

6.11 Cumulative impacts

This section discusses the potential cumulative impacts that may arise as a result of the construction and operation of the proposal and the combined impacts of this and other projects near the proposal. The cumulative impacts relate to both the individual environmental and social impacts of the proposal as well as the combined effects of this and other proposals that form part of the Great Western Highway Upgrade Program.

6.11.1 Study area

The cumulative impact assessment has considered other projects and developments in the Blue Mountains region near the Great Western Highway. It has considered projects which would be under construction at the same time as, or close to, the proposal.

6.11.2 Broader program of work

The proposal is part of the Great Western Highway Upgrade Program, which is an infrastructure program of national importance. The NSW Government has progressively upgraded sections of the Great Western Highway to make it safer and more reliable for all road users. The broader program would complete the final 34-kilometre connection of a modern dual-carriageway link across the Blue Mountains.

The Great Western Highway Upgrade Program consists of four projects, which are:

- Great Western Highway East – Katoomba to Blackheath (Katoomba to Blackheath Upgrade, this proposal). Refer to Section 3.2.3 for details on the proposal.
- Great Western Highway Upgrade – Medlow Bath (Medlow Bath Upgrade). This project involves upgrading and duplicating the existing surface road corridor with intersection improvements and a new pedestrian bridge. The western end of the Katoomba to Medlow Bath section of this proposal would tie in to the eastern end of this project. The REF for this project was exhibited for consultation between July and September 2021, with construction beginning late 2022.
- Great Western Highway Blackheath to Little Hartley (Blackheath to Little Hartley Upgrade). This project involves the construction of a tunnel bypass of Blackheath and Mount Victoria, with connectivity between the two proposed tunnels currently under further investigation. The western end of the Medlow Bath to Blackheath section of this proposal would tie in to the eastern end of this project. It is anticipated that the Environmental Impact Statement would be exhibited for consultation mid-2022.
- Great Western Highway Upgrade Program – Little Hartley to Lithgow (West Section) (Little Hartley to Lithgow Upgrade). This project involves upgrading, duplicating and widening the existing surface road corridor, with connections to a tunnel portal at Little Hartley. The REF for this project was exhibited for feedback from 23 November 2021 to 16 January 2022.

These four projects would be constructed at similar times and consecutively geographically. They have the potential to result in cumulative impacts to local communities as well as road users throughout the Blue Mountains area.

This cumulative impact assessment has considered those projects that have progressed sufficiently enough to understand the impacts of each project. These projects are all in the planning stage, however only the Medlow Bath Upgrade and Little Hartley to Lithgow Upgrade have assessed the environmental impacts of the projects so that they could be considered as part of this cumulative impact assessment.

Transport (Sydney Trains) is also replacing and relocating the Medlow Bath West Sectioning Hut which is at the end of asset life. The sectioning hut is located within the Medlow Bath to Blackheath section of this proposal. This work is being assessed through a separate Minor Works REF.

6.11.3 Other projects and developments

The other projects and developments which have been identified as relevant when considering the cumulative impacts of the proposal are outlined in Table 6-63. The Blackheath to Little Hartley Upgrade has not progressed sufficiently to understand the impacts of the project. Cumulative impacts of this project would be considered at a later stage as part of its own environmental assessment.

Table 6-63: Relevant future projects

Project	Construction impacts	Operational impacts
<p>Great Western Highway Upgrade – Medlow Bath</p> <ul style="list-style-type: none"> Upgrade of the Great Western Highway from two lanes to four lanes in Medlow Bath Construction expected to commence in 2022, pending planning approval 	<p>Construction impacts of this project include:</p> <ul style="list-style-type: none"> temporary delays to motorists and increased construction traffic change in pedestrian and cyclist access through Medlow Bath bus service delays temporary localised air quality, noise and vibration and visual amenity impacts due to construction work physical impact to non-Aboriginal heritage items. 	<p>Operational impacts of this project include:</p> <ul style="list-style-type: none"> improved traffic flows and road safety through Medlow Bath provision of new public transport and active transport facilities through Medlow Bath capacity for larger freight vehicles to use the Great Western Highway, reducing the number of heavy vehicles. visual impacts to the mountain village from the duplication of the highway and the new pedestrian bridge.
<p>Great Western Highway Upgrade Program – Little Hartley to Lithgow (West Section)</p> <ul style="list-style-type: none"> Upgrade of the Great Western Highway from two lanes