

Midland Metro

6.6

Landscape and Visual Impacts

6.6.1 Introduction

The proposed Wednesbury to Brierley Hill scheme has the potential to result in impacts upon landscape character, landscape resources and visual amenity. The route is confined to a largely urban environment and, as a result, the term townscape has been used in this section of the ES to describe the landscape of the assessment area. Townscape is defined as the physical and social characteristics of the built and unbuilt urban environment and the way in which we perceive those characteristics.

The new scheme will give rise to impacts, which may be positive or negative according to the nature, quality and sensitivity of the existing baseline environment. Impacts on visual amenity will affect viewers depending on their identity and sensitivity, and may be temporary or long term.

In this section only the long term and permanent impacts are discussed. Construction and short term impacts are discussed in *Section 7.6*.

6.6.2 Assessment Methodology

The landscape and visual impact assessment has been prepared in accordance with good practice, as described in the *Guidelines for Landscape and Visual Impact Assessment* produced jointly by the Landscape Institute and the Institute of Environmental Management and Assessment ⁽⁴¹⁾.

A clear distinction has been drawn between impacts on townscape character and visual impacts:

- Townscape impacts relate to the effects of the proposals on the physical and other characteristics of the townscape and its resulting character and quality.
- Visual impacts relate to the effects on the views from visual receptors (eg residents, workers, tourists etc) and on the amenity experienced by those people (sometimes referred to as visual impact receptors).

Due to the complexities of a relatively flat urban environment, a Zone of Visual Influence (ZVI) has not been prepared. However, properties with significant views of the scheme were identified during a walk over survey.

Photomontages have also been prepared to show the main visual impacts of the scheme. These are presented in *Figures 6.6, 6.7, 6.8 and 6.9*.

6.6.3 Assessment Criteria

Overview

Levels of impact significance are identified as being either of no significance, slight, moderate or substantial significance. The level of impact depends on both the sensitivity of the townscape or viewer to change and the magnitude of change. Definitions of receptor sensitivity and impact magnitude are presented in *Tables 6.24 and 6.25*. Definitions of impact significance are presented in *Table 6.26*.

Evaluation of Receptor Sensitivity

The sensitivity of the townscape depends on its inherent nature, quality, condition and ability to accommodate change, and on any specific values (such as townscape designations) that may apply ⁽⁴²⁾.

The sensitivity of viewers depends on their occupation or activity, distance from the development, expectation and viewing opportunity. Hence a resident with a permanent view is considered to be of higher sensitivity than people at their place of work with only a passing interest in the environment.

Sensitivity is described as low, moderate or high. The following definitions, as detailed in *Table 6.24*, apply.

Table 6.24 Definitions of Receptor Sensitivity

Sensitivity	Receptor	Definition
Low	Townscape Visual	A townscape which is not valued for its scenic quality, does not have a distinctive character and is tolerant of change. Viewers with a passing interest in their surroundings, eg motorists or people in their place of work or distant visual receptors.
Moderate	Townscape Visual	A moderately valued townscape, perhaps a locally important townscape, tolerant of some change. Viewers with a moderate interest in their environment such as users of recreational facilities.
High	Townscape	A townscape of particularly distinctive character or one which is highly valued for its scenic quality and is intolerant of change.

Visual	Viewers with proprietary interest and prolonged viewing opportunities such as residential receptors.
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Evaluation of Impact Magnitude

The magnitude of impact on townscape or visual receptors depends on the nature and scale of the development. The magnitude of impact is described as being either low, moderate or high.

The following definitions, as detailed in *Table 6.25*, apply.

Table 6.25 Definitions of Impact Magnitude

Magnitude of Impact	Receptor	Definition
Low	Townscape Visual	Minor loss of or alteration to one or more key elements/characteristics of the baseline townscape or introduction of elements which may not be uncharacteristic when set within the attributes of the receiving townscape. Few viewers affected by minor changes in views of the townscape (as defined above).
Moderate	Townscape Visual	Partial loss of or alteration to key elements/characteristics of the baseline townscape or introduction of elements that may be prominent but may not necessarily be considered to be uncharacteristic when set within the attributes of the receiving townscape. A moderate number of viewers affected by moderate changes in views of the townscape (as defined above).
High	Townscape Visual	Total loss of or major alteration to key elements/characteristics of the baseline townscape or introduction of elements considered to be totally uncharacteristic when set within the attributes of the receiving townscape. A large number of viewers affected by major changes in views of the townscape (as defined above).

Evaluation of Impact Significance

Impact significance is determined by cross referencing the sensitivity of the townscape or viewer with the magnitude of change expected as a result of the development. Thus a substantial impact will occur where both sensitivity of the townscape or viewer and the magnitude of the impact are high.

Impact significance is described as being substantial, moderate, slight or of no significant impact. Significant impacts can be either positive or negative. The following definitions, as described in *Table 6.26*, apply.

Table 6.26 Definition of Levels of Impact Significance

	High Magnitude of Townscape or Visual Change	Moderate Magnitude of Townscape or Visual Change	Low Magnitude of Townscape or Visual Change
High Townscape or Viewer Sensitivity	Substantial	Moderate/Substantial	Slight/Moderate
Moderate Townscape or Viewer Sensitivity	Moderate/Substantial	Moderate	Slight
Low Townscape or Viewer Sensitivity	Slight/Moderate	Slight	No significant impact

6.6.4 Statutory Landscape Policies and Designations

Overview

No parts of the study areas are designated for their international, national or regional landscape importance. Local landscape policies and designations are covered by the Sandwell UDP ^(L43) and the Dudley UDP ^(L44). A detailed assessment of plans and policies is made in *Section 4* of this ES. Some key policies of particular relevance to townscape are highlighted below.

Borough of Sandwell

The proposed alignment does not pass through or adjacent to areas designated for their landscape or historic value within the Borough of Sandwell. However, the alignment does cross a number of established canals. Policy DC4 of the UDP states the Council's intention that any new development on, over or alongside canals should respect the canal history and character.

