

M5 Junction 10 Improvements Scheme

Environmental Statement

Chapter 16: Summary

TR010063 – APP 9.30

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Contents

Chapter	Page
16. Summary	4
16.1. Introduction	4
16.2. Summary of significant effects table	5
Tables	
Table 16-1 - Summary of assessment of likely residual significant adverse and beneficial effects	5

16. Summary

16.1. Introduction

- 16.1.1. The technical chapters of this Environmental Statement (ES) (ES Chapters 5-15) present the assessments for each of the individual Environmental Impact Assessment (EIA) topics. Each assessment provides a conclusion on the likely residual significant adverse or beneficial effects; i.e., taking into account the implementation of the proposed mitigation measures that are considered to be part of the Scheme.
- 16.1.2. The reference numbers for the technical ES Chapters referred to above are:
- Chapter 5 - Air quality (Application document TR010063/APP/6.3)
 - Chapter 6 - Noise and vibration (Application document TR010063/APP/6.4)
 - Chapter 7- Biodiversity (Application document TR010063/APP/6.5)
 - Chapter 8 - Road drainage and the water environment (Application document TR010063/APP/6.6)
 - Chapter 9 - Landscape and visual (Application document TR010063/APP/6.7)
 - Chapter 10 - Geology and soils (Application document TR010063/APP/6.8)
 - Chapter 11 - Cultural heritage (Application document TR010063/6.9)
 - Chapter 12 - Materials and waste (Application document TR010063/APP/6.10)
 - Chapter 13 - Population and human health (Application document TR010063/APP/6.11)
 - Chapter 14 - Climate (Application document TR010063/APP/6.12)
 - Chapter 15 - Cumulative Effects Assessment (Application document TR010063/APP/6.13)
- 16.1.3. The ES Non-Technical Summary (NTS) (Application document TR010063/APP/6.1) presents a summary of the information set out in the ES.
- 16.1.4. Table 16-1 (below) presents a high-level summary of the residual significant adverse and beneficial effects. Neutral, slight adverse or slight beneficial effects are not considered to be significant for most topics. Moderate, large or very large effects are considered significant.

16.2. Summary of significant effects table

Table 16-1 - Summary of assessment of likely residual significant adverse and beneficial effects

Topic	Construction stage	Operation stage
Air quality	No significant effects	No significant effects
Noise and vibration	<p>Throughout the construction period, construction noise is predicted to exceed the threshold at noise sensitive receptors, but works are unlikely to exceed the duration threshold, and so this is not assessed as a significant effect.</p> <p>Temporary traffic diversion routes will be in place for 19 months because of the closure of the two existing M5 J10 slip roads. This will include a five month period when both slip roads will be closed. On the diversion routes themselves no significant effects are predicted. Traffic rerouting on other local roads is anticipated to give rise to temporary changes:</p> <ul style="list-style-type: none"> • Significant beneficial effects for receptors on the A4109, Walton Cardiff Road, St James' Square and Lansdown Road. • Significant adverse effects for receptors on the road through Elmstone Hardwicke, the road through Boddington and Pamington Lane. 	<p>During the opening year:</p> <ul style="list-style-type: none"> • Significant beneficial effects are predicted for 411 residential properties during the day and 273 residential properties during the night. • Significant beneficial effects are predicted during the day for twelve non-residential receptors (including the House in the Tree public house, the Cheltenham West Fire Station and bars in St James Square), with no significant beneficial effects predicted for non-residential receptors at night. • Significant adverse effects are predicted for 89 residential properties during the day and 169 residential properties during the night (located on Stoke Road, Up Hatherley Way and Brooklyn Road). <p>Long-term effects:</p> <ul style="list-style-type: none"> • Significant beneficial effects are predicted for 159 residential properties, and two non-residential, during the day and 200 residential properties during the night. • Significant adverse effects are predicted for 99 residential properties during the day and 238 residential properties during the night (located on Stoke Road, A4019, Up Hatherley Way, Gloucester Road and Brooklyn Road). <p>Long term effects (with/ on the strategic development sites):</p> <ul style="list-style-type: none"> • Significant beneficial effects are predicted for 99 residential properties, and one non-residential, during the day and 161

