## SPUR TO LLANGEFNI

## INCREMENTAL INLAND RAIL

## INCREMENTAL COASTAL RAIL

		RAIL RAIL				RAIL		
	Criteria	Criteria Option 3a		Option 3b		Option 3c		
		Score	Justification	Score	Justification	Score	Justification	
Objectives	Improve journey times by public transport between population centres and key employment opportunities, thereby supporting socioeconomic growth in North Wales.	++	This option would reduce the journey time between Bangor and Llangefni by 44.2% (from 45 minutes to 25.1 minutes). Overall this option makes public transport more attractive and is expected to increase demand from 0.6% of the market to 4.8% of the market (1tph).	++	This option would reduce the journey time when travelling inland between Bangor and the incremental stopping points (including Lanerch-Y-Medd, Llangwyllog and Llangethi) by an average of 20.9% (from 77 minutes to 80 minutes between Bangor and Llanerch-Y-Medd, including stops). Overall this option makes public transport more attractive and is expected to increase demand from 1.5% of the market to 8.8% of the market (1ph).		This option would reduce the journey time when travelling along the coast between Bangor and the incremental stopping points (including Moelfre, Benllech and Llangefin) by an average of 45.3% (from 118 minutes to 65 minutes between Bangor and Moelfre, including stops). Overall this option makes public transport more attractive and is expected to increase demand from 3.2% of the market to 16.8% of the market (1tph).	
	Reduce carbon impacts and greenhouse gas emissions from transport, thereby adapting to the impact of climate change.	++	By providing more efficient public transport, and reducing the time of travelling on public transport and providing train connections with very short waiting times, may encourage people out of their cars and travel across different modes of transport, this modal shift could contribute to reducing carbon emissions from the transport network. Further quantitative appraisals would be required to quantify the beneficial impacts due to a reduction in GHG and Carbon emissions.	++	By providing more efficient public transport, and reducing the time of travelling on public transport and providing train connections with very short waiting times, may encourage people out of their cars and travel across different modes of transport, this modal shift could contribute to reducing carbon emissions from the transport network. Further quantitative appraisals would be required to quantify the beneficial impacts due to a reduction in GHG and Carbon emissions.	**	By providing more efficient public transport, and reducing the time of travelling on public transport and providing train connections with very short waiting times, may encourage people out of their cars and travel across different modes of transport, this modal shift could contribute for enducing carbon emissions from the transport network. This option is likely to include more embedded carbon initially due to the new heavy rail infrastructre, but is likely to ignerate more carbon savings with modal shift throught shorter journey times and higher comfort than bus options. Further quantitative appraisales would be required to quantify the beneficial impacts due to a reduction in GHG and Carbon emissions.	
	Better connect local communities by public transport between Amlwch and Bangor to core public services including educational opportunities	++	125.5% more people would be able to reach Llangefini within 60 minutes from their homes (increasing from 7153 people to 16,133 people), and 0.5% from Bangor (from 95,350 people to 95,842 people), meaning that there will be improved access to key education and healthcare providers in the vicinity of this route.	**	132% more people would be able to reach Llangefni within 60 minutes from their homes (increasing from 7153 people to 16,610 people), and 0.5% from Bangor (from 95,350 people to 95,841 people), meaning that there will be improved access to key education and healthcare providers in the vicinity of this route.	**	132.8% more people would be able to reach Llangefni within 60 minutes from their homes (increasing from 7153 people to 16,649 people), and 0.4% from Bangor (from 95,350 people to 95,777 people), meaning that there will be improved access to key education and healthcare providers in the vicinity of this route.	
	Create an integrated sustainable transport network that is safe, reliable and affordable, providing a realistic alternative to the private car.	++	There are currently a high number of incidents on average per year on key routes in the scheme area. Switching to rail would reduce the risk of incidents as it reduces car trips on the highway. The cost of travel in this option will be competitive with the private car.  Overall, this option represents a realistic alternative to the private car.	**	There are currently a high number of incidents on average per year on key routes in the scheme area. Switching to rail would reduce the risk of incidents as it reduces car trips on the highway. The cost of travel in this option will be competitive with the private car. Overall, this option represents a realistic alternative to the private car.	**	There are currently a high number of incidents on average per year on key routes in the scheme area. Switching to rail would reduce the risk of incidents as it reduces car trips on the highway. The cost of trave in this option will be competitive with the private car. Overall, this option represents a realistic alternative to the private car.	