Borough of Dudley

Policy HE1 seeks to protect the local character and distinctiveness of the region. The policy states that “proposals that would result in the loss of physical features whether man-made or natural that strongly contribute to the local character and distinctiveness of the Borough's landscape will be resisted”.

Conservation Areas and Setting of Historic Features

The proposed scheme runs through a corner of The Castle Hill Conservation Area and across the Parkhead Viaduct in the Parkhead Locks Conservation Area. It also runs in close proximity, but not directly through, the Priory Street Conservation Area in Dudley town centre.

Policy HE4 of the Dudley UDP seeks to safeguard and enhance approved conservation areas. Development that will be detrimental to the character or setting, and proposals which could prejudice views into or out of conservation areas, will be resisted by the Council. The policy states that the Council ‘will require the use of building materials appropriate to the conservation area in all new development.’

Outwith the conservation areas, there are a number of listed buildings adjacent to the route. *Policy HE6* states that development that is detrimental to the setting of such buildings will be resisted. Similarly, *Policy HE9* stresses that Scheduled Ancient Monuments (SAMs) and other sites of national importance should remain intact and their setting preserved (see also *Section 6.8 Archaeology and Cultural Heritage*).

Castle Hill

Castle Hill is designated a Special Landscape Heritage Area in Policy HE3, by virtue of its unique historical, geological, landscape and tourism value, and is also a SAM. Although the proposed alignment passes within close proximity of the site at Castle Hill, the scheme does not pass through the designated area.

With regards to the setting of Castle Hill, policy HE3 of the Dudley UDP states that ‘within the open landscape, the Council will prevent any development, or other works taking place, which would be detrimental to the character, quality or historic integrity of the landscape’.

Open Space and Trees

The Castle Hill area and Parkhead Locks are part of a network of linear open spaces identified in the Dudley UDP. Policy SO2 protects these areas of linear open space and states that the Council will resist development that would be detrimental to their character.

Trees and woodland are afforded protection under Policies NC9 and NC10. The policies state that development that would adversely affect ancient woodland will not be permitted, with other woodland being protected and appropriate management encouraged. Where loss of mature trees is unavoidable, they should be replaced by the appropriate native species.

6.6.5 Baseline Townscape Character and Landscape Resources

Overview

Baseline information on the landscape of the area was collected through a desktop study of maps, plans and documents, followed by field surveys by ERM in June 2002.

The study area lies within the Cannock Chase and Cank Wood national landscape character area ^(L45). The landscape character description for this area focuses mainly on the rural surroundings of the urban fringe and gives little description of the urban townscape although references are made to it. These designations were thus considered to be too general to be of practical use in terms of identifying locally important townscape characteristics.

Dudley Borough Landscape And Townscape Character Study

A Landscape and Townscape Character Study of Dudley Borough was undertaken in 2000 and the report forms supplementary planning guidance. The proposed route runs through three of the eight character areas identified in the borough.

The section of the route that follows the existing railway to the north east of Dudley is in the ‘*Coseley Corner Character Area*’. The report identifies this area as being on a north and east facing slope. It also recognises the influences of the areas industrial past in shaping the townscape but states that the current character is dominated by large housing estates and commercial activity.

The section of the route between Castle Hill and Cinder Bank falls within the ‘*Limestone Ridge Character Area*’. The report defines the area as being an elevated ridge commanding extensive views of its surrounds and a dominant feature in the wider landscape. Although the landscape has large open and wooded areas, 20th century influences are identified as important features of the townscape.

Beyond Cinder Bank through to Brierley Hill, the remainder of the route falls within the ‘*Pensnett Chase Character Area*’. The report recognises this

area as the industrial heartland of the borough. The report also states that rapid industrialisation and subsequent decline has influenced the townscape, which is now dominated by redeveloped industrial land uses, residential estates and retail. Extensive views to the south and west are identified.

Within these 'Character Areas', the report identified various 'landscape character types' which occur throughout the borough. Of note is the fact that Dudley is recognised as having mixed building types dating from the 15th to the 20th century with largely linear streets and three to four storey structures which are used for predominantly commerce and retail. Also identified are major industrial areas such as iron works, post 1930's residential estates and commercial estates, shopping complexes and trading estates.

Character Zones

The national landscape classification and the Dudley Landscape and Townscape Character Study formed the basis for a more detailed townscape assessment along the entire route of the proposed Midland Metro. This identified six distinct townscape character zones (CZs). As the assessment was focussed along a linear route, definitive boundaries to these zones have not been identified except along the route of the proposed scheme. CZ descriptions focus mainly on the route itself and the immediate surrounding land use. These CZs are shown in *Figure 6.4* in *Volume 2* and described below. It should be noted that these CZs are specific to the landscape and do not correspond to the sections of the route used throughout the rest of the report.

Townscape and visual resources within the vicinity of the proposed alignment are illustrated in *Figures 6.5a* to *6.5g* in *Volume 2* of this ES.

Character Zone 1: Wednesbury Industrial Estate

The Wednesbury Industrial Estate CZ is centred along the mothballed heavy rail line from Wednesbury Great Western Street to the Black Country New Road overbridge.

The route of the Metro alignment is along an existing railway line, which has not been in use for around 10 years ago. This has resulted in a linear route with some regenerating scrub species colonising the track and spreading particularly from the adjacent slopes. The embankments vary in the quality of vegetation they support from overgrown grassland to mature trees.

As the track is on embankment at this location there is an open character, which is dominated by adjacent land uses. Heavy industry and storage units, some of which are derelict, landfill sites and a large electricity sub station give the area an industrial character. However, the regenerating embankments, a number of balancing ponds to the west of the track and some reclaimed sites establish a green corridor through this otherwise degraded area.

Although the railway track is a locally important green corridor, the general quality of the CZ is of poor townscape quality, tolerant of change and therefore of low sensitivity.

Character Zone 2: Horseley Heath

The Horseley Heath CZ continues along the heavy rail line from the Black Country New Road overbridge to the Birmingham Canal.

