



Burnley and Pendle Strategic Outline Business Case

Environmental Report

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1.1 Scheme Description

Jacobs have been commissioned by Lancashire County Council (LCC) to undertake an economic and strategic assessment of the Burnley / Pendle Growth Corridor Improvements scheme, which involves minor road and rail facilities facility improvements, (ranging from changes to signals and signage, the inclusion of an additional entry/exit lane using the highway verge, creation of additional car parking spaces and a new park and ride), at 20 locations between Burnley and Pendle. This will support the formulation of a Strategic Outline Business Case (SOBC).

The Financial, Commercial and Management cases will be compiled by LCC, with Jacobs compiling the Strategic case and undertaking the economic assessment and value for money assessment to inform the Economic case. An element of peer review for the other three cases will be available to support the bid. Part of the SOBC is to determine the potential environmental impacts of the proposed improvements, which is reported in this environmental assessment report.

The location of proposed junction improvements is shown in Figure 1. A description of these is given in table 1 below.

Table 1 Description of proposed improvements

Key	Scheme	Programme name	Description and extent of proposed works
A	M65 junction 13	Junction 13 – improvements to both roundabouts	Signalisation of roundabouts – affects grassed verges/landscaping
B	M65 Junction 12	Junction 12 - includes nearby junctions	Signalisation of roundabout. – requires grassed verge for cycle lane
C	Kenyon Road/Churchill Way		Signalisation of T junction
D	Churchill Way/B&Q		Alteration of junction layout. No Signalisation.
E	Churchill Way/Manchester Road		No capacity changes just improvement for pedestrians and cyclists
F	Burnley Road/Halifax Road		Pedestrian and signal technology upgrade
G	Accrington Road/Bentley Wood Way	Junction 9 – Improvements to roundabout to south	Alteration of junction layout - slight Impact on grass verge
H	Rose Grove Lane/Accrington Road	Rose Grove A646/A679 signal junction	Alteration of junction layout & signal equipment. Also creation of Park & Ride , which requires adjacent land
I	Princess Way/Active Way	Burnley Town Centre junctions – A679/B6434, A679/Kingsway, A679/A682	Signalisation of roundabout
J	Bank Top /Active Way		Signal technology upgrade
K	Active Way/Church Street		Alteration of junction layout & signal technology upgrade
L	Westgate/Queens Lancashire Way	Burnley Town Centre junctions – A679/Queen's Lancashire Way	Signalisation of roundabout
M	M65 junction 8	Junction 8 improvements	Signalisation of roundabout
N	M65 junction 7	Junction 7 and Dunkenhalgh Way/Blackburn Road	Signalisation of roundabout
O	Dunkenhalgh Way/Blackburn Road		Alteration of junction layout & signal equipment
P	Blackburn Road/Petre Road		Signalisation of Priority Junction. Affects highway verge
Q	Hyndburn Road/Henry Street	Junction improvements-Junction 7 to Accrington centre	Alteration of junction layout & signal equipment

Key	Scheme	Programme name	Description and extent of proposed works
R	Hyndburn Road/Riding Barn Street		Signal technology upgrade
T	Rose Grove Railway Station	Rose Grove Station passenger facilities	Passenger facilities improvements.
U	Manchester Road Railway Station	Manchester Road Station car park	Increase in station car park capacity. – Utilises site of current ambulance station, which will be demolished.

Most of the junction improvements are localised junction or signal alterations, which would not involve any land take or removal of the verges. Some of the improvements will include the removal of verges, and at one location more significant land take will be required for a new Park and Ride, whilst for another location the demolition of an ambulance station will be undertaken to enable the extension of a railway station car park.

1.2 Purpose of Report

The purpose of this environmental assessment report is to identify potential environmental constraints at the location of proposed road and rail facilities improvements. Potential adverse or beneficial environmental impacts associated with the potential improvements are identified.

The baseline situation is identified and is then used to inform an overview environmental assessment.

The study area for this report considers the general Burnley and Pendle corridor, where the road and rail facilities improvements are located. The study area varies per environmental discipline and this is discussed in the sections 2.1 to 2.7.

A desk based review of web-based information has been undertaken in order to provide the baseline data for Burnley and Pendle corridor. A constraints plan, shown on Figure 2.1 to 2.8, has been produced to show the distribution of environmental constraints in proximity to the Burnley and Pendle corridor.

