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# Skelmersdale Rail Link Strategic Outline Business Case (SOBC)

Executive Summary Document

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# 1 Strategic Case Headlines

Skelmersdale is situated within the triangle of the North West’s three largest cities (Liverpool, Manchester, and Preston) and with a population of circa 40,000 is one of the largest settlements in Lancashire. Despite its size and physical proximity to the North West’ major cities, the town lies ‘off the map’, at the edge of Lancashire and close to the border of both the Greater Manchester and Liverpool city regions. Due to its highway dominated landscape and its relative lack of sustainable transport connectivity to neighbouring towns and cities, Skelmersdale is disconnected from surrounding opportunities leading to low levels of economic development and adverse socio-economic outcomes for its residents. This business case sets out the case for investing in new connections for Skelmersdale to help overcome these barriers and deliver lasting change.

This document is a summary of the evidence provided in the main Strategic Outline Business Case (SOBC) documents – further detail is available within these.

## 1.1 Vision and Objectives

A vision for the project has been developed with reference to UK Government priorities, localising these to reflect the area’s unique circumstances and needs:

*Enhanced connectivity for Skelmersdale will provide a catalyst for regeneration in the area, making the town a place where people choose to live, work, visit and invest.*

From this vision, and analysis of existing challenges and future opportunities, stemmed a set of project-specific objectives which were used to guide option development and assessment:

<b>SO1 - Social Isolation and Exclusion:</b>	Provide enhanced access for all people that live and work in Skelmersdale and surrounding areas, regardless of socio-economic situation or any mobility-related impairments
<b>SO2 - Access to Opportunity:</b>	Provide sufficiently attractive alternatives which allow people to access the major opportunities efficiently (within an acceptable amount of time), sustainably, safely, and securely
<b>SO3 - Economic Development &amp; Regeneration:</b>	Support long-term economic growth and wider regeneration in Skelmersdale by making the town a more attractive proposition for inward investment
<b>SO4 - Sustainability &amp; Environment:</b>	Reduce the adverse impacts of travel in Skelmersdale and surrounding areas by providing sustainable alternatives, positively contributing to enhanced wellbeing, health, and environmental outcomes, including Net Zero Carbon targets
<b>SO5 - Safety:</b>	Improve safety on the transport network

## 1.2 Existing challenges

Skelmersdale has great potential for growth due to its position close to a number of key UK cities. To do this it must overcome a series of challenges and issues which its people, places, and economy face. In comparison to West Lancashire, the wider North West region, and England as a whole, Skelmersdale experiences a number of adverse economic, social and environmental outcomes. Skelmersdale is currently characterised by:

- **Deprivation** - Levels of deprivation and unemployment are amongst the highest in the country. The majority of Skelmersdale lies within the top 10% most deprived areas in England and Wales (See Figure 1.2 overleaf)

and the unemployment rate is almost double that of the borough as a whole (11%). Life expectancy is significantly lower than in neighbouring places, the North West, and England.

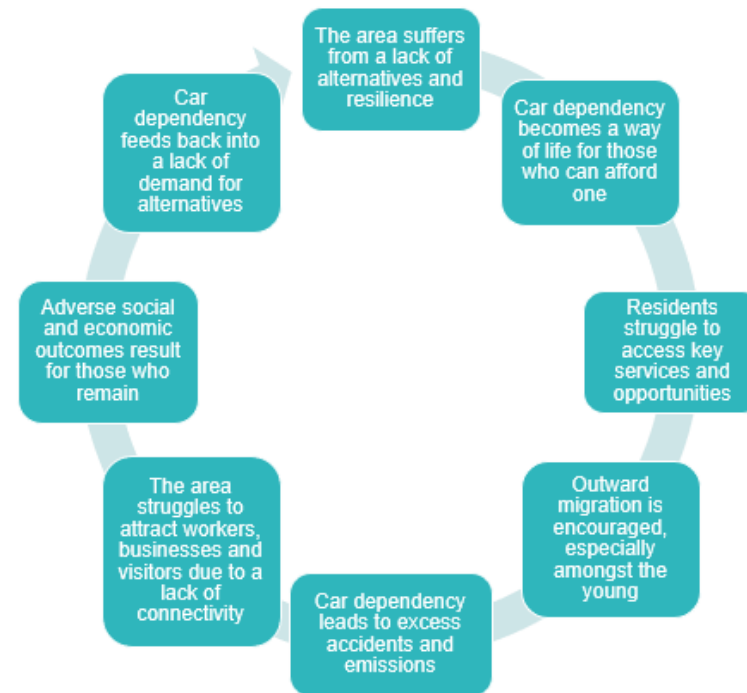
- **Poor transport connectivity** - 35% of households in Skelmersdale do not have access to a car and are therefore reliant on alternative modes to access jobs, training, and opportunities. However, current issues include:
  - Long, unreliable and extended bus journey times between Skelmersdale and key centres
  - Dominant highway network layout which creates severance, unsafe and unattractive environments for pedestrians and cyclists
  - No direct rail access within the town and poor connectivity to nearby stations via bus. The nearest rail station at Upholland does not offer a direct rail service to Liverpool City Centre.