The route of the Metro alignment is along the same railway as in CZ 1. The route runs into existing cutting approximately 3-5 m below the surrounding townscape. This cutting has relatively steep slopes with mature vegetation in places, regenerating scrub elsewhere and grassland in some areas. In places scrub has started to recolonise the track. A significant section of the route, between Horseley Road and East Park Lane is in deep cutting of 5-7 m and has vertical red brick retaining walls. A number of roads cross over the track and fly tipping is common along the entire section giving the route an untidy and overgrown appearance. Above the cutting, modern housing estates are evident and some large industrial units loom over the route.

Although the railway track is a locally important green corridor, the general quality of the route in this CZ is unkempt and of poor townscape quality. It is tolerant of change and therefore of low sensitivity. The wider residential townscape is of moderate sensitivity to change as it is of higher townscape quality.

Character Zone 3: Dudley Port/Burnt Tree

The Dudley Port/Burnt Tree CZ continues along the heavy rail line from the Birmingham Canal to Castle Hill.

The route of the Metro alignment is along the same railway corridor as in CZ 1. However towards the eastern end of the CZ, the alignment leaves the railway line and swings across a derelict development site to join Castle Hill. Up to where the alignment leaves the existing railway, the route is on embankment, has an open aspect and towers over residential areas. There is also some light industry on either side of the track in this area. The embankments have varying amounts of vegetation, which in places comprises mature native trees and shrubs and in others comprises scrub and rough grass. In places scrub has started to recolonise the track. The overall character is that of a disused, overgrown and in places untidy embankment running through a residential area.

Where the alignment leaves the existing railway, it runs across a derelict development site which is of poor townscape quality despite its bands of mature vegetation around its perimeter. Dudley MBC proposes to develop this site for mixed-used purposes. Castle Hill is designated as a Special Landscape Heritage Area and is also a conservation area. Although the proposed alignment does not pass through the Special Landscape Heritage Area, the route does cross the Castle Hill Conservation Area. The mothballed railway is a locally important green corridor. However, the general quality of the route in this CZ is unkempt and of poor townscape quality. It is tolerant of change and therefore of low sensitivity. The wider residential townscape is of moderate sensitivity to change as it is of higher townscape quality. The conservation area is however, highly sensitive to change.

Character Zone 4: Dudley

The Dudley CZ runs from Castle Hill, through Dudley town centre and along the Dudley Southern Bypass to the roundabout with Cinder Bank.

The character of this zone, from Castle Hill to the Churchill Shopping Precinct, is a low rise town centre comprising mainly post war buildings fronting onto the main roads but with some older red brick buildings set back from the road with private grounds and mature trees. Between the shopping centre and Cinder Bank, modern utilitarian style retail buildings are located next to a busy bypass which has wide grassed verges.

The town centre is typical of many local shopping centres and buildings adjacent to the Dudley Southern Bypass are typical of many retail parks. Generally, the CZ is of low sensitivity to change but a group of buildings are included in the Castle Hill Conservation Area. Changes in townscape along Castle Hill could also have an impact on the setting of the Castle Hill Special Landscape Heritage Area, and thus the whole street is highly sensitive to change.

Character Zone 5: Parkhead

The Parkhead CZ is focussed along the existing disused railway from the point where the alignment rejoins the tracks at Cinder Bank to where it crosses the Dudley Canal in the old Brierley Hill iron works.

The route of the Metro alignment is along an existing railway line which is now largely disused, although the southern most section is still used for shunting railway stock. The railway line, which is at approximately the same level as the surrounding landform, runs through a heavily industrial area with little but chain link fencing to separate the corridor from the adjacent utilitarian warehouses and factories. The overall topography is gently sloping away to the south east, and where there are gaps between factory units, glimpses of the industrial valley below are possible. Vegetation along the corridor is more sparse than along the previous sections of the route and small clumps of scrub are confined to the edges of the track.

The one exception to the general character of the CZ is the Parkhead Viaduct. This is a red brick viaduct over a small valley which contains the Dudley Canal and the recently regenerated locks, designated as the Parkhead Conservation Area. The elevated position of the structure is open, exposed and permits views of the industrial estate below and along the landscaped valley which has retained its 19th century industrial character. A housing estate looks down on the viaduct from the north west.

Apart from the Parkhead viaduct section of the route, which is highly sensitive to change due to its designation as a Conservation Area, the general character of the CZ is run down and of poor townscape quality. It is therefore of low sensitivity to change in the townscape.

Character Zone 6: Waterfront

The Waterfront CZ is focussed around the redevelopment of the Dudley Canal and Waterfront Development at Brierley Hill. This area of regeneration has large modern brick office blocks, restaurants and retail units centred on a reconstructed canal basin and docks. Amenity planting lines the new roads and canal sides and there is substantial open car parking.

The townscape has a newly developed character and is well maintained. It is typical of many late 20th century industrial redevelopments and is moderately sensitive to change in the townscape.

6.6.6 Areas of Potential Visual Impact

In each of the CZs the visual receptors have been identified (people with a view of the development). The nature of these views and their sensitivity has been recorded in *Table 6.29*.

Visual receptors are illustrated in *Figures 6.5a to 6.5g*.

6.6.7 Townscape and Visual Mitigation Measures

Where it is necessary to widen the railway corridor, existing vegetation will be removed to accommodate the works. Wherever possible, widening works have been restricted to one side of the railway corridor in order to minimise the extent to which existing vegetation is removed. Where vegetation is removed, a landscaping scheme will be prepared during the detailed design stage. However, as discussed in *Section 2.5*, Network Rail and the SRA is proposing to reopen the heavy rail twin-track route which follows the mothballed railway corridor from Round Oak to Bescot as part of a freight-only through route. If this scheme is implemented, it will be necessary to ensure that all replanting of vegetation associated with the Wednesbury to Brierley Hill scheme is in accordance with Network Rail standards ⁽⁴⁶⁾. In particular, the specification relating to the management of lineside vegetation requires the provision of a 'cess strip' on each side of the tracks, which is cleared of all woody vegetation. Where practicable, the cess strip should be 5 m wide, measured from the nearest rail on which trains may pass. As a result, it will not be possible to provide replacement planting within 5 m of the proposed heavy rail alignment. In addition, it should be noted that existing vegetation within 5 m of the proposed heavy rail alignment, which is not affected by the proposed Wednesbury to Brierley Hill scheme will be cleared as part of any future implementation of the heavy rail scheme.