Some of the significant environmental constraints, such as designated sites have been identified within a buffer of 500m from the Burnley and Pendle corridor. However, the consideration of the localised impacts as the result of the improvements has focused on 100m buffer for the location of the proposed works. This environmental assessment has been carried out under the headings used in WebTAG. The assessment has been entirely qualitative, based on informed professional judgement and WebTAG guidance. Where appropriate and recommended by WebTAG, Highway Agency Guidance in Volume 11 of the Design Manual for Roads and Bridges has also been considered. Therefore the environmental assessment has considered the potential adverse and beneficial effects to the following environmental topics:

- Noise and Vibration;
- Air Quality;
- Greenhouse Gases;
- Landscape;
- Townscape;

- Historic Environment
- Biodiversity; and
- The Water Environment.

2.1 Noise and Vibration

Most traffic noise, for traffic flowing freely at moderate to high speeds, comes from the interaction of tyres with the road surface, and noise levels are directly related to speed.

As described in section 1.1, the road and rail facilities improvements are focused mostly on junction layout improvements as well as signalling. This would not increase the daily average speed of vehicles travelling along the junctions where junction improvements are outlined.

Associated with most of the road and junctions improvements there are a number of receptors, within 100m of the improvement location, that would be sensitive to increases in noise. These include residential properties, commercial and retail businesses, users of recreational facilities and schools/colleges.

Road widening for junction improvements could move the traffic closer to these sensitive receptors located near the existing road, which could increase noise and vibration.

The construction of the Park and Ride at Rose Grove Lane/Accrington Lane improvement (location H), would involve the creation of a car park.

The Manchester Road Railway station improvements, involves the demolition of an ambulance station for the extension of the car park (location U).

Both of these improvements would affect traffic flows, which could cause an adverse effect, in terms of traffic related noise and sources of car park user noise (such as opening and closing doors), which would affect the nearby residential properties.

2.2 Air Quality

Within the Burnley and Pendle corridor there are Air Quality Management Areas (AQMA) that have been designated in terms of NO_x (as NO₂) pollutants. The AQMA Colne is located on Windsor Street, Colne and Shipton Road, Colne between the junction with Windsor Street/Byron Road and Temple Street/Oak Street. The Duke Bar AQMA is located on an area around the junctions of Briercliffe Road with Colne Road and Swinless Street in Burnley. Both of these AQMAs are located more than 500m away from the road and rail facilities improvements works and therefore would not be affected by the proposed improvement works.

Associated with most of the road and rail facilities improvements there are a number of receptors, within 100m of the improvement location, that would be sensitive to decreases in air quality. These include residential properties, commercial and retail businesses, users of recreational facilities and schools/colleges.

Road widening for junction improvements could move the traffic closer to properties located near the existing road, which could be affected by reduced air quality. This will be small scale and localised.

For the construction of the Park and Ride at Rose Grove Lane/Accrington Lane improvement (location H), would involve the creation of a car park. This potentially would affect traffic flows along Accrington Lane, which could cause an adverse effect on the nearby residential receptors, due to idling traffic emissions.

The Manchester Road Railway station improvements, which involves the demolition of an ambulance station for the extension of the car park (location U), would affect traffic flows, which could cause an adverse effect, due to idling traffic emissions, which could affect the nearby residential properties.

2.3 Greenhouse Gases

Lancashire's Environmental Policy and Climate Change Strategy specify their commitment to reducing greenhouse emissions, notably carbon dioxide and methane¹.

The road and junction improvements are expected to increase the embedded carbon due to the need for construction works. The increased embedded carbon would be the cumulative effect for all road and junction improvements. However, the construction works would not be significant or extensive. As a result, each one would probably be very minimal in its impact. Moreover, none of the junction improvements would reduce efficiency as fuel/km hour is not expected to change. As a result, the adverse impact on non-traded carbon emissions is expected to be minimal.

2.4 Landscape

In general, the Burnley and Pendle corridor falls within the following LCC character areas²:

- Industrial age;
- Industrial foothills and valleys;
- Suburban; and
- Historic core.

In general the character of these areas would be considered to comprise a complex transitional landscape of relatively small scale with intensive settlement. Main features include:

- Gentle landform and varied vegetation cover;
- Rural agricultural and industrial land uses;
- Trees thriving around farmsteads, along stone wall boundaries;
- Fields enclosed by gritstone walls or hedgerows; and
- Network of narrow winding lanes and major roads linking settlements along the valley floor.

¹ <http://www.lancashire.gov.uk/media/197545/Environment-Policy.pdf>. and [http://www.lancashire.gov.uk/media/190306/Lancashire_Climate_Change_Strategy_2009_2020.p
df](http://www.lancashire.gov.uk/media/190306/Lancashire_Climate_Change_Strategy_2009_2020.pdf)

² Landscape Strategy for Lancashire – Landscape Character Assessment', (2000).