Topic	Construction stage	Operation stage
		<p>residential properties during the night.</p> <ul style="list-style-type: none"> • Significant adverse effects are predicted for 202 residential properties during the day and 436 residential properties at night (located at Boddington Road/ Church Lane, The Green/ Road to Elmstone Hardwicke, Monks Lane, Moat Lane, Telstar Way, Fiddlers Green Lane, Down Hatherley Lane, Cirencester Road, Stilchester Road and Innsworth Lane, as well as in Bishops Cleeve, and on the road network between Stoke Orchard and Ashchurch (through Fiddington and Natton). • Significant adverse effects are predicted during the day for three non-residential receptors, located at the Orchard, Village Hall Uckington, and the Church of St Mary Magdalene.
Biodiversity	No significant effects	No significant effects
Road drainage and the water environment	No significant effects	<p>There will be some localised significant adverse effects to the River Chelt floodplain upstream of the M5 on existing farmland. However, for most of the River Chelt Floodplain upstream of the M5 there would be significant beneficial effects.</p> <p>There will also be significant beneficial effects for the River Chelt Floodplain downstream of the M5 and the majority of areas upstream of the M5; Leigh Brook Floodplain (upstream and downstream of the M5); Barn Farm East; Elmstone Business Park; the B4634; and the A4019 east of the M5.</p>
Landscape and visual	<p>Site clearance and construction activity are predicted to give rise to significant adverse effects on:</p> <ul style="list-style-type: none"> • Landscape character: local landscape character areas LCA C, D & E and Scheme scale (localised to the site and immediate vicinity). • Visual amenity for: <ul style="list-style-type: none"> - Residents of properties at: VR3a (Sheldon Cottages); VR4 (Barn Farm Stanboro Lane); VR5 (the informal 	<p>Significant adverse effects arising from the presence of the Scheme upon opening will remain for:</p> <ul style="list-style-type: none"> • Landscape character: local landscape character areas LCA C, D & E and Scheme scale (localised to the site and immediate vicinity). • Visual amenity for residents of properties at: <ul style="list-style-type: none"> - VR3a (Sheldon Cottages); VR6 (Butler’s Court complex); VR8 (Withybridge); VR 9 (Elm Cottage and Orchard House); VR10 (Hayden Fruit Farm); and VR18a (north Uckington along The

Topic	Construction stage	Operation stage
	<p>Traveller site); VR6 (Butler's Court complex); VR8 (Withybridge); VR 9 (Elm Cottage and Orchard House); VR10 (Hayden Fruit Farm); VR11 (properties at Hayden Hill and Pilgrove Farm); VR18a (north Uckington along The Green); VR18b (Holly Bank, Uckington); VR18c (east of The Green on A4019, Uckington); VR19 (Forge House and adjacent properties, Uckington); VR20 (Moat Lane); VR24 (south side of A4019 east of West Cheltenham Fire Station).</p> <ul style="list-style-type: none"> - Users of PRowS: VR12 Cheltenham Circular PRow; VR16 (BWAUC1); VR26a, b & c (users of the Strategic Road Network (SRN)). - Users of non-residential locations: VR9 (The House in the Tree public house). 	<p>Green).</p> <p>These adverse effects will reduce as mitigation planting grows and integrates the Scheme better into the view; resulting in no significant adverse effects anticipated by Year 15.</p> <p>Significant beneficial effects may be experienced for:</p> <ul style="list-style-type: none"> • Visual amenity for residents of property at VR4 (Barn Farm, Stanboro Lane). <p>No other significant beneficial effects on visual amenity are predicted.</p> <p>Some less significant beneficial effects can be anticipated across several PRowS and some properties.</p>
Geology and soils	<p>Significant adverse effects for the permanent loss of 31.56 ha subgrade 3a best and most versatile agricultural land.</p> <p>Significant adverse effects for the permanent loss of 22.56 ha subgrade 3b agricultural land.</p> <p>A further 1.13 ha of land will be downgraded from subgrade 3b to subgrade 4 as a result of reprofiling work in order to provide a flood compensation area.</p>	No significant effects
Cultural heritage	No significant effects	No significant effects
Materials and waste	No significant effects	No significant effects
Population and human health- Population	<p>Significant adverse effects have been identified for:</p> <ul style="list-style-type: none"> • Residents of the following properties which are due to be demolished: <ul style="list-style-type: none"> - Three properties in the vicinity of Sheldon Nurseries on 	<p>Significant adverse effects have been identified for:</p> <ul style="list-style-type: none"> • Residents of retained properties at Uckington - arising from impacts on key characteristics of the settlement from demolition of buildings and urbanisation of the junction of The Green with the A4019 and the A4019 corridor.

