

Appendix 19.1 Air Quality and Landscape and Visual In-Combination Assessment

Air Quality In-Combination Assessment

Introduction

The Project for Assessment, in-combination with committed schemes defined in the Development Log in the vicinity of the Assessment Boundary, has the potential to affect air quality as a result of changes in traffic flows and associated road vehicle exhaust emissions during the construction and operational stages. An assessment of potential effects at human receptors was therefore undertaken. This is discussed in the following Sections.

Assessment Process

The assessment of in-combination air quality effects at human receptors was undertaken utilising the methodology previously summarised for the Project for Assessment. In brief, this comprised further dispersion modelling of changes in pollutant concentrations at sensitive human receptors for an in-combination assessment scenario. The results were subsequently analysed and the relevant effect significance determined.

It should be noted that changes in traffic flows as a result of the majority of the identified in-combination developments was included in the scenarios adopted when assessing effects associated with the Project for Assessment. The only additional site included in the in-combination scenario was JPA 1.2 (**Figure 19.1**, Cumulative Project 13).

The previously outlined assessment of air quality effects at ecological receptors as a result of the Project for Assessment considered in-combination impacts in accordance with the requirements of the NE and IAQM guidance. As such, further assessment was not considered necessary.

Assessment of Effects, Secondary Mitigation and Residual Effects

Construction Stage

Construction Stage Road Vehicle Exhaust Emissions - (Air Quality In-combination Assessment)

The Project for Assessment, in-combination with committed developments, has the potential to affect air quality as a result of changes in traffic flows and associated road vehicle exhaust emissions during the construction stage. Specific traffic data to inform the assessment of construction stage effects was not available at this phase of the project. However, it is anticipated that any change in traffic flow is likely to be lower than during the operational stage. As such, potential effects have been assumed to be the same as the findings of the operational stage assessment, as a worst case. This is likely to overestimate potential effects during the construction stage, accommodating various phasing options that could come forward at a later stage, ensuring robust conclusions.

If required, a planning condition requiring further assessment of construction stage road vehicle exhaust emission effects prior to commencement of works on site could be attached to any forthcoming consent. This would ensure effects were assessed in greater details at the appropriate stage in the project.

Operational Stage

Operational Stage Road Vehicle Exhaust Emissions - (Air Quality In-combination Assessment)

The Project for Assessment, in-combination with committed developments, has the potential to affect air quality as a result of changes in traffic flows and associated road vehicle exhaust emissions during the operational stage. An assessment was therefore undertaken in order to assess changes in pollutant concentrations at sensitive locations in accordance with the IAQM guidance^{Error! Bookmark not defined.}. This was informed by a dispersion modelling study and the findings discussed in the following Sections.

Reference should be made to **Appendix 10.1** for full details of the dispersion modelling study and the results. For ease of reference the cumulative assessment modelling scenario included traffic flows for 2039 should the Project for Assessment be completed, inclusive of predicted growth and vehicle movements from projects included within the Development Log, including allocation JPA1.2.

Evaluation of Effects - NO₂

Annual mean NO₂ concentrations were predicted at the sensitive receptor locations for the DM and DS1 scenarios. Pollution levels were above the relevant AQO at two receptors and below at the remaining 75 receptors in both scenarios. No new exceedences of the AQO were predicted at any receptors between the DM and DS1.

Pollutant concentrations were predicted to reduce at four receptor positions and increase at the remaining 73 receptor positions between the DM and DS1 scenarios. The decreases were associated with redistribution of traffic as a result of the Project for Assessment.

The sensitivity of receptors is considered to range between low and high. The magnitude of change is considered to range between negligible and large. The largest change was predicted at receptor R36, a residential property off Moss Hall Lane. This was due to the change in traffic flow on Moss Hall Lane and proximity of the property façade to the roadside.

The predicted effects on annual mean NO₂ concentrations as a result of the in-combination assessment are as follows:

- **Negligible** at 17 receptors;
- **Minor adverse** at 59 receptors; and
- **Moderate adverse** at one receptor. This was at R36, a residential property adjacent to Moss Hall Lane.

Based on the above, there is likely to be a direct, permanent, long-term, adverse effect which is considered to range from **negligible to moderate adverse** as outlined above. No change in the overall range of effect is predicted for the in-combination assessment when compared with the conclusions of the Project for Assessment alone.

Evaluation of Effects - PM₁₀

Annual mean PM₁₀ concentrations were predicted at the sensitive receptor locations for the DM and DS1 scenarios. Pollution levels were below the relevant AQO at all receptors in both scenarios.