This creates a lack of access to opportunity which is evident within the unemployment rate noted above and the high proportion of the population with no qualifications, 32% compared to neighbouring towns such as Ormskirk (18%).

- **Declining economic activity** - The lack of access to and from the town severely hinders social and economic opportunities as inward investment and new residents are deterred from locating within Skelmersdale.

The town is currently characterised by the following cycle, with the observed adverse outcomes a function, in part, of a connectivity deficit which this project seeks to address:

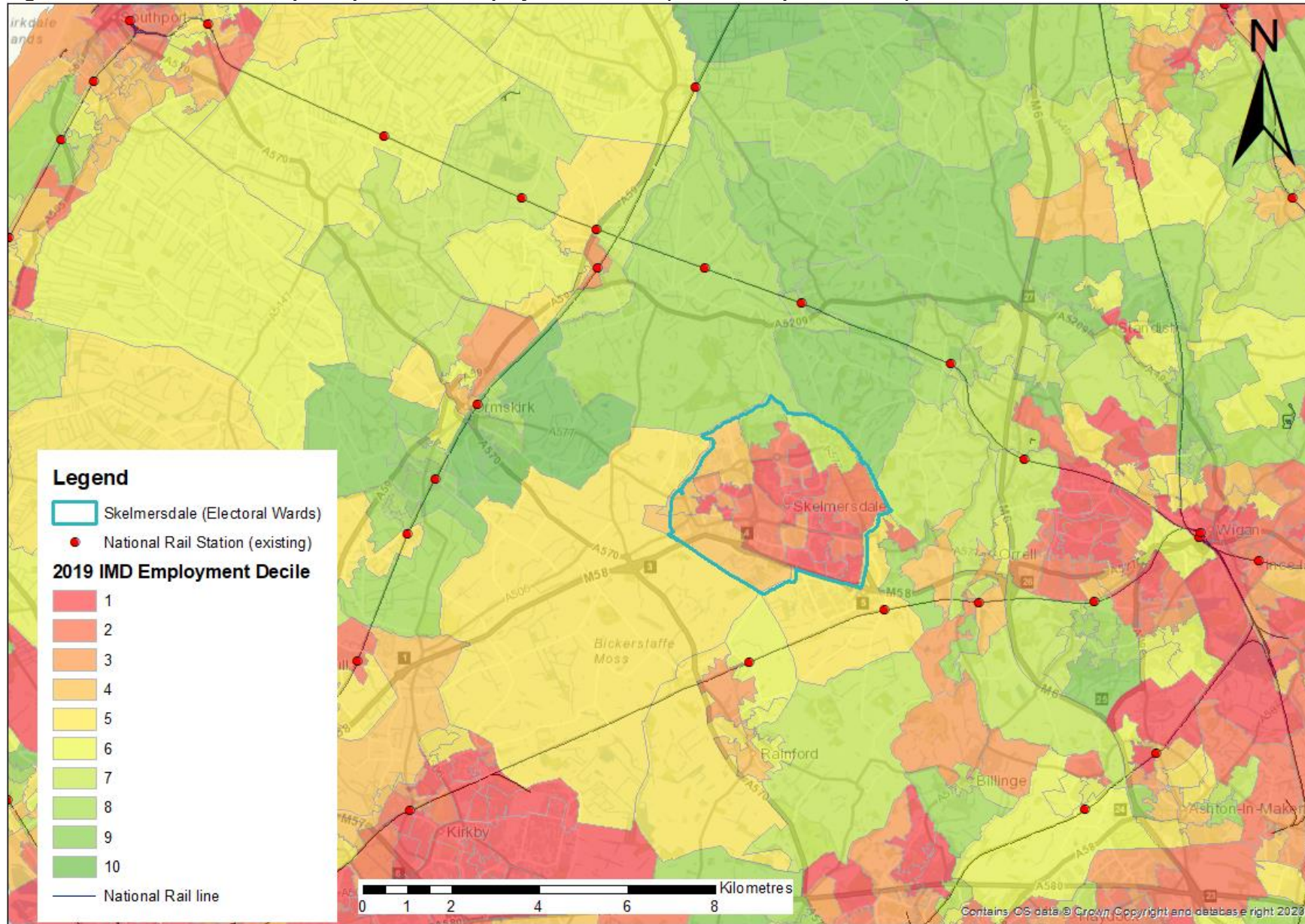
**Figure 1.1: The cycle of challenges facing Skelmersdale**