There are no national parks and Areas of Outstanding Beauty (AONBs) within 500m of the Burnley/Pendle growth corridor.

Associated with most of the road and rail facilities improvements there are a number of receptors, within 100m of the improvement location, that would be sensitive to visual impacts. These include residential properties, commercial and retail businesses, users of recreational facilities, schools/colleges and users of Public Rights of Way.

The improvements proposed could have visual impacts on sensitive receptors located within 100m or near to the existing scheme area. These impacts would largely be down to the removal of vegetation, especially on the verges, which would reduce the screening effect. These adverse impacts are envisaged to be minor.

More extensive vegetation removal, including the removal of trees and hedgerows would be associated with the construction of the park and ride at Rose Grove Lane/Accrington Lane (location H). This would have a moderate adverse effect on the local landscape character and screening effect to residential receptors within 100m. There is also likely to be lighting associated with this development, which would have a further visual effect.

The Manchester Road Railway station improvements, which involves the demolition of an ambulance station for the extension of the car park (location U), would be a change of use which would also have a slight adverse impact on the local landscape character at this location.

2.5 Townscape

The Burnley / Pendle Growth Corridor road and rail facilities improvements pass through a number of settlements. Road and rail facilities improvements within these settlements could have an impact on townscape especially in areas where there are likely to be localised widening of roads, (which could bring the road and traffic closer to properties) or land take.

An adverse impact would be associated with the construction of the Park and Ride at Rose Grove Lane/Accrington Road improvement and the Burnley Manchester Road Railway Station improvements. The proposed demolition of the Ambulance station to accommodate for the expansion of the Burnley Manchester Road Station car park would have an adverse impact on townscape. However, the impacts are considered to be slight adverse.

2.6 Historic Environment

The historic environment comprises historic buildings, scheduled monuments, historic towns, with different historic landscape character and historic settlements. Impacts can be direct, through construction activities, or indirect as a result of activities during both construction and operation that affect the setting and the context of a site. These can include but not limited to, physical severance, significance change to the visual aspects of a site or through changes in the level of noise and vibration.

There are a number of designated heritage assets within the 100m buffer zone around each proposed improvement location, as outlined below:

- Listed buildings: There are 6 grade II listed buildings associated with improvement location K, whilst there are 4 grade II listed buildings associated with improvement location J. There are two grade II listed buildings associated with improvement locations L and F, whilst there is one grade II listed building associated with improvement location I.
- Historic town management guidance: improvement locations I, J and L (all within Burnley) are located within a Medieval/post medieval settlement area.
- Historic landscape character: Improvement location M, 'M65 J8 junction' falls within an area classified as a post Medieval Enclosure with an ancient and post medieval Woodland where Hapton Castle remains exists today. Improvement locations N, U and P are located within in an area classified as an ancient and post medieval Ornamental area.
- Registered parks and gardens: There is one registered park/garden just within 100m of improvement location K.

The improvements could have some adverse impacts on the fabric, setting and context of these heritage assets. However, given the scale of the improvements and that most would only involve alteration of junction layout and signalisation upgrade; these impacts are likely to be minimal.

The construction of the junction improvement could cause physical damage to buried archaeological remains. The construction of the Park and Ride on a relatively undisturbed area, may have buried archaeological remains, therefore the proposed works here would have a moderate adverse effect.

2.7 Biodiversity

There are two Local Nature Reserves (LNR) within the Burnley and Pendle corridor. These are Lowerhouse LNR and Foxhill Bank LNR. Both of these are located more than 100m away from the improvement locations, and therefore they are not considered to be affected by the proposed works.

There are a number of Biodiversity Action Plan (BAP) Priority Habitats, (comprising deciduous woodland and lowland dry acid grassland) within 100m of the following proposed improvement locations:

- M65 J13 (location A);
- M65 J12 (location B);
- Improvement locations I, J, K and L within Burnley Town Centre;
- Rose Grove Rail facilities Station improvement (location T and H);
- Accrington Road/Bentley Wood Way (location G);
- M65 J8 (location M);
- M65 J7 (location N) and Dunkenhalgh Way (location O); and
- M65 to Accrington Town Centre (location Q and R);

No international, European or national designated habitats are within 500m of the proposed improvements.

Associated with some of the improvements there would be small scale land take and localised vegetation removal of the grassed verges. Impacts are expected on grass verge on the M65 junction 13, M65 Junction 12 and the Accrington Road/Bentley Wood Way junction improvements. The impact on biodiversity is expected to be minimal due to the work mostly involving signalisation upgrade and alteration of junction layout.