The following mitigation will be implemented at part of the proposed Wednesbury to Brierley Hill scheme.

- Ornamental/amenity vegetation will be planted around tram stops and at park and ride sites where appropriate.
- Where possible, and in accordance with the Network Rail specification referred to above, planting will be provided in the following locations:
 - from Walsall Canal to Horseley Heath, adjacent to properties on Eagle Lane, Bramah Way, St Helen's Avenue and Heath Close, including the proposed park and ride site at Horseley Heath;
 - from Lower Church Lane to the West Coast Main Line, including the proposed park and ride site in this location;
 - from the West Coast Main Line to Conegre Road, adjacent to properties on Jays Avenue, Carnegie Avenue and Tudor Court;
 - from Victoria Park to Sedgley Road East, adjacent to Binfield Street;
 - from Sedgley Road East to the Birmingham Canal, and from the canal to Birmingham New Road, adjacent to properties on Lindley Avenue, Mayfair Gardens and Birmingham New Road;
 - adjacent to the New Road proposed park and ride site;
 - from Parkhead Locks to Pedmore Road adjacent to properties on Holly Hall Road, Wood Street and Buxton Road; and
 - from Pedmore Road to Hart's Hill, adjacent to properties on Cochrane Road.

- A barrier will be provided adjacent to properties on Tudor Court to provide visual screening to properties to the east.
- High quality paving and road surfacing will be laid along the alignment of the scheme through Dudley, Merry Hill, the Waterfront development and Brierley Hill. New street furniture will be of high quality and new street trees and amenity planting will be provided to enhance the setting of the tram and replace existing trees, where these are removed.
- The detailed design of the sheet pile retaining wall between The Embankment and the Dudley Canal will be agreed with Dudley MBC.
- A screening fence or wall will be provided at the rear of stops where these are located on the railway corridor to screen properties from stops.
- Appropriate lighting (eg cowled downlighters) will be used at stops, park and ride sites and walkways to minimise light spillage at adjacent residential properties.

6.6.8 Townscape and Visual Impacts

General

The Wednesbury to Brierley Hill scheme will give rise to the following townscape and visual impacts.

- Introduction of overhead electricity cables, supporting infrastructure and tracks at surface level.
- Introduction of stop infrastructure (ie shelters, signage and seating).
- New surfacing where the tracks deviate from existing rail corridors, including high quality pedestrian paving along streets in Dudley and Brierley Hill.
- Tram movement along old rail corridors and throughout Dudley town centre and at the Waterfront in Brierley Hill.
- Introduction of park and ride sites.
- Widening of rail corridors including embankments in places.
- Introduction of new retaining structures including gabions, reinforced concrete retaining walls and sheet piling in Brierley Hill.
- Removal of pedestrian footbridge in Dudley town centre and other minor structures along the route.
- Reconstruction of various bridges including Parkhead Viaduct.
- Provision of lighting at stops and on ramps and stairs used to access stops and at park and ride sites.
- Removal of vegetation along existing disused rail corridors and planting of replacement vegetation at the edges of the line. Refer also to *Section 6.7 Nature Conservation* for further information on the quantity and quality of vegetation lost as a result of the scheme.
- Removal of existing street trees and planting of new ones. The exact location, number, age and species of trees to be removed is detailed for each character zone in the assessment of townscape impacts section.
- As a result of the operational noise associated with the scheme, it may be necessary to construct noise barriers to screen residential properties from the alignment, as described in *Section 6.4.10*. The requirement for noise barriers will be investigated further during the detailed design of the scheme, taking into account the potential for visual impacts to occur and in subject to approval of Sandwell MBC/Dudley MBC as appropriate.

Midland Metro Depot

As described in *Section 2.6.6*, the proposed scheme will utilise the existing depot facilities at Wednesbury, which currently serve Line 1. However, in order to accommodate the Wednesbury to Brierley Hill scheme, it will be necessary to expand the existing services at the depot. These works will take place within the boundary of the existing site and no additional land take will be required. The depot is located in a primarily industrial environmental, and as a result, no significant impacts on townscape resources or visual impacts are expected to occur as a result.

6.6.9 Assessment of Impacts on Townscape Character Zones and Landscape Resources

Overview

The construction of the scheme will require the removal of some existing vegetation. Where it is possible to provide replacement planting in accordance with Network Rail standards as described above, this will take time to fully establish. For this reason an assessment has been made of the impacts on townscape character both at year of completion and also 15 years after completion by which time it is assumed that vegetation will have reached a state of semi-maturity.

Character Zone 1: Wednesbury Industrial Estate

The development will introduce tram movement into a railway corridor that has not been used for around 10 years. As a result, no significant impacts are expected to occur due to the introduction of tram movement. The introduction of overhead power lines and other infrastructure will be a slight significant negative impact on the current townscape character, which is of low sensitivity to change.

To accommodate the tram and the freight line, there will be a widening of the embankment. However as the embankment is already an accepted part of the townscape in this CZ, the widening will have no significant impact.

There will be significant removal of existing scrub and regenerative vegetation on the existing embankment. Where it is possible to provide replacement planting, this will not be established sufficiently to mitigate the loss of existing vegetation at the year of completion. Thus there will be a slight significant negative impact on landscape resources and townscape character in this CZ. However, by year 15 after completion, replacement

planting will have established such that there is no significant impact to vegetation cover.

Where it is not possible to provide replacement planting there will be a negative impact at year 15.

Character Zone 2: Horseley Heath

The development will introduce tram movement into a railway corridor that has not been used for around 10 years. As a result, no significant impacts are expected to occur due to the introduction of tram movement. The introduction of overhead power lines and other infrastructure will be a slight significant negative impact on the current townscape character, which is of low sensitivity to change.