### 1.3 Future opportunities

Place-making is central to how West Lancashire Borough Council (WLBC) wish to bring forward the regeneration and improvement of Skelmersdale with partners including LCC, West Lancashire Clinical Commissioning Group (CCG) and Homes England among others. Skelmersdale is the largest town in West Lancashire and is therefore the focal point of the Borough's adopted Local Plan. The Local Plan currently stretches to 2027, meaning that there is a significant opportunity within the next iteration(s) to link sustainable transport and land use planning solutions together, e.g. through Transit Orientated Development (TOD).

Figure 1.2: 2019 Index of Multiple Deprivation – Employment Domain (1 = most deprived decile)



Source: Ministry of Housing, Communities and Local Government

## 1.4 The options available

The SOBC considered a number of strategic alternatives to address the connectivity deficit the area faces. The approach taken is consistent with ‘Stage 1’ of option assessment from the DfT’s Transport Analysis Guidance (TAG). Each alternative was assessed against a set of criteria developed from the objectives, plus consideration of the option’s deliverability. Results of the Multi-Criteria Analysis (MCA) are shown in the table below.

**Table 1.1: Stage 1 alternative sift results**

Rank	Scheme	Social Isolation & Exclusion	Access to Opportunity	Economic Development & Regeneration	Sustainability & Environment	Safety	Deliverability	Total Score (average)
1	<b>Skelmersdale Rail Link</b>	2.00	2.00	2.00	2.00	1.50	0.00	<b>1.58</b>
2	<b>Rapid Transit Network</b>	1.67	1.25	2.00	1.75	1.00	-0.50	<b>1.19</b>
3	<b>Dedicated Bus Links to stations</b>	1.00	0.75	0.25	0.50	0.50	-1.50	<b>0.25</b>
4	<b>Increased Bus Capacity</b>	1.00	0.50	0.75	1.00	0.00	-2.50	<b>0.13</b>
5	<b>Do Nothing</b>	1.33	2.00	-0.25	-1.75	-1.00	-3.50	<b>-0.53</b>
6	<b>Increase Highway Capacity</b>	0.00	-0.25	-0.75	-0.75	-0.50	-1.50	<b>-0.63</b>

Source: Mott MacDonald

Following the identification of rail as the preferred mode (the highest scoring mode shown in Table 1.1), a number of sub-options were developed further and assessed in the same manner. Similarly, a number of bus alternatives were also developed further to assess the potential benefits of lower cost solutions.

Table 1.2 and Figure 1.3 (overleaf) summarises the shortlisted options for further consideration within this SOBC and Economic Case. This shortlist of options was identified using multi criteria analysis and SWOT analysis methodologies.