Pollutant concentrations were predicted to reduce at four receptor positions and increase at the remaining 74 receptors between the DM and DS1 scenarios. The decreases were associated with redistribution of traffic as a result of the Project for Assessment.

The sensitivity of receptors is considered to be low. The magnitude of change is considered to range between negligible and medium. The largest change was predicted at receptor R36, a residential property off Moss Hall Lane. This was due to the change in traffic flow on Moss Hall Lane and proximity of the property façade to the roadside.

Predicted effects on annual mean PM₁₀ concentrations as a result of the in-combination assessment are as follows:

- **Negligible** at 72 receptors; and
- **Minor adverse** at five receptors.

Based on the above, there is likely to be a direct, permanent, long-term, adverse effect which is considered to range from **negligible** to **minor adverse** as outlined above. No change in the overall range of effect is predicted for the in-combination assessment when compared with the conclusions of the Project for Assessment alone.

Evaluation of Effect - PM_{2.5}

Annual mean PM_{2.5} concentrations were predicted at the sensitive receptor locations for the DM and DS1 scenarios. Pollution levels were below the Concentration Target at all receptors in both scenarios.

Pollutant concentrations were predicted to reduce at three receptor positions and increase at the remaining 74 receptors between the DM and DS1 scenarios. The decreases were associated with redistribution of traffic as a result of the Project for Assessment.

Project for Assessment

The sensitivity of receptors is considered to be low. The magnitude of change is considered to range between negligible and large. The largest change was predicted at receptor R36, a residential property off Moss Hall Lane. This was due to the change in traffic flow on Moss Hall Lane and proximity of the property façade to the roadside.

Predicted effects on annual mean PM_{2.5} concentrations as a result of the in-combination assessment are as follows:

- **Negligible** at 54 receptors;
- **Minor adverse** at 22 receptors; and
- **Moderate adverse** at one receptor. This effect was identified at R36, a residential property adjacent to Moss Hall Lane.

Based on the above, there is likely to be a direct, permanent, long-term, adverse effect which is considered to range from **negligible** to **moderate adverse** as outlined above. No change in the overall range of effect is predicted for the in-combination assessment when compared with the conclusions of the Project for Assessment alone.

Secondary Mitigation or Enhancement

Potential air quality effects at human receptors during the operational stage were predicted to be moderate adverse at R36, a residential property off Moss Hall Lane. As such, measures to reduce effects are considered necessary.

The level of effect has not changed for the in-combination assessment when compared with the conclusions of the Project for Assessment alone. As such, it can be concluded that this potential

effect is a direct result of the Project for Assessment and is not associated with in-combination effects. As such, the mitigation outlined in **Table 10.9** are considered sufficient to address this potential impact and no additional measures are required.

Residual Effect

The sensitivity of receptors is considered to be low to high. The magnitude of change, following secondary mitigation, is considered to be negligible to medium. Therefore, there is likely to be a direct, permanent, long-term, adverse residual effect which is considered to range from **negligible to minor adverse**. No change in the overall range of effect is predicted for the in-combination assessment when compared with the conclusions of the Project for Assessment alone.

Significance

This effect is considered to be **Not Significant** for the Project for Assessment in-combination with committed developments. This conclusion has not changed for the in-combination assessment when compared with the Project for Assessment alone.

Landscape and Visual In-Combination Assessment

Cumulative Projects have been discounted for the following reasons:

- **Cumulative Project 2:** No LVIA was submitted alongside the application for Cumulative Project 2, however the boundary of the Project for Assessment meets the boundary for Cumulative Project 2 along Pilsworth Road (associated with proposed access works for the Project for Assessment). Cumulative Project 2 is located within an urban area and as such is not located within any published landscape character areas. There are no assessment viewpoints in the vicinity of Cumulative Project 2. Therefore, aside from the proximity to Pilsworth Road, there are no common receptors identified. It is noted that there is limited intervisibility anticipated as a result of the proposed built form on the Project Assessment (refer to Figure 17.5 Zone of Theoretical Visibility). Cumulative Project 2 has been discounted on this basis.
- **Cumulative Project 3, 5, 6, 7, 9, 10:** There are no identified common receptors, and therefore there are no in-combination effects. Cumulative Project 3 has been discounted on this basis.
- **Cumulative Project 4:** The submitted LVIA for Cumulative Project 4 included Ashworth Road as a receptor, however Negligible effects were identified as a result of no views being available from the receptor. Users along Ashworth Road are therefore not likely to experience a combined magnitude of change as a result of the effects from Cumulative Project 4 and the Project for Assessment. Cumulative Project 4 has been discounted on this basis.
- **Cumulative Project 8:** No LVIA was submitted alongside the planning application for Cumulative Project 8. Cumulative Project 8 is located within an urban area and as such is not located within any published landscape character areas. There are no assessment viewpoints in the vicinity of Cumulative Project 8. Therefore, there are no common receptors identified. As such there are no in-combination effects. Cumulative Project 8 has been discounted on this basis.
- **Cumulative Project 11:** No LVIA was submitted alongside the planning application for Cumulative Project 11. Cumulative Project 11 is located within an urban area, and is not located within any published landscape character areas. There are no assessment viewpoints in the vicinity of Cumulative Project 8. The M66 transport corridor passes to the immediate east of Cumulative Project 11, resulting in there being a common receptor. However given the screening provided by vegetation along the boundaries of