To accommodate the tram and the freight line, there will be a widening of the cutting and localised retention of slopes by means of gabions. The replacement of a vegetated slope with a stepped gabion retaining wall will result in a slight significant negative impact on the localised character of the railway line. It will have no significant impact on the wider residential townscape as it is in cutting and therefore not visible from outside the route corridor.

There will be significant removal of existing scrub and regenerative vegetation on the existing embankment. Where it is possible to provide replacement planting, this will not be established sufficiently to mitigate the loss of existing vegetation at the year of completion. Thus there will be a slight significant negative impact on landscape resources and townscape character in this CZ. However, by year 15 after completion, replacement planting will have established such that there is no significant impact to vegetation cover.

Where it is not possible to provide replacement planting there will be a negative impact at year 15.

The removal of fly tipped material from the cutting will enhance the corridor positively.

Character Zone 3: Dudley Port/Former Freightliner Depot

The development will introduce tram movement into a railway corridor that has not been used for around 10 years. As a result, no significant impacts are expected to occur due to the introduction of tram movement. The introduction of overhead power lines and other infrastructure will as in CZ 1 and 2 be a slight significant negative impact on the current townscape character which is of low sensitivity to change.

To accommodate the tram and the freight line, the route will be widened and slopes locally retained by gabions or concrete retaining walls. The introduction of gabions or retaining walls will result in a slight significant negative impact on the localised character of the railway line. Due to the fact that the existing railway is on embankment and thus elevated above the surrounding townscape, the retention of slopes using gabions or retaining wall will have a moderate significant negative impact on the wider townscape.

Towards Castle Hill, the tram alignment leaves the existing rail corridor and runs through a derelict development site of low townscape quality proposed mixed use development. The overall development of this site will improve the area and the setting of Castle Hill Special Heritage Landscape Area and Conservation Area thus contributing to a slight significant positive impact on the townscape.

There will be significant removal of existing scrub and regenerative vegetation on the existing embankment. Where it is possible to provide replacement planting, this will not be established sufficiently to mitigate the loss of existing vegetation at the year of completion. Thus there will be a slight significant negative impact on landscape resources and townscape character in this CZ. However, by year 15 after completion, replacement planting will have established such that there is no significant impact to vegetation cover.

Where it is not possible to provide replacement planting there will be a negative impact at year 15.

Character Zone 4: Dudley

The alignment of the scheme through Dudley will introduce tram movement into an area where rail transport is not currently a feature of the townscape albeit that motor vehicles are commonplace throughout the CZ. Thus, tram movement itself will have only a slight significant negative impact on the character of the town, which is of low sensitivity to change.

The erection of infrastructure will introduce an element of clutter into the townscape, which again will have a slight significant negative impact on the townscape. On Castle Hill, which is partly within a conservation area and thus highly sensitive to change, these impacts will be of moderate to substantial significance.

Streetscape improvements will be implemented, such as tree planting and high quality resurfacing of the pavements and roads. This will have a slight significant positive impact on the character of the town centre. On Castle Hill this will represent a moderate to substantial significant positive impact on the townscape. The general streetscape improvements will offset the negative impacts associated with the new tram infrastructure and movement.

The removal of the pedestrian footbridge over King Street, which is something of a visual detractor, will be a slight significant positive impact on the character of the CZ.

The running of the tram and infrastructure through car parks on Flood Street and beside the Dudley Southern Bypass will have only a slight significant negative impact as the alignment is along an existing busy transport network of low sensitivity to change but will result in the removal of a wildflower verge and widen the corridor of traffic.

Character Zone 5: Parkhead

The development will reintroduce tram movement into a corridor that has been used for heavy rail in the past, and is still used for shunting in places. No significant impact on the long term character of the CZ as a result of the reintroduction of tram movement is predicted. The exception to this is at Parkhead Viaduct Conservation Area, which is more sensitive to changes in the townscape. However, as the infrastructure will be elevated high above the main pedestrian level of the Conservation Area, the impact on its character will be of slight/moderate significant negative impact. It should also be noted that, as a viaduct, the presence of trams moving across it will not appear out of character with the structure.

The tram and the freight line are both running on single track over Parkhead Viaduct, which will be partially reconstructed to accommodate the scheme. The reconstruction will respect the original architectural design and materials of the bridge such that it will have only a slight to moderate significant negative impact on the townscape and little impact on the Parkhead Locks Conservation Area. Widening of the formation will require the

replacement of a vegetated slope with, for example a stepped gabion retaining wall, which will result in a slight significant negative impact on the localised character of the railway line. It will also have a slight significant negative impact on the wider townscape as will be visible from the surrounding areas.

There will be significant removal of existing scrub and regenerative vegetation on the existing embankment. Where it is possible to provide replacement planting, this will not be established sufficiently to mitigate the loss of existing vegetation at the year of completion. Thus there will be a slight significant negative impact on landscape resources and townscape character in this CZ. However, by year 15 after completion, replacement planting will have established such that there is no significant impact to vegetation cover.

Where it is not possible to provide replacement planting there will be a negative impact at year 15.

Character Zone 6: Waterfront

Tram movement in this CZ will be a new aspect to the townscape, although the movement of motor vehicles is already significant in the area. The introduction of tram infrastructure and stops will be new features. These changes are in the context of a built environment, of primarily modern design and which has the ability to accept some change. Thus changes resulting from tram movement and infrastructure are predicted to result in only a slight significant negative impact on the CZ.

To achieve the gain in height required to cross the Dudley Canal, a sheet piled structure will ramp up from existing ground level to a maximum of 12 m above existing ground level between The Embankment and Dudley Canal. This will be a dominant new utilitarian feature in the townscape. At this location, the tram alignment runs along grass verges, amenity shrub beds and tree groups. There will be no scope for screen planting in front of the ramp and thus this new unattractive feature will have a moderate/substantial significant negative impact on the CZ.

Where the scheme crosses in front of the leisure centre running track and enters Cottage Street, there will be a significant loss of mature woodland resulting in a moderate significant negative impact on a locally important landscape resource. Replacement woodland planting at a location nearby will not be mature for some time but by year 15 after completion new planting will reduce the magnitude of change such that there is only a slight significant negative impact.

