes to ISA Objective 13, and a minor positive effect in the long term is predicted, with low certainty. The NTDP, along with the updated Environmental Flight Path (expected 2022), should continue the works done by the previous Flight Plan, which has restricted ground running of engines during anti-social hours and changed the operational methodology for approaching the airport to minimise noise and light effects to the surrounding areas.

Arcadis Consulting (UK) Limited

Greyfriars House
Greyfriars Road
Cardiff CF10 3AL
United Kingdom

T: +44 (0)2920 729 800

arcadis.com