the M66, along with the distance from the Project for assessment, no-in-combination effects are identified. Cumulative Project 11 has been discounted on this basis.

- **Cumulative Project 14:** No LVIA was submitted alongside the planning application for Cumulative Project 14. Cumulative Project 14 is located within the existing built setting of Heywood Industrial Park, and is not located within any published landscape character areas. Cumulative Project 14 is located behind a number of warehouse buildings which front onto Pilsworth Road, where the northern boundary of the Project for Assessment is located. These buildings are anticipated to screen any intervisibility of the two proposed schemes. The closest assessment viewpoint in the vicinity of Cumulative Project 14 is viewpoint 18 located on Pilsworth Road. Although the viewpoint is located in proximity to both the Project for Assessment and Cumulative Project 14, no intervisibility is anticipated given the screening provided by existing built form associated with Heywood Distribution Park. As such there are no-in-combination effects. Cumulative Project 14 has been discounted on this basis.
- **Cumulative Project 15:** No LVIA was submitted alongside the planning application for Cumulative Project 15. Cumulative Project 15 is not located within any existing published landscape character areas. There are no assessment viewpoints which are anticipated to experience intervisibility between the Project for Assessment and Cumulative Project 15, given the distance (approximately 1.9km) and intervening built form, landform and vegetation.. As such there are no-in-combination effects. Cumulative Project 15 has been discounted on this basis.

Cumulative Projects 1, 12, 14 and 16 have been taken forward to for further consideration.

Cumulative Project 1 (CP1)

Users along Pilsworth Road and Moss Hall Lane are likely to experience a combined magnitude of change as a result of the effects from Cumulative Project 1 and the Project for Assessment. This is a result of the proximity of the schemes and the likelihood of combined visibility. Cumulative Project 1 has been taken forward on this basis.

Landscape Effects

Both the eastern extents of the Project for Assessment and CP1 lie within the Urban Fringe Farmlands LCT and LCA 27 Simister, Slattocks and Healds Green, within the Greater Manchester Landscape Character and Sensitivity Assessment. For the purposes of the in-combination landscape assessment, the LVIA limits its focus to this LCT and LCA.

A Landscape and Visual Impact Assessment (LVIA), prepared by IBI Group has been submitted to accompany the planning application for CS1. It was written prior to the issues of the Greater Manchester Landscape Character and Sensitivity Assessment and as such, references the previous Landscape Character Assessment: Rochdale Landscape Character Assessment (Local character is described in the Rochdale UDP, Policy NE/6 Landscape Protection and Enhancement). This places CP1 within the 'Settled Farmlands' Character Area. The LVIA did not assess the effect of the scheme on the Character Area, rather on the elements that make up the Character Area. The outcome of the landscape assessment within the LVIA concludes that *"the greatest landscape effects are of Moderate-Moderate/Minor significance and therefore would not be considered significant"*.

Both schemes seek to deliver landscape features as set out within the relevant published guidelines, in the case of CS1 this includes increased planting on the edge of settlements, new hedgerows within the scheme and retained hedgerow to the boundaries. Such features associated with the

Project for Assessment and Proposed Scheme would be secured as secondary mitigation through condition and reserved matters

The addition of CP1 to the Project for Assessment does not notably increase the extent of development within the wider LCT and LCA (as defined in the Greater Manchester Landscape Character Assessment) and therefore the effects are localised. Whilst the magnitude of change is long-term or permanent (10+ years), the assessed residual effect of CP1 on the landscape characteristics is considered Not Significant. The assessed residual effect of the Project for Assessment on LCT No. 27 is Moderate (not Significant). The in-combination effect of both schemes upon the landscape character of the Urban Fringe Farmland LCT and LCA No.27 will not heighten that assessed for the Project for Assessment, remaining at Major/Moderate (Significant).