6.6.10 Summary of Residual Impacts on Townscape Character Zones and Landscape Resources

A summary of the impacts on townscape CZs and landscape resources, assuming implementation of the mitigation measures described above, is presented in *Table 6.27*. Impacts which are of moderate to substantial significance are considered to be important.

Table 6.27 Summary of Residual Impacts on Townscape and Landscape Resources

Character Zone (CZ)	Impact on Townscape Character /Landscape Resources	Significance of Impact	Significance of Impact
		Year 0 <i>(Positive or Negative)</i>	Year 15 <i>(Positive or Negative)</i>
CZ 1: Wednesbury Industrial Estate	Tram movement	No significant impact	No significant impact
	Tram infrastructure	Slight significant impact (negative)	Slight significant impact (negative)
	Widening of embankment	No significant impact	No significant impact
	Expansion of facilities at the Wednesbury Depot	No significant impact	No significant impact
	Removal of vegetation and replacement planting	Slight significant impact (negative)	No significant impact
	Removal of vegetation without replacement planting	Slight significant impact (negative)	Slight significant impact (negative)
CZ 2: Horseley Heath	Tram movement	No significant impact	No significant impact
	Tram infrastructure	Slight significant impact (negative)	Slight significant impact (negative)
	Widening/steepening of cutting	No significant impact	No significant impact
	Introduction of gabions/retaining walls	Slight significant impact (negative), no significant impact on wider townscape	Slight significant impact (negative), no significant impact on wider townscape
	Removal of vegetation and replacement planting	Slight significant impact (negative)	No significant impact
	Removal of vegetation without replacement planting	Slight significant impact (negative)	Slight significant impact (negative)
CZ 3: Dudley Port	Tram movement	No significant impact	No significant impact
	Tram infrastructure	Slight significant impact	Slight significant impact

/Burnt Tree	<p>Widening/steepening of corridor</p> <p>Introduction of gabions/retaining walls</p> <p>Removal of vegetation and replacement planting</p> <p>Removal of vegetation without replacement planting</p>	<p>(negative)</p> <p>No significant impact</p> <p>Slight significant impact (negative), moderate significant impact on wider townscape (negative)</p> <p>Slight significant impact (negative)</p> <p>Slight significant impact (negative)</p>	<p>(negative)</p> <p>No significant impact</p> <p>Slight significant impact (negative), moderate significant impact on wider townscape (negative)</p> <p>No significant impact</p> <p>Slight significant impact (negative)</p>
CZ 4:	<p>Tram movement and infrastructure through Dudley town centre</p> <p>Tram movement and infrastructure along Castle Hill</p> <p>Streetscape improvements and tree planting in through Dudley town centre</p> <p>Streetscape improvements and tree planting on Castle Hill</p> <p>Removal of pedestrian overbridge</p> <p>Tram movement and infrastructure along the bypass</p>	<p>Slight significant impact (negative)</p> <p>Moderate/substantial significant impact (negative)</p> <p>Slight significant impact (positive)</p> <p>Moderate/substantial significant impact (positive)</p> <p>Slight significant impact (positive)</p> <p>Slight significant impact (negative)</p>	<p>Slight significant impact (negative)</p> <p>Moderate/substantial significant impact (negative)</p> <p>Slight significant impact (positive)</p> <p>Moderate/substantial significant impact (positive)</p> <p>Slight significant impact (positive)</p> <p>Slight significant impact (negative)</p>
CZ 5: Parkhead	<p>Tram movement</p> <p>Tram infrastructure</p> <p>Tram movement and infrastructure over Parkhead Viaduct</p> <p>Introduction of gabions/retaining walls</p> <p>Structural works to the Parkhead Viaduct</p> <p>Removal of vegetation and replacement planting</p> <p>Removal of vegetation without replacement planting</p>	<p>No significant impact</p> <p>Slight significant impact (negative)</p> <p>Slight/moderate impact (negative)</p> <p>Slight significant impact (negative), slight significant impact on wider townscape (negative)</p> <p>Slight/moderate significant impact (negative)</p> <p>Slight significant impact (negative)</p> <p>Slight significant impact (negative)</p>	<p>No significant impact</p> <p>Slight significant impact (negative)</p> <p>Slight/moderate impact (negative)</p> <p>Slight significant impact (negative), slight significant impact on wider townscape (negative)</p> <p>Slight/moderate significant impact (negative)</p> <p>Slight significant impact (positive)</p> <p>Slight significant impact (negative)</p>
CZ 6: Waterfront	<p>Tram movement and infrastructure</p> <p>Removal of grass verges, amenity planting and replacement with new vegetation</p> <p>Introduction of steel piled retaining structure for ramp</p> <p>Removal of woodland at Cottage Street and replacement with new woodland</p>	<p>Slight significant impact (negative)</p> <p>Slight significant impact (negative)</p> <p>Moderate/substantial significant impact (negative)</p> <p>Moderate significant impact (negative)</p>	<p>Slight significant impact (negative)</p> <p>No significant impact</p> <p>Moderate/substantial significant impact (negative)</p> <p>Slight significant impact (negative)</p>

6.6.11 Summary of Residual Visual Impacts

In some places along the alignment, the scheme will be visible from distant locations. The impacts on these visual receptors have not been assessed individually as changes in their outlook will be so minor that they are not considered to be of significance. Photomontages have been prepared to show the main visual impacts of the scheme. These are presented in *Figures 6.6 to 6.9*. Visual receptors and their sensitivity to change in view have been identified in *Table 6.28*. The table also identifies the characteristics of their current view, impacts on the view and summarises the significance of the changes. The assessment of impacts assumes that the mitigation measures described above in *Section 6.6.7* have been implemented.