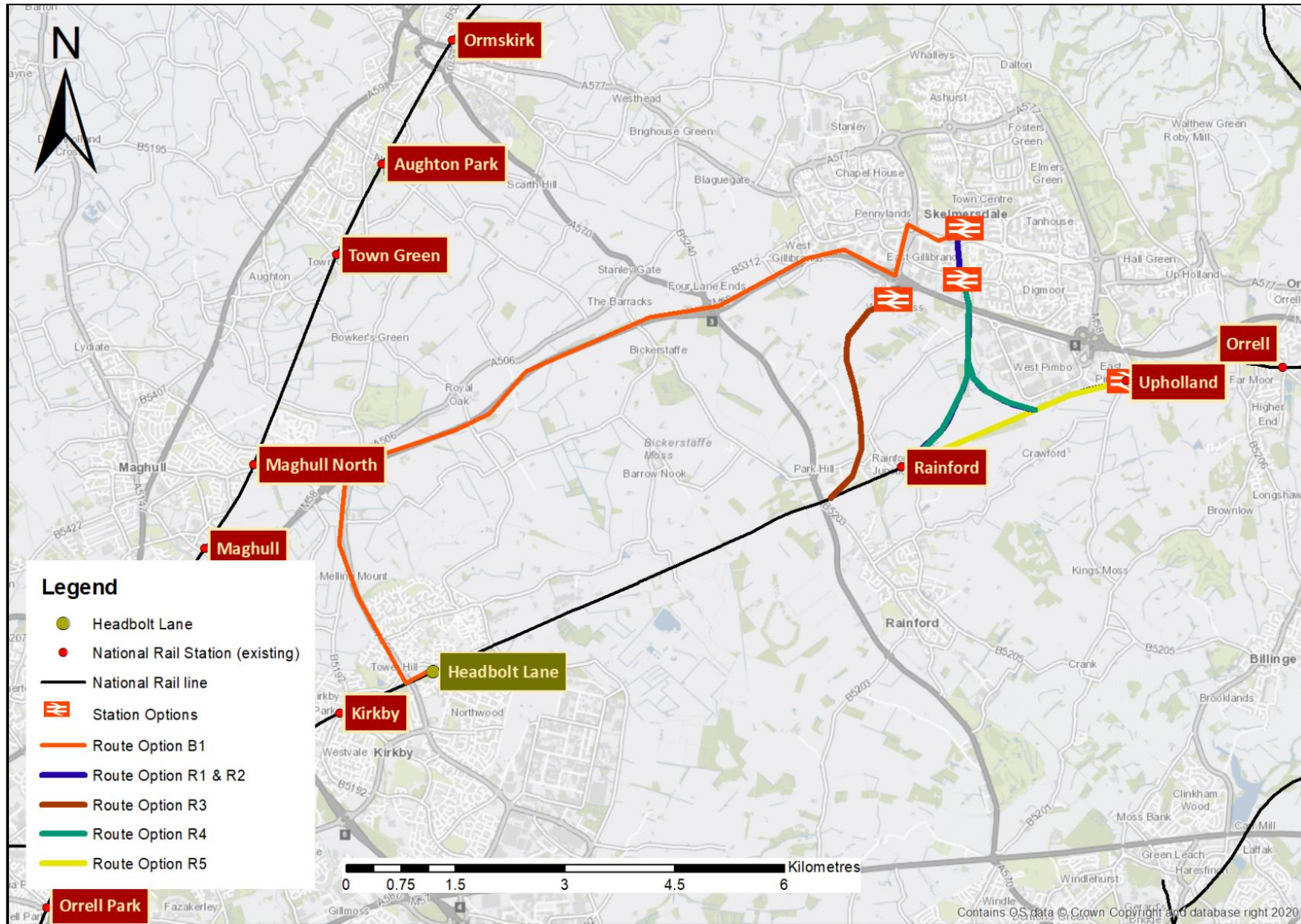
Infrastructure works for the shortlisted options include:

- Development of a new multi-modal connectivity hub;
- Enhancements to Rainford Station (not R3 or B1);
- A new bi-directional single line 25kV AC electrified line for Merseyrail services between Rainford and Skelmersdale. This is common to R1 to R4, but varies in its length;
- For options R1, R2 and R4, a new single bi-directional unelectrified line between Skelmersdale and Upholland passing through Pimbo;
- Development of a new rail control centre in the area;
- Single track for the new lines between Skelmersdale and junctions with the existing line between Rainford and Upholland; and
- Double tracking between Headbolt Lane and Rainford. The proposed double track alignment will run on redundant formation where possible in order to reduce land take.