	Support the visitor economy in North Wales by improving public transport accessibility to key destinations.	+	This option would enhance connectivity to key visitor attractions by rail. This includes the Dingle Nature Reserve at Llangefni. This also aligns with the Wates on Rails initiative.	+++	This option would enhance connectivity to key visitor attractions by rail, depending on how far the incremental option extends. These include the Dingle Nature Reserve at Llangefril, Parys Mountain at Penysam, Copper Kingdom, and the Anglessy Coastal path at Amlwch, which traverses the Anglessy AONB. This also aligns with the Walss on Rails initiative.	+++	This option would enhance connectivity to key visitor attractions by railic, depending on how far the incremental option extends. These include the Dingle Nature Reserve at Llangefni, Parys Mountain at Penysarn, Coper Kingdom, Anglesye, Coastal path between Benillech and Amkoh, which traverses the Anglesey AONB. This also aligns with the Wales on Rails initiative.	
	Support delivery of the North Wales Metro proposals.	+	Long term aspiration for North Wales metro with regard to reinstatement in part of Gaerwen to Amlwch corridor.	++	Long term aspiration for North Wales metro with regard to reinstatement in part of Gaerwen to Amlwch corridor.	+	Aligns with the long term aspiration for North Wales metro with regard to connecting Amlwch and Gaerwen by rail, however the primary aspiration is the reinstatement of the historic rail corridor.	
WeITAG Impacts	Social & Cultural	++	Accidents:  Rail is one of the safest modes of transport in Great Britain. There were no passenger fatalities as a result of a train accident in 2018-19. There is currently a high number of road incidents on average per year on key routes in the scheme area. Switching to rail would reduce the risk of incidents as it reduces car trips on the highway.  125.5% more people would be able to reach Llangethi within 60 minutes from their homes (increasing from 1753 people to 16, 133 people), and 0.5% from Bangor (from 95,350 people to 95,642 people).  The passenger cost is competitive with the private car.  Therefore, this option would reduce levels of social isolation, which is often related to unreliable public transport services or services that do not go to the right places or at the right times.		Accidents:  Accidents:  Rail is one of the safest modes of transport in Great Britain. There were no passenger fatalilities as a result of a train accident in 2018-19. There is currently a high number of road incidents on average per year on key routes in the scheme area. Switching to rail would reduce the risk of incidents as it reduces car trips on the highway.  Accessibility:  132% more people would be able to reach Llangefini within 60 minutes from their homes (increasing from 7153 people to 16.610 people), and 0.5% from Bangor (from 95,350 people).  Personal affordability:  The passenger cost is competitive with the private car.  Therefore, this option would reduce levels of social isolation, which is often related to unreliable public transport services or services that do not go to the right places or at the right times.	**	Accidents:  Rail is one of the safest modes of transport in Great Britain. There were no passenger fatallities as a result of a train accident in 2018-19. There is currently a high number of road incidents on average per year on key routes in the scheme rans. Switching to rail would reduce the risk of incidents as it reduces car trips on the highway.  Accessibility of the highway.  Accessibility of the highway.  132.8% more people would be able to reach Llangefrii within 60 minutes from their homes (increasing from 7153 people to 16,649 people), and 0.4% from Bangor (from 95,350 people to 95,777 people).  Personal affordability.  The passenger cost is competitive with the private car.  Therefore, this option would reduce levels of social isolation, which is often related to unreliable public transport services or services that do not go to the right places or at the right times.	