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	<p>Stanboro Lane.</p> <ul style="list-style-type: none"> - All 14 properties at Withybridge Gardens together with their outbuildings and garages. - Two properties at Withy Bridge together with their outbuildings and garages. - Three properties at Uckington. - Ten properties (five semi-detached buildings) to the east of West Cheltenham Fire Station. <ul style="list-style-type: none"> • Residents of Uckington community - arising from change to key rural characteristics from construction works, demolition of buildings and the introduction of urbanising features along the A4019. • Residents of the informal Traveller site north of the M5 Junction 10 and adjacent to the M5 corridor - changes to key characteristics arising from land take and loss of vegetation that provides screening and enclosure to the western edge of the site. • Residents of Sheldon Cottages - arising from the construction works, demolition of buildings and the reconfiguration of access and formation of earthworks. • Incoming residents of two planned developments (consented by application no. 20/00759/FUL at Swindon Village and seeking consent under application no. 23/00354/OUT) since the A4019 will be the key access for construction traffic and incoming residents. • West Cheltenham Fire Station - arising from impacts on the provision of emergency access/ response through the areas under traffic management during the construction works. • Two businesses which are due to be demolished - 	<p>Significant beneficial effects have been identified for:</p> <ul style="list-style-type: none"> • Residents of the following properties - arising from improved access to a range of transport modes as part of the Scheme: <ul style="list-style-type: none"> - <30 homes at Uckington. - <30 homes adjacent to M5 Junction 10, including Stanboro Lane and fronting the A4019. - Sheldon Cottages. - Informal Traveller site adjacent to the M5 north of Junction 10. - Voyage Care, Orchard Leigh. - <30 homes at Boddington. - >150 homes in north-west Cheltenham. - Homes between Uckington and Gallagher Retail Park. - Properties west of Elmstone Hardwicke. • Incoming residents and business occupiers planned for delivery through the following policies and planning applications - arising from improved access to a range of transport modes as part of the Scheme: <ul style="list-style-type: none"> - Policy A4 – the North West Cheltenham Development Area (4285 homes), associated with application 16/02000/OUT (4115 homes) application 20/00759/FUL (266 homes) and application 23/00354/OUT. - Policy A7 – West Cheltenham Development Area (1100 homes) associated with application 22/01817/OUT and 22/01107/OUT. - Policy HD8 Old Gloucester Road (175 homes) associated with application 21/00872/REM.