**Table 1.2: Skelmersdale Connectivity Shortlisted Options**

ID	Mode	Option	Description	Frequency	Journey times
B1	Bus	A direct link to Headbolt Lane Station	A new feeder service to/from Headbolt Lane (new station on the MEL line to the east of the existing terminus at Kirkby);	<ul style="list-style-type: none"> <li>4bph Headbolt Lane – Skelmersdale</li> </ul>	<ul style="list-style-type: none"> <li>Approx' 50 minutes to Liverpool Central plus interchange at Headbolt Lane</li> <li>Existing buses to Wigan will be more attractive</li> </ul>
R1	Rail	Town Centre rail station - Glenburn College Site	Development of a new rail link to Skelmersdale and rail hub in Skelmersdale town centre to provide a direct heavy rail link between Skelmersdale, Wigan (and Manchester) and Liverpool.	<ul style="list-style-type: none"> <li>2tph Liverpool Central – Skelmersdale</li> <li>1tph Wigan Wallgate - Skelmersdale</li> </ul>	<ul style="list-style-type: none"> <li>Approx' 35 minutes to Liverpool Central</li> <li>Approx' 18 minutes to Wigan Wallgate</li> </ul>
R2	Rail	Town Centre rail station - Glenburn College Site value engineered	As above with some single track sections and reduced level of service	<ul style="list-style-type: none"> <li>2tph Liverpool Central – Skelmersdale</li> <li>1tph Wigan Wallgate - Skelmersdale</li> </ul>	<ul style="list-style-type: none"> <li>Approx' 35 minutes to Liverpool Central</li> <li>Approx' 18 minutes to Wigan Wallgate</li> </ul>
R3	Rail	M58 Junction 4 Parkway	Modified alignment to south of M58 with a new rail station in proximity or adjacent to Junction 4.	<ul style="list-style-type: none"> <li>2-4 tph Liverpool Central - Skelmersdale Parkway</li> <li>1-2 tph Preston - Skelmersdale West</li> </ul>	<ul style="list-style-type: none"> <li>Approx' 33 minutes to Liverpool Central</li> <li>8 minutes to Headbolt Lane + interchange + 24 minutes to Wigan Wallgate</li> </ul>
R4	Rail	Town Centre South Thorn Island Site	As Option R1 but terminating at a site adjacent to Thorn Island Roundabout, potentially including value engineered alignment.	<ul style="list-style-type: none"> <li>1-2 tph Wigan Wallgate – Skelmersdale</li> <li>2-4 tph Liverpool Central - Skelmersdale</li> </ul>	<ul style="list-style-type: none"> <li>Approx' 34 minutes to Liverpool Central</li> <li>Approx' 17 minutes to Wigan Wallgate</li> </ul>
R5	Rail	Upholland Station upgraded at current location	Existing Wigan - Kirkby alignment, with extension of 2 MEL tph from Kirkby/Headbolt Lane	<ul style="list-style-type: none"> <li>2tph Liverpool Central – Skelmersdale</li> </ul>	<ul style="list-style-type: none"> <li>Approx' 32 minutes to Liverpool Central</li> <li>Approx' 12 minutes to Wigan Wallgate</li> </ul>

**Figure 1.3: Skelmersdale Connectivity Shortlisted Options**





## 1.5 Why Invest?

### Well-connected communities

The new link will close the current gap in connectivity which has led to deprivation and other adverse outcomes, with a large number of residents socially isolated and excluded as a result of poor public transport connectivity and/or low car availability. Enhanced transport provision to and from the area will ensure all communities are well connected by attractive, safe, resilient, and inclusive travel opportunities.

### Enhanced job, education, and training opportunities

Skelmersdale is well positioned in relation to its proximity to major regional centres including Liverpool, Manchester, and Preston. With new access to high quality transport services offering faster and more direct links to surrounding key centres, the availability of jobs, education, and training opportunities to residents of Skelmersdale would be significantly extended, particularly for those without access to a car.