	Environmental	0	The construction of a 7km spur heavy rail route between Bangor and Liangefini would reinstate part of a mothballed alignment railway line. It is likely this option would result in a some land take and would change the landscape in the area, through some vegetation and potentially woodland clearance, affecting landscape character, visual impact and potentially protected species. Sensitive receptors including residential dveillings in proximity to the proposed route would be subject to dust, noise and visual disturbances due to the presence of construction machinery and installation of associated infrastructure, and would also be subject to further operation impacts. It is likely that an Environmental Impact Assessment will be required in addition to consultation with NRW. Cadw and other Statutory bodies This option would have a slight adverse impact on landscape I townscape, historic environment, water environment, biodiversity noise, and air quality. The cathon savings of the scheme would have to be further assessed but are likely to be in the moderately beneficial range given the expected embedded emissions and modal shift savings.		The construction of an extension to Llangwyllog / Llanerch-y-medd / Rhosgoch would reinstate part of a mothballed alignment railway line. It is likely this option would result in a significant level of land take and would significantly change the landscape in the area. This would likely result in large levels of vegetation and potentially woodand being removed, affecting landscape character, visual impact and potentially protected species. This option crosses the Cerlin reservoir and several other main statutory rivers. Sensitive receptors including residential dwellings in proximity to the proposed route would be subject to fust, noise and visual disturbances due to the presence of construction machinery and installation of associated infrastructure, and would also be subject to further operation impacts. It is likely that an Environmental Impact Assessment will be required for further quantify impacts, and also identify necessary miligation measures. Further consents and permits will be required, in addition to consultation with NRW. Cathw and other Statutory bodies This option would have a moderate adverse impact on landscape / townscape, historic environment, useder environment, biodiversity and noise and a slight adverse impact on air quality. The carbon savings of the scheme would have to be further assessed but are likely to be in the moderately beneficial range given the expected embedded emissions and modal shift savings.		The construction of an extension to Benilech / Moelfre / Pen-y-sam would involve the construction of a new rail route from Llangefni. This would involve the installation of a ~2.3km tunnel from Pen-y-sam to north of Llaneudog, It is likely this topton would result in a significant level of land take and would significantly change the landscape in the area. This would likely result in large levels of vegetation and potentially woodand being removed, affecting landscape character, visual impact and potentially protected species. This option passes through Tyn Rhos caravan park and the western end of the town of Benilech. A large section of the proposed route passes through the Anglesey ACNB. This option is located 470m west of the Anglesey Tems SPA at its closest point, and the route passes through the eastern edge of the Craig Wen SSSI boundary. Sensitive receptors including residential dwellings in proximity to the proposed route would be subject to dust, noise and visual disturbances due to the presence of construction machinery and installation of associated infrastructure and would also be subject to further operation impact. It is likely that a Environmental impact Assessment will be required to further quantify impacts, and also identify necessary mitigation measures. Further consents and permits will be required, in addition to consultation with NRW. Cadw and other Statutory bolies This option would have a large adverse impact on landscape / townscape, a moderate adverse impact on biodiversity, historic environment, and noise, and a sight adverse impact on the water environment, and air quality. The carbon savings of the scheme would have to be further environment, and air quality. The carbon savings of the scheme would have to be further environment, and air quality. The carbon savings of the scheme would have to be further environment, and air quality. The carbon savings of the scheme would have to be further environment, and air quality. The carbon savings of the scheme would have to be further environ	

Critical Success Factors	Economic	**	This option would reduce the journey time between Bangor and Liangefni by 44.2% (from 45 minutes to 25.1 minutes).  125.5% more people would be able to reach Liangefni within 60 minutes from their homes (increasing from 7153 people) to 16.33 people), and 0.5% from Bangor (from 95.350 people to 95.842 people).  By providing connectivity by rall, this option would offer better reliability and reduced risk of incidents compared to travelling on the highway. Overall, this option would enable more reliable and efficient journeys between key settlements and employment destinations between Arnivoch and Bangor, thereby supporting economic growth.	++	This option would reduce the journey time when travelling inland between Bangor and the incremental stopping points (including Lanerch-Y-Medd, Langwillog and Langefini) by an average of 20,9% (from 77 minutes to 60 minutes between Bangor and Lanerch-Y-Medd, including stops).  132% more people would be able to reach Langerini within 60 minutes from their homes (increasing from 7153 people to 16,610 people), and 0,5% from Bangor (from 95,350 people to 19,641 people).  By providing connectivity by rail, this option would offer better reliability and reduced risk of incidents compared to travelling on the highway.  Overall, this option would enable more reliable and efficient journeys between key settlements and employment destinations between Arnivich and Bangor, thereby supporting economic growth.	**	This option would reduce the journey time when travelling along the coast between Bangor and the incremental stopping points (including Moelfre, Benilech and Llangefni) by an average of 45.3% (from 118 minutes to 65 minutes between Bangor and Moelfre, including stops).  132.8% more people would be able to reach Llangefni within 60 minutes from their homes (increasing from 7153 people to 16,649 people), and 0.4% from Bangor (from 95,350 people to 95,777 people).  By providing connectivity by bus, this option would offer better reliability and reduced risk of incidents due to reducing car trips on the highway.  Overall, this option would enable more reliable and efficient journeys between key settlements and employment destinations between Annivch and Bangor, thereby supporting economic growth.