In regard to the local landscape, it is acknowledged that the landscape effect will be greater. There will be a change to this part of the landscape when considering both schemes together. Both schemes will result in loss to greenfield land for built development, however they also look to include new landscape features and elements in keeping with the character of the local area (through secondary mitigation in the case of the Project for Assessment).

Visual Effects

There are a number of public locations where the Project for Assessment and CP1 will be visible in combined views. In-combination visual effects are principally available along the closest roads to the schemes; Pilsworth Road, Queen Elizabeth Way, Manchester Road and Hareshill Road. Nearby Footpaths will also have combined views, including PRoW RD/Hey/72 and RD/Hey/Fp74.

The LVIA prepared to accompany the planning application for CP1 identifies that *“there are significant effects noted along vehicular routes, although these effects are seen to be moderate effects, the view is seen to be transient, and the effect will only be short term as the motorist travels past the site. Views of ground level operations will also be screened by existing mature hedgerow along the site boundary. As mitigation proposals establish the effect on the view will be decreased.”*

The LVIA associated with CP1 does not include any visual analysis relating to receptors along footpaths. The combined effect of both schemes will extend built form further to the east for receptors along the route of the footpaths.

Both schemes are observed within the existing built context associated with the southern extents of Heywood and include landscape mitigation measures (such as tree planting). It is also noted that motorists travelling along Pilsworth Road, Manchester Road and Queen Elizabeth Way are moving at speed and are already influenced by existing industrial and residential development.

There is no increase or decrease in the in-combination level of effect when compared against the level of effect identified for the Project for Assessment. The in-combination effect is not significant and does not change the conclusions made for the Project for Assessment, though the in-combination effect will be largely as a result of the Project for Assessment as a result of its scale.

Cumulative Project 12 (CP12)

No LVIA was submitted alongside the planning application for Cumulative Project 12. However, Cumulative Project 12 is located adjacent the northern boundary of the Project for Assessment and falls within the published Landscape Character Type (LCT) ‘Incised Urban Fringe Valleys’ and Landscape Character Area (LCA) 25. Assessment viewpoint 20 is located in proximity to Cumulative

Project 12. The aforementioned receptors are therefore in common with the Project for Assessment. Cumulative Project 12 has been taken forward on this basis.

Landscape Effects

Cumulative Project 12 is located adjacent the northern boundary of the Project for Assessment and falls within the published Landscape Character Type (LCT) 'Incised Urban Fringe Valleys' and Landscape Character Area (LCA) 25. The addition of CP12 in combination with the Project for Assessment does not notably increase the extent of development within the wider LCT and LCA (as defined in the Greater Manchester Landscape Character Assessment) and therefore the in-combination effects are localised. The assessed residual effect of the Project for Assessment on both the Incised Urban Fringe Valleys LCT and LCA No. 25 is Moderate adverse (Not Significant). The in-combination effect of both schemes upon the landscape character of the Incised Urban Fringe Valleys LCT and LCA No.25 will not heighten that assessed for the Project for Assessment, remaining at Moderate adverse (Not Significant), with the Project for Assessment contributing most to the in-combination effect upon the host LCA and LCT.

Visual Effects

Assessment viewpoint 20 is located in proximity to Cumulative Project 12. The small scale of CP12, along with the well vegetated context surrounding CP12, will result in there being a very limited number of combined viewing opportunities for the schemes.

Combined views are anticipated from footpaths in proximity to CP12 (including footpath ref BY/1HI, BY/82BUR and BY/79BUR. Longer distance viewing opportunities are not anticipated.

The assessment of visual effects on footpath users is already assessed as Major/Moderate adverse as a result of the Project for Assessment, for those receptors within or in close proximity to the Assessment Boundary. The additional effects caused by CO12 in combination with the Project for Assessment won't be higher than those on the Project for Assessment alone.

There is no increase or decrease in the in-combination level of effect when compared against the level of effect identified for the Project for Assessment. The in-combination effect is not significant and does not change the conclusions made for the Project for Assessment.

Cumulative Project 13 (CP13)

Cumulative Project 13 is at pre-application stage and as such does not yet have any accompanying documents to reference. However, JPA 1.2 is part of the same wider Northern Gateway allocation and is located adjacent to the Project for Assessment. Thus, inter-visibility is anticipated. In addition, JPA 1.2 falls within the published Landscape Character Type 'Urban Fringe Farmland' and within LCA 27, which are also present within the Project for Assessment and are therefore common receptors. Cumulative Project 13 has been taken forward on this basis.