Topic	Construction stage	Operation stage
	<p>Gloucester Detailing and Sheldon Nurseries.</p> <ul style="list-style-type: none"> • Gallagher Retail Park and Kingsditch Trading Estate - arising from impacts on access to these shopping and trading destinations and in recognition that due to the nature of the use, interruptions or delays to access may affect operational requirements, as well as deter customers. • Junction 10 breakfast van - arising from the loss of the established business location (lay-by). • Agricultural land holdings C, F, H and I - arising from severance by the Link Road (initially this will occur during construction and continue in perpetuity). • Agricultural land holding B - due to the flood storage area (occurring in construction and continuing in perpetuity) and loss of Farm Woodland Scheme land. • Uckington footpath 8 (AUC8), Boddington footpath 14 (ABO14), Boddington footpath 16 (ABO16), Uckington footpath 11 (AUC11), Boddington footpath 24 (ABO24), Cheltenham Circular Route (including AUC8, AUC14 and ABO25) - arising from the length of diversion required to maintain walkers, cyclists and horse riders (WCH) movement. • Uckington Bridleway 1 (AUC1) - arising from closure of the route for the duration of construction works. 	<ul style="list-style-type: none"> - Policy H2 Lansdown Industrial Estate, associated with application 20/02832/OUT. - Policy SD5 – safeguarded land to the north-west of Cheltenham, north east of M5 Junction 10 (assumed for the ES to be at least 2000 homes). - Policy A4 – North West Cheltenham Development Area (23 ha. employment allocation). - Policy A7 – West Cheltenham Development Area (45 ha. employment allocation). • Cheltenham Civil Service Tennis and Football Clubs - arising from improved access to a range of transport modes as part of the Scheme. • West Cheltenham Fire Station – arising from improved access to a range of transport modes as part of the Scheme. • The following businesses - arising from improved access to a range of transport modes as part of the Scheme: <ul style="list-style-type: none"> - Bailey’s Nurseries and Arle Nursery. - Aldi and neighbouring business premises at the A4019, B4634 junction. - Gloucester Old Spot and The House in the Tree (public houses). - Stanboro Cottage Fish Farm. - Elmstone Business Park. - Blaisdon Way Commercial Premises. - Comfy Campers. - Cheltenham Auto Services. - Distinctive Ironwork.

Topic	Construction stage	Operation stage
		<ul style="list-style-type: none"> - Premier Inn Cheltenham north-west and associated restaurants. - Cheltenham Fencing. - Applegreen filling station and associated businesses. - Holmedale Guest House. - Gateway Retail Park, Gallagher Retail Park and Kingsditch Trading Estate.
<p>Population and human health- Human health</p>	<p>Significant adverse effects arising from health and wellbeing outcomes have been identified for:</p> <ul style="list-style-type: none"> • The wider population (rural context), arising from demolition, and from changes to air quality, noise and landscape amenity. • The wider population (urban context) - arising from demolition, and from changes to landscape amenity. • Families with children and adolescents; People who are physically or mentally disadvantaged – arising from changes to air quality, safety, access, noise, landscape amenity, and separation from open space and recreational routes. • People who are materially disadvantaged; People from black and minority ethnic groups - arising from changes to safety and access. • Families with children and adolescents; Residents of properties at Uckington - arising from changes to noise and characteristics of the transport network along roads and settlements experiencing temporary changes in the distribution of through traffic during the M5 J10 slip road closures. • Users of the PRow and WCH networks - arising from changes in access arrangements, changes in landscape amenity, separation from open space and recreational 	<p>Significant adverse effects arising from health and wellbeing outcomes have been identified for:</p> <ul style="list-style-type: none"> • The wider population in general terms and specifically residents of properties at Uckington, Moat Lane, Cooks Lane, Withybridge Gardens, Withybridge Lane. Stanboro Lane and properties adjacent to the B4634 - arising from changes to landscape amenity. <p>Significant beneficial effects arising from health and well being outcomes have been identified for:</p> <ul style="list-style-type: none"> • The wider population and specifically families with children and adolescents; People who are physically or mentally disadvantaged; People who are materially disadvantaged; and People from black and minority ethnic groups - arising from access improvements for a range of modes and to community facilities. • People from all four population sub-groups listed above due to the removal of modal conflicts and enhanced WCH. • Residents of properties at the locations listed below arising from access improvements for a range of modes and to community facilities:

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	<p>routes and changes to safety due to construction works.</p> <ul style="list-style-type: none"> • Residents of properties adjacent to the B4634 - arising from changes in landscape amenity. • Residents of properties at Uckington, Moat Lane, Cooks Lane - arising from changes in access arrangements and landscape amenity. • Residents of properties at Homecroft Drive and Appleyard Close - arising from demolition of properties and changes in access arrangements. • Residents of properties at Withybridge Gardens, Withybridge Lane and Stanboro Lane - arising from the demolition of properties and changes in landscape amenity. • West Cheltenham Fire Station - arising from changes in access arrangements. • Users of Cheltenham Civil Service Tennis and Football Clubs - arising from increases in noise associated with construction activities. • Employees and students at Greensteps National Star - arising from changes in access arrangements. • Employees at Gallagher Retail Park and Kingsditch Trading Estate - arising from changes in access arrangements. • Employers and employees of businesses adjacent to the A4019 - arising from changes in access arrangements and landscape amenity. <p>Significant beneficial effects arising from health and well being outcomes have been identified for:</p> <ul style="list-style-type: none"> • People who are materially disadvantaged; People from black and minority ethnic groups - arising from increased vocational opportunities from construction. 	<ul style="list-style-type: none"> - North West Cheltenham. - Within Springbank. - Uckington, Moat Lane and Cooks Lane. - Adjacent to the B4634. - Homecroft Drive and Appleyard Close. - Withybridge Gardens, Withybridge Lane and Stanboro Lane. - Swindon Village. <ul style="list-style-type: none"> • Users of the PRoW and WCH networks - arising from improved safety and access for a range of modes. • Users of Cheltenham Civil Service Tennis and Football Clubs and West Cheltenham Fire Station arising from access improvements for a range of modes. • Employees and students at Greensteps National Star - arising from access improvements. • Employees at Gallagher Retail Park and Kingsditch Trading Estate - arising from changes in access arrangements. • Employees and employers of businesses adjacent to the A4019 - arising from access improvements for a range of modes.
Climate	No significant effects	No significant effects

Topic	Construction stage	Operation stage
<p>Cumulative effects - Intra-Scheme</p>	<p>Significant adverse effect on established characteristics, principally from changes in noise and landscape amenity on the existing residents of Uckington arising from temporary changes in the distribution of through traffic while the M5 J10 slip road closures and signed diversion routes are in place.</p> <p>Significant adverse effect on established characteristics of residences/ residential areas along routes affected by temporary changes in the distribution of through traffic while the M5 J10 slip road closures and signed diversion routes are in place.</p>	<p>Significant beneficial effect on receptors (biodiversity, agricultural land and WCH) in the area to the south of the M5 Junction 10.</p>
<p>Cumulative effects - Inter-project (RFFP references- see below)</p>	<p>Significant adverse effect of urbanising and transformational change on the existing residents of Uckington arising from interactions with RFFPs A and B.</p> <p>Significant adverse effect of urbanising and transformational change on the existing residents of Uckington and north of the A4019 arising from interactions with RFFP C.</p> <p>Significant adverse effect of introducing urbanising development within the agricultural landscape on the existing residents of the B4634 and Withybridge Lane arising from interactions with RFFP D.</p> <p>Significant adverse effect of changes to the configuration, availability, amenity and wider connectivity of WCH network on WCH users of the recreational network close to M5 arising from interactions with RFFP C.</p> <p>Significant adverse effect of the availability of habitat to support protected species, arising from interaction with RFFPs A, B and D.</p> <p>Significant adverse effect of the availability and continuity of habitat to support protected species, arising from interaction with RFFP C.</p>	<p>Significant adverse effect of urbanising and transformational change on the existing residents of Uckington arising from interactions with RFFPs A and B.</p> <p>Significant adverse effect of urbanising and transformational change on the existing residents of Uckington and north of the A4019 arising from interactions with RFFP C.</p> <p>Significant adverse effect of introducing urbanising development within the agricultural landscape on the existing residents of the B4634 and Withybridge Lane arising from interactions with RFFP D.</p> <p>Significant adverse effect of changes to the configuration, availability, amenity, and wider connectivity of the WCH network on WCH users of the recreational network close to M5 arising from interactions with RFFP C.</p>

NOTE: Inter-project cumulative effects - For brevity, the RFFPs which have been assessed as giving rise to inter-project cumulative effects when considered with the Scheme have been referenced as follows for this table:

A - 16/02000/OUT (Elms Park) – relating to land allocated under Policy A4 – North West Cheltenham Development Area.

B - 20/00759/FUL (Swindon Farm) – relating to part of the land allocated under Policy A4 – North West Cheltenham Development Area.

Topic	Construction stage	Operation stage
C - Safeguarded land to the north-west of Cheltenham (Policy SD5).		
D - 22/01817/OUT and 22/01107/OUT – relating to part of the land allocated under Policy A7 – West Cheltenham Development Area.		

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