### A catalyst for regeneration

There is significant physical capacity for growth in the town and the opportunity to enhance the sense of place through new transit orientated development. The new transport link has the potential to encourage inward investment and act as catalyst for fore regeneration, supporting both new and existing developments. This will extend the impacts well beyond the direct users of the new links to help level up the area.

### Sustainable travel

The preferred options are focussed on providing a green solution to a known economic and social challenge, with the provision of high quality and sustainable services ensuring a beneficial contribution to the climate emergency and 'net zero carbon' objectives. Provision of an attractive alternative to the car will encourage mode shift to more sustainable travel and a reduction in greenhouse gas emissions and local air pollutants.

### Safer and healthier journeys

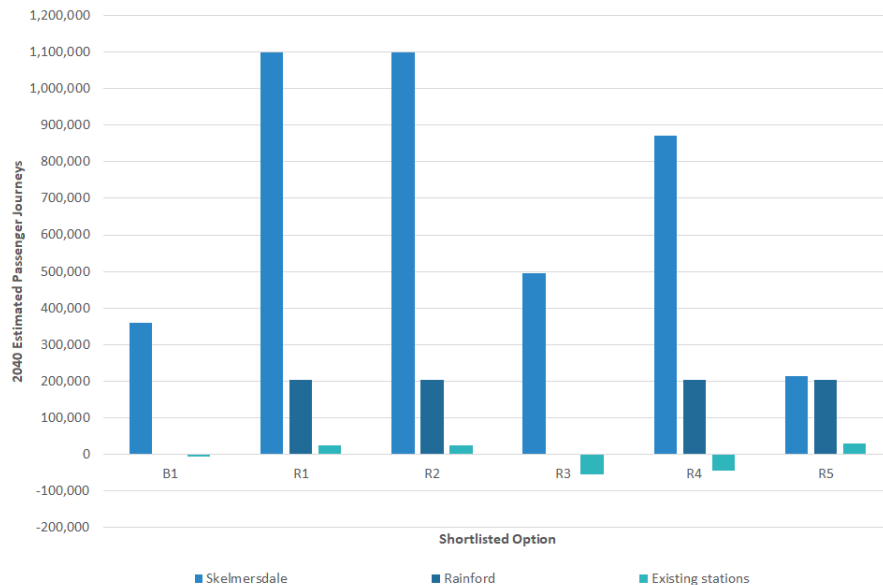
Mode shift will reduce the number of vehicles on the highway network and therefore the likelihood of accidents creating a safer environment for all road users, particularly more vulnerable road users such as pedestrians and cyclists. The promotion of walking and cycling to and from the link will contribute to enhanced health and wellbeing.

## 2 Economic Case Headlines

### 2.1 What demand?

Figure 2.1 shows that the best performing options are forecast to generate a net additional 1.3 million rail trips in 2040. While Skelmersdale is the main focus, the project also offers the opportunity to enhance services at Rainford station which is reflected in the totals.

**Figure 2.1: Shortlisted Options – Estimated 2040 Annual Demand**



<sup>1</sup> See: [Value for money framework \(publishing.service.gov.uk\)](https://publishing.service.gov.uk) for further detail on the expected impacts of transport investment.

### 2.2 Outcomes and impacts

Table 2.1 shows how the main expected outcomes (for the passenger) from the project are, in turn, expected to translate into both monetised and non-monetised impacts<sup>1</sup>.

**Table 2.1: Skelmersdale Rail Link Outcomes and Expected Impacts**

Outcome	Journey time changes	Journey quality	MECCs (accidents et al)	Physical activity	Reliability	WEIs	Townscape	Other non-monetised	Option and non-use values
Skelmersdale station hub, rail link, and service changes	●	●	●	●	●	●	●	●	●
Rainford station upgrade and service change	●	●	●	●				●	
Diversion of Northern services to Skelmersdale	●	●	●		●				
Enhancements to local walking and cycling routes	●	●	●	●			●	●	

Notes: ● = direct impact ○ = indirect impact (e.g. via demand change)

## 2.3 What cost?

Project costs include:

- Direct infrastructure expenditure to deliver the project;
- Whole Life Costs (WLCs) to renew the project assets;
- Operating Expenditure (OpEx) to maintain and operate the assets, including smaller scale regular renewals, including the services themselves.