The construction of the Park and Ride at Rose Grove Lane/Accrington Lane (location H) the Rose Grove Lane/Accrington Road Railway Station would require extension land take, which would include the removal of trees and hedgerows. These features are likely to provide refuge, habitats and breeding sites for numerous species, including protected species such as bats, badgers and birds (European and UK). There appears to be a 'green corridor' immediately to the north of this site, which would provide a foraging route for many of these species. Therefore, this land take and vegetation removal could lead to the direct loss / disturbance of habitats; mortality of individual animals; fragmentation of habitats and populations of species; which would cause a moderately adverse effect.

2.8 Water Environment

There are a number of significant watercourse within the Burnley and Pendle corridor that are located within 100m of the proposed improvement locations. These are listed below:

- Pendle Water – improvement locations A and C;
- Edge End Brook (tributary to Pendle Water) - improvement location E;
- River Calder – Location I and
- River Hyndburn – Location R.

All of these improvement locations are therefore located with flood zone 2 or 3. The proposed improvements at these locations are unlikely to change the impermeable area and therefore would not increase runoff and therefore will not increase flood risk.

The Burnley/Pendle Growth Corridor improvements lies above an area between Secondary A and (undifferentiated) aquifers. Secondary A aquifer in the superficial deposits and is highly vulnerable to groundwater contamination. The proposed works are unlikely to cause an impact on this aquifer, as the proposed works will be small scale and would not cause any spillages or runoff that would affect it.

The environmental assessment and the potential effects from the proposed improvement works, is summarised in the Appraisal Summary Table shown in table 2 below.

Table 2: Appraisal Summary Report

Environmental Impacts		
Impact	Qualitative Assessment	
Noise	Road widening for junction improvements could move the traffic closer to properties located near the existing road, which could increase noise and vibration. Associated with the new Park and Ride and extension of the Ambulance car park there would be an affect on traffic flows, which could cause an adverse effect, in terms of traffic related noise and sources of car park user noise (such as opening and closing doors), which would affect the nearby residential properties. This would cause a potentially moderate adverse effect.	-2
Air Quality	Road widening for junction improvements could move the traffic closer to properties located near the existing road, which could be affected by reduced air quality. This will be small scale and localised. The new Park and Ride and extension of the Ambulance car park would affect traffic flows, which could cause an adverse effect on the nearby residential receptors, due to idling traffic emissions. This would cause a potentially moderate adverse effect.	-2
Greenhouse Gases	The junction improvements would increase embedded carbon.	-1
Landscape	<p>The junction improvements could have:</p> <ul style="list-style-type: none"> • Adverse landscape and visual impacts on sensitive receptors located adjacent to the improvements, especially associated with the new Park and Ride. • Adverse impacts on local landscape character due to the loss of roadside trees and hedgerows • Adverse impacts on local landscape character associated with the change of use from Ambulance station to new car parking. <p>These impacts are considered to be slight to moderate adverse.</p>	-2
Townscape	Potential for adverse impacts on townscape as a result of road widening. These impacts are unlikely to be significant.	-1
Historic Environment	<p>The junction improvements would require some land take. Excavation works in the area of land take could cause physical damage to buried archaeological remains. The potential discovery of unknown archaeological remains is a significant risk in this area, due to its archaeological significance.</p> <p>The junction improvements could have some adverse impacts on the fabric, setting and context of various heritage assets located adjacent or near the improvement locations. However, given the scale of the improvements, these impacts are unlikely to be significant.</p>	-1
Biodiversity	<p>Land take could lead to the direct loss, severance and fragmentation of habitats and populations of species. It could also have adverse effects on foraging and breeding success. Most of the improvements involve a small amount of land take and therefore the associated adverse impacts are not expected to be significant.</p> <p>For the Park and Ride, there will be quite extensive vegetation removal, which is considered to have a moderate effect on habitat and protected species.</p>	-2
Water Environment	<p>The proposed improvement work will not increase flood risk, even though some of the locations fall within flood zones 2 or 3.</p> <p>The works would not affect the secondary A aquifer that underlays the Burnley and Pendle corridor.</p>	0
+3	Large beneficial impact	
+2	Moderate beneficial impact	
+1	Slight beneficial impact	
0	Neutral impact	

Environmental Impacts	
Impact	Qualitative Assessment
-1	Slight adverse impact
-2	Moderate adverse impact
-3	Large adverse impact

Figures

Figure 1

Site Location

Figures 2.1 - 2.7

Environmental Constraints