Table 6.28 Residual Visual Impacts

Character Zone	Main Visual Receptors	Sensitivity and Characteristics of Current Views	Residual Impact on Views	Significance of Residual Impacts and Evaluation
CZ 1: Wednesbury Industrial Estate	Residents – tower block in Wednesbury	Low – elevated distant view of the disused railway embankment cutting through surrounding industry.	<p>Year 0</p> <p>Residents will have elevated views of the new junction on viaduct between the existing tram line and the new line, the widened embankment with less vegetation or no cover on it and tram infrastructure and movement set within the surrounding townscape.</p> <p>Year 15 (with replacement planting)</p> <p>Residents will have elevated views of the new junction on viaduct between the existing tram line and the new line, the widened embankment, newly established vegetation, tram infrastructure and movement set within the surrounding townscape.</p> <p>Year 15 (without replacement planting)</p> <p>If replacement vegetation is not possible the view will be the same as in year 0.</p>	<p>Year 0 <i>Slight significant impact (Negative)</i></p> <p>A moderate change in the views of low sensitive receptors. They will see the change on the embankment within the context of the much wider townscape.</p> <p>Year 15 (with replacement planting)</p> <p><i>No significant impact</i></p> <p>A slight change in the views of low sensitive receptors. They will see the change on the embankment within the context of the much wider townscape.</p> <p>Year 15 (without replacement planting)</p> <p><i>Slight significant impact (Negative)</i></p> <p>View will be the same as in year 0.</p>
CZ 2: Horseley Heath	Residents on west side of line: Properties on Eagle Lane, Bramah Way, Daisy Meadow, St. Helens Avenue, Mansion Drive, Horseley Road and Station Street, Residents on	High – elevated views across cutting of disused and degraded railway line to housing on the opposite side and of the cutting itself. Varying amounts of	<p>Year 0</p> <p>Residents will have elevated views of the retained slopes, new tram infrastructure, considerably less vegetation in the corridor and tram movement. Views of housing opposite will</p>	<p>Year 0</p> <p><i>Moderate/substantial significant impact (Negative)</i> A moderate change in the view of a highly sensitive receptor group will result from the loss of vegetation and its replacement with gabions, tram infrastructure and movement</p>

	<p>east side of line:</p> <p>Properties on Horseley Road, Dovecote Close, Church Lane, Park Lane East and Smith Place</p>	<p>vegetation and fencing in back gardens and on the slopes of the embankment partially screen views.</p>	<p>be further opened up but still partially screened in places by trees and fences in back gardens. The magnitude of change will vary locally.</p> <p>Year 15 (with replacement planting)</p> <p>If replacement planting is possible, residents will have views of now semi-mature vegetation with some intermittent views across the tram infrastructure of retaining gabions on the opposite side. The magnitude of change will vary locally.</p> <p>Year 15 (without replacement planting)</p> <p>If replacement vegetation is not possible the view will be the same as in year 0.</p>	<p>Year 15 (with replacement planting)</p> <p><i>Slight/moderate significant impact (Positive)</i></p> <p>By year 15, the highly sensitive receptor group will witness a slight improvement in their outlook as vegetation will have established and be an improvement on the overgrown scrub seen at present. Where there are intermittent views of gabions there will be a <i>moderate/substantial significant negative visual impact</i>.</p> <p>Year 15 (without replacement planting)</p> <p><i>Moderate/substantial significant impact (Negative)</i> View will be the same as in year 0.</p>
<p>CZ 3:</p> <p>Dudley Port /Burnt Tree</p>	<p>Residents on west side of line:</p> <p>Properties on Carnegie Avenue, Harrowby Drive, Sedgley Road, Fernwood Croft, Mayfair Gardens, Lindley Avenue, Birmingham New Road. Residents on east side of line: Properties on Jays Avenue, Tudor Court, Victoria Road, Coneygre Road</p>	<p>High – residents of Jays Avenue, Harrowby Drive and Carnegie Avenue have views over their back gardens of the railway which is at the same level and housing opposite. These views are partially screened in places by trees and fences. Properties on Tudor Court back onto and have direct views of the railway line. Residents of Victoria Road, Coneygre Road, Mayfair Gardens, West Sedgley Road, Fernwood Croft and Lindley Avenue have views across back gardens of the disused railway embankment which rises above the housing and prevents distant views.</p>	<p>Year 0</p> <p>Residents of Jays Avenue, Harrowby Drive and Carnegie Avenue will have views past their back gardens of the new tram infrastructure and movement as well as a reduced vegetation cover which will result in views of housing opposite being opened up.</p> <p>Residents of Tudor Court, will have views of an environmental barrier which will block out the previous view of the railway line but some tram infrastructure above will remain visible.</p> <p>Residents of Victoria Road, Coneygre Road, West Sedgley Road and Fernwood Croft will have views of the tram infrastructure and movement on the embankment beyond their back gardens and a reduced amount of vegetation</p>	<p>Year 0</p> <p><i>Moderate/substantial significant impact (Negative)</i> The removal of vegetation and introduction of hard surfacing and vehicle movement will detract from residents' views on Jays Avenue, Harrowby Drive and Carnegie Avenue.</p> <p><i>Moderate/substantial significant impact (Negative)</i> The introduction of a visual barrier directly in front of the windows of the properties on Tudor Court will detract from residents' views.</p> <p><i>Moderate/substantial significant impact (Negative)</i> The removal of vegetation and introduction of tram infrastructure and movement will detract from residents views on Victoria Road, Coneygre Road, West Sedgley Road and Fernwood Croft.</p> <p><i>Substantial significant impact (Negative)</i></p>