The main sources of infrastructure cost line in:

- Civil engineering works, principally ‘ancillary civil works’ such duct paths, troughing, walkways etc. and the viaduct required to access the former Glenburn College site;
- Enabling works, e.g. ground stabilisation;
- Permanent way; and
- Train power systems, including cables and OLE equipment.

Due to the constraints imposed by the townscape, existing infrastructure, and the industrial legacy of the area, project infrastructure costs are significant for the rail alternatives. The following totals include risk allowance, but are exclusive of optimism bias:

**Table 2.2: Skelmersdale Rail Alternatives Infrastructure Cost Estimates (£000s in 2019 Q4 prices)**

Group Element	R1	R2	R3	R4	R5
<b>TOTAL</b>	<b>487,000</b>	<b>415,000</b>	<b>294,000</b>	<b>377,000</b>	<b>128,000</b>

## 2.4 Value for money

The economic appraisal metrics for each alternative are (in 2010 present values and prices):

Option	Present Value of Benefits	Present Value of Costs	Net Present Value	Benefit Cost Ratio
R1	184,000	407,000	-222,000	0.45
R2	184,000	347,000	-163,000	0.53
R3	51,000	281,000	-230,000	0.18
R4	138,000	328,000	-189,000	0.42
R5	49,000	155,000	-106,000	0.32
B1	36,000	25,000	11,000	1.42

At this SOBC stage, the potential Wider Economic Impacts (WEIs) have not been monetarily quantified. Based on location relative to existing development, land availability for future development, and links to surrounding regional centres, it is believed that WEIs will be:

- Maximised under options R1 and R2, with the difference between the two being linked to the LoS provided (R2 requiring subsequent investment to enable an enhanced LoS towards the LCR). This would be due to the:
  - existing land use proposals within the Local Plan and supplementary documents, coupled with the availability of additional land;
  - ability to serve areas with higher levels of deprivation and/or structural unemployment;
  - provision of direct services to both the LCR and GM; and
  - Place-making potential linked to complementary investment proposals.
- Lower under R4 but still significant, as there is land available around the hub to provide a masterplanned Transit Orientated Development (TOD);
- Much reduced with B1 due to the difficulties with stimulating inward investment through bus links; and
- Also much reduced under options R3 and R5, which would require the creation of new centres away from the existing town centre and therefore in competition. They would also only benefit a limited subset of the

existing population and generate much reduced gains in labour market metrics.

## 2.5 Value adding opportunities

There are five main project parameters which would be most likely to lead to a positive change in the material Value for Money (VfM):

- 1. Value engineering.** An initial assessment has been made of how project costs in options R1 could be reduced through minimum viable infrastructure provision in R2. The potential station location in option R4 (Thorn Island) is another means of seeking to reduce these costs. There may be further opportunities to re-examine scope for options R1 and R4 in order to drive down costs while delivering comparable outputs.
- 2. Land use change.** Options R1/R2 and, to a lesser extent, R4 offer significant opportunities for land use change. This would be in a comparable timescale to the expiry of the existing Local Plan which runs to 2027. If development beyond this horizon was proactively planned around the new connectivity provision, then there would be corresponding gains in passenger demand and the PVB provided.
- 3. Level of Service change.** 2tph to/from Liverpool and 1tph to/from Manchester is believed to be the minimum required to offer viable commuting alternatives to the residents of Skelmersdale. Kirkby, Maghull and Ormskirk are all served by 4tph to/from Liverpool Central, while GM stations serving comparable population would be expected to have 2+ tph. It seems likely there would be multiplier effects on the PVB by considering enhanced LoS in tandem with the localised land use change discussed immediately above.
- 4. Traction power.** Provision of OLE AC electrification is a costly component of the project. The LCRCA is currently trialling battery technology for the

new Class 777 MEL fleet. This may offer an alternative to OLE AC (or third rail DC which is unlikely to be authorised by the ORR) within the timescales of this project, e.g. the technology should be established by the 2020s and advances in efficiency and costs made.

- 5. Access package.** The benefits of this are wider than the users of the new transport links, potentially encompassing a multitude of local journey opportunities within Skelmersdale and providing further links to the overall place-making objectives and potential land use change for the town. Consideration of these impacts, and how they can be maximised, as part of the project is likely to lead to gains in the PVB and VfM provided.

Sensitivity testing of these opportunities shows that the BCR for R1 increase to 0.81 when these are considered collectively.

## 2.6 Options for further development

Based on the combined assessments in the Strategic and Economic Cases, the SOBC has identified three alternatives for further development, namely:

- R1 – the town centre location. This provides the largest monetised benefit but at the greatest cost. It is therefore critical that the potential opportunities for adding value (see Section 2.5) are investigated as part of the next steps (this includes evolution of the early work on R2);
- R4 – the Thorn Island location. Essentially linked to the value adding opportunities above, the option to curtail the alignment south of the town centre remains a valid option for further investigation, including value engineering opportunities; and
- B1 – provision of a shuttle or feeder bus service to/from Headbolt Lane, as the low cost alternative.

## Value for money statement

Skelmersdale, a town of 40,000 people with significant capacity for growth, has been left behind. Its residents experience a number of adverse socio-economic outcomes and inward investment is held back by a lack of medium to long distance connectivity. The project, and the options described in this SOBC, have been developed to **a catalyst for regeneration in the area, making the town a place where people choose to live, work, visit and invest**, with the following objectives:

- Reducing social isolation and exclusion;
- Enhancing access to opportunity;
- Stimulating regeneration and investment;
- Developing new options which contribute positively to carbon neutrality, net zero, and clean air; and
- Promote safer travel to, from and within the town.

Failure to address the connectivity 'gap' is likely to lead to deepening deprivation, continued high levels of unemployment, low levels of inward investment, and unsustainable travel choices. The option development and assessment considered a range of alternatives to generate change for Skelmersdale, and how complementary investment can and could link to the connectivity enhancement to enable lasting change. Investment in rail connections was identified as the most viable means of delivering the magnitude of change the town requires. Multiple options remain for achieving this, with the following broad components:

- Provision of a station or hub location which is as close to the centre as technically and economically viable, maximising the catchment, benefits, and potential to act as a catalyst for inward investment;
- Direct services to Liverpool, Manchester and Wigan to capitalise on the town's location at the core of the North West; and
- Enhancements to local walking and cycling routes to overcome real and perceived barriers to movement to and from the station or hub, while also catering for local travel.

Work has been undertaken by Network Rail to identify the scope of works required to deliver a centrally located option, and 'lighter touch' work has investigated alternatives to this. It is clear that the scope of works for a new rail link is likely to be in the £100s of millions, principally because both the local and strategic highway network impose highly significant constraints on the alignment and the work required. Environmental constraints, and issues around industrial legacy, exacerbate the challenge.

The assessment of the preferred option's costs and benefits has been undertaken in line with DfT's TAG suite, referencing both modelling and appraisal units. Cost have had appropriate risk and optimism bias adjustments applied. Taken together, the project benefits and costs for the preferred rail link to a central location result in a BCR of 0.45. This is considerate of 'established' impacts only (including only direct Level 1 economic impacts). The initial assessment is therefore 'Poor' VfM, falling below the 1.00 threshold; however, this is exclusive of non-monetised impacts, excluding both national and sub-national Wider Economic Impacts (WEIs). At this stage the monetised assessment therefore does not include the local economic impacts linked to place-making and the levelling up of the town within West Lancashire, the North West and the UK. Provision of a centrally located station (options R1, R2 and R4) is the means of delivering these place-based, transformational, impacts.

To achieve greater VfM a series of opportunities are available, including greater volumes of Transit Orientated Development (TOD) around the new hub, Value Engineered (VE) solutions, the use of batteries to avoid electrification costs, and a virtuous circle of increased Level of Service linked to greater volumes of demand from local development. Sensitivity testing has shown how the net UK VfM of the project can be greatly increased through positive movements across these inputs.