	Potential Value for Money	**	VfM at this stage considers the well-being of the public, which comprises of economic, social and environmental impacts of the option. This option would reduce the journey time between Bangar and Langefin by 44.2% (from 45 minutes to 25.1 minutes).  125.5% more people would be able to reach Llangefin within 60 minutes from their homes (increasing from 7153 people to 16,133 people), and 0.5% from Bangor (from 95,30 people to 95,842 people), meaning that there will be improved access to key employment sites, leisure facilities, education and healthcare providers in the vicinity of this route. This option would have a neutral impact on landscape / townscape, historic environment, water environment, buddversity and noise and a slight adverse impact on air quality.  Overall, this option would lead to a moderate beneficial impact on the well-being of the public.	+	VfM at this stage considers the well-being of the public, which comprises of economic, social and environmental impacts of the option. This option would reduce the journey time when travelling inland between Bangor and the incremental stopping points (including Llanerch-YaMedd, Llangwyllog and Llangefin) by an average of 20,9% (from 77 minutes to 60 minutes between Bangor and Llanerch-YaMedd, including stops). 132% more people would be able to reach Llangefin within 60 minutes from their homes (increasing from 7153 people to 16,810 people), and 0.5% from Bangor (from 95,350 people to 95,841 people), meaning that there will be improved access to key employment sites, leisure facilities, education and healthcare providers in the vicinity of this route.  This option would have a moderate adverse impact on landscape / townscape, historic environment, water environment, biodiversity and noise and a slight adverse impact on air quality.  Overall, this option would lead to a slight beneficial impact on the well-being of the public.	·	VTM at this stage considers the well-being of the public, which comprises of economic, social and environmental impacts of the option. This option would reduce the journey time when travelling along the coast between Bangor and the incremental stopping points (including Moeffre, Benliech and Llangefri) by an average of 45.3% (from 118 minutes to 16 minutes between Bangor and Moeffre, including stops).  132.8% more people would be able to reach Llangefrii within 60 minutes from their homes (increasing from 7163 people to 16,649 people), and 0.4% from Bangor (from \$5.350 people to 95,777 people), meaning that there will be improved access to key employment stes, leisure facilities, education and healthcare providers in the vicinity of this route.  This option vould have a large adverse impact on landscape / townscape, a moderate adverse impact on biodiversity, historic environment, and roise, and a slight adverse impact on the water environment, and a rugality.  Overall, this option would lead to a slight beneficial impact on the well-being of the public.
	Supplier Capacity & Capability	++	There is a mature market for construction of rail infrastructure and heavy rail vehicles, and options are available for operators of services.	**	There is a mature market for construction of rail infrastructure and heavy rail vehicles, and options are available for operators of services.	++	There is a mature market for construction of rail infrastructure and heavy rail vehicles, and options are available for operators of services.
	Potential Affordability	-	The spur to Llangefni uses the first section of the former route and therefore benefits from the existing railway corridor. A short section allows for a lower initial construction cost, but the total cost for the route may be increased due to multiple construction periods.	-	Incremental condistruction along the former route benefits from the existing railway comidor. The shorter sections allow for a lower initial construction cost, but the total cost for the route may be increased due to multiple construction periods.	-	Incremental construction along a new corridor allows for a lower initial construction cost but the total cost for the route may be increased due to multiple construction periods. Costs via the coastal route will be higher than via the former route due to the creation of a new railway corridor.