			on the slopes. Residents of Mayfair Gardens and Lindley Avenue will have views of the tram infrastructure and movement above a retaining wall beyond back gardens with some young screen planting.	The removal of vegetation and introduction of a retaining wall, tram infrastructure, and movement will detract from residents views on Mayfair Gardens and Lindley Avenue.
			Year 15 (with replacement planting) Residents of Jays Avenue, Harrowby Drive and Carnegie Avenue will have views beyond their back gardens of an established woodland belt through which there will be filtered views of the tram infrastructure and movement on the line. Residents of Tudor Court will have views of an environmental barrier which will have matured into a green barrier and block out the previous view of the railway line; they will see some tram infrastructure above. Residents of Victoria Road, Coneygre Road, West Sedgley Road and Fernwood Croft will have views of an established woodland belt through which there will be filtered views of the tram infrastructure and movement. Year 15 (without replacement planting) If replacement vegetation is not possible the view will be the same as in year 0. Residents of Mayfair Gardens and Lindley Avenue will have views of the tram infrastructure and movement above a retaining wall beyond back gardens with some screen planting.	Year 15 (with replacement planting) <i>Slight/moderate significant impact (Positive)</i> The new view of a woodland belt will be an improvement on the current view of an overgrown embankment for residents of Harrowby Drive and Carnegie Avenue. <i>Slight/moderate significant impact (Negative)</i> Despite the establishment of vegetation on the environmental barrier behind Tudor Court the barrier will still detract from residents' views. <i>Slight/moderate significant impact (Positive)</i> The new view of a woodland belt will be an improvement on the current view of an overgrown embankment for residents of Victoria Road, Coneygree Road, West Sedgley Road and Fernwood Croft. Year 15 (without replacement planting) <i>Moderate/substantial significant impact (Negative)</i> View will be the same as in year 0. <i>Moderate/substantial significant impact (Negative)</i> Despite some screen planting the retaining wall will still be visible and thus detract from the views of residents on Mayfair Gardens and Lindley Avenue.

CZ 4: Dudley	Office workers in Dudley town centre, shoppers and passers by	Low – receptors have views from various elevations of the complex urban townscape of Dudley including roads and transport, buildings of various architectural styles, car parks, a bus station and shops.	<p>Year 0 (Little change between year 0 and 15)</p> <p>Receptors will have views of the new tram infrastructure and tram movement through the town centre of Dudley and beside the Southern Bypass, the new tram stops in the centre, the removed of the pedestrian footbridge over King Street, new high quality paving and new street trees and amenity planting throughout the town centre. In Year 15, the amenity planting and specimen trees will have matured.</p>	<p>Year 0 (Little change between year 0 and 15)</p> <p><i>Slight significant impact (Positive)</i> The landscaping improvements associated with the scheme will enhance the visual experience for receptors in the environs of Dudley town centre including the removed pedestrian footbridge which is a visual detractor.</p>
	Residents of properties in New Road, and Grazebrook Road	Moderate – medium distance views of the Dudley Southern Bypass.	<p>Year 0 (Little change between year 0 and 15)</p> <p>Residents will have views of the tram infrastructure and movement beside the bypass and new amenity planting beside the tram which will have further matured by year 15.</p>	<p>Year 0 (Little change between year 0 and 15)</p> <p><i>Slight significant impact (Negative)</i> Set beside the existing wide and busy bypass, the extra tram movement will be a change of small magnitude.</p>
CZ 5: Parkhead	Residents on west side of line: Properties on Kent Place, Buxton Road, Highgate Road and Cochrane Road	High – elevated views over the disused railway line, the industrial valley below and the Parkhead Viaduct. Partial screening in places by mature trees at Parkhead.	<p>Year 0</p> <p>Residents will have filtered views of the reconstructed viaduct, tram infrastructure and tram movement along the previously disused railway line and immature vegetation beside the line whilst retaining their long distance views across the valley below.</p> <p>Year 15 (with replacement planting)</p> <p>Residents will have filtered views through the established woodland beside the line of some tram infrastructure and tram movement whilst retaining their views across the valley.</p> <p>Year 15 (without</p>	<p>Year 0 <i>Slight/moderate significant impact (Negative)</i> A highly sensitive receptor group will experience further transport movement in the valley but set against the backdrop of the industrial valley, the change will appear to be of low magnitude.</p> <p>Year 15 (with replacement planting)</p> <p><i>Slight/moderate significant impact (Positive)</i> A highly receptor group will witness an improvement in the currently poor townscape as a result of the establishment of planting.</p> <p>Year 15 (without replacement planting)</p> <p><i>Moderate/substantial significant impact (Negative)</i> View will be the same as in year 0</p>

			<p>replacement planting)</p> <p>If replacement vegetation is not possible the view will be the same as in year 0.</p>	
	Recreational users of the Dudley Canal path and park	Moderate – views from canal paths and the park of Parkhead viaduct above.	<p>Year 0 (No change between year 0 and 15)</p> <p>Recreational users of the canal and park will have views of the new widened viaduct with tram infrastructure and tram movement across it.</p>	<p>Year 0 (No change between year 0 and 15)</p> <p><i>Slight significant impact (Negative)</i> The new bridge will be constructed to resemble the existing viaduct and thus there will be only a minor change. The introduction of tram infrastructure and tram movement across the viaduct will be a small change to the views of the structure, which was originally built for this purpose.</p>
CZ 6: Waterfront	Office workers and shoppers at the Waterfront development and Merry Hill Centre	Low - receptors have views from various elevations of the Waterfront development and Merry Hill Centre, the busy roads and car parks surrounding them and along the canal paths.	<p>Year 0 (Little change between year 0 and 15)</p> <p>Users of the area will see the new tram infrastructure and movement on the line in front of the Waterfront development beside main roads. They will see the tram ramp up a steel piled retaining structure beside The Embankment and cross over the Dudley Canal via a new bridge. They will also see new paving and new amenity planting which will replace that which is lost. In year 15 this new vegetation will have matured.</p>	<p>Year 0 (Little change between year 0 and 15)</p> <p><i>Slight/moderate significant impact (Negative)</i> The tram system will reduce the amount of green space, introduce a visually intrusive retaining structure and further transport movement into an existing busy area.</p>
	Recreational users of the Dudley Canal towpath and Leisure centre	Moderate – users of the canal path have views along the canal, towards Brierley Hill and beyond the Merry Hill shopping centre towards hills in the east.	<p>Year 0 (Little change between year 0 and 15)</p> <p>Users of the canal path will see a large retaining structure adjacent to the canal path which will obscure views to the east of the Merry Hill shopping centre and the hills beyond.</p>	<p>Year 0 (Little change between year 0 and 15)</p> <p><i>Moderate/substantial significant impact (Negative)</i> The tram system will reduce the amount of green space, a visually intrusive retaining structure and further transport movement into an existing busy area.</p>

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