Landscape Effects

Both the eastern extents of the Project for Assessment and CP2 lie within the Urban Fringe Farmlands LCT and LCA 27 Simister, Slattocks and Healds Green, within the Greater Manchester Landscape Character and Sensitivity Assessment. For the purposes of the cumulative landscape assessment, the LVIA limits its focus to this LCT and LCA.

As CP13 is at pre-application stage, no detailed proposals or assessment are available. However, the broad principle of residential development on the site identified for CP2 can be applied to the assessment of in-combination effects.

It can be assumed that C13 will result in the large scale loss of greenfield land, to be replaced with residential development. Based upon the allocation requirements, there will also be large areas of open space, Green Infrastructure and mitigation planting included within the scheme.

The inclusion of CP13 as developed land within LCA 27 Simister, Slattocks and Healds Green will increase the proportion of the LCA that is occupied by development. This will have a significant in-combination effect, however this will be balanced to some extent by the introduction of appropriate mitigation with features that align with the key characteristics of the LCA. By year 15, the developments can be anticipated to be well assimilated into the surroundings with characteristic planting and therefore cause limited changes to the LCT and LCA.

Visual Effects

The scale of CP13, in combination with the scale of the Project for Assessment, will result in there being a number of combined and sequential viewing opportunities for the schemes.

Combined views are anticipated from longer distance viewing opportunities on rising landform, such as Heaton Park to the south, Tandle Hill Country Park to the east and Ashworth Road to the north. Transient receptors along main roads in the vicinity, including users of the M66 and M62 are likely to have combined and sequential views of the schemes.

Similarly, footpaths that form connections to both schemes will experience sequential views, and combined views in places (such as from Motorway overbridge's).

The assessment of visual effects on footpath users is already assessed as Major/Moderate adverse as a result of the Project for Assessment, for those receptors within or in close proximity to the Assessment Boundary. There is no increase or decrease in the in-combination level of effect when compared against the level of effect identified for the Project for Assessment. The in-combination effect is not significant and does not change the conclusions made for the Project for Assessment.

Cumulative Project 16 (CP16)

Cumulative Project 16 is located adjacent the Project for Assessment and is a NSIP. Thus, intervisibility is anticipated. Cumulative Project 16 has been taken forward on this basis.

Landscape Effects

Both the western extents of the Assessment Boundary and CP16 lie within the Mosslands and Lowland Farmland LCT and LCA 26 Prettywood, Pilsworth & Unsworth, within the Greater Manchester Landscape Character and Sensitivity Assessment. For the purposes of the in-combination landscape assessment, the LVIA limits its focus to this LCT and LCA.

The LVIA submitted alongside CP16 identifies Moderate adverse residual effects for the construction stage of the scheme, with not significant effects identified for year 1 and year 15 of operation. The construction of CP16 will involve the removal of vegetation along the M66 southbound verge, resulting in a change to landscape quality for the duration of construction. Once mitigation planting is established and matured, existing landscape quality will be reinstated.

The works associated with CP16 are in keeping with the existing character of the motorway already present to the boundaries of the Project for Assessment. Although there will be some disturbance during the construction period, the reinstatement of planting associated with CP16 will ensure that significant residual landscape effects are not anticipated for CP16 alone. The cumulative effects for CP16 and the Project for Assessment in combination will not be higher than that concluded for the Project for Assessment alone – remaining at major / moderate adverse, Significant, with the effect largely a result of the Project for Assessment.

Visual Effects

The scale of CP16, in combination with the scale of the Project for Assessment, will result in there being a number of combined and sequential viewing opportunities for the schemes, particularly during the construction period.

Combined views are anticipated from longer distance viewing opportunities on rising landform, such as Heaton Park to the south, Tandle Hill Country Park to the east and Ashworth Road to the north. Transient receptors along main roads in the vicinity, including users of the M66 and M62 are likely to have combined and sequential views of the schemes.

Similarly, footpaths that form connections to both sites will experience sequential views, and combined views in places (such as from Motorway overbridge's).

The assessment of visual effects on such footpath users is already assessed as Major/Moderate adverse as a result of the Project for Assessment, for those receptors within or in close proximity to the Assessment Boundary. There is no increase or decrease in the in-combination level of effect when compared against the level of effect identified for the Project for Assessment alone. The in-combination effect will result in significant effects, but these will be predominantly related to and contributed to by the Project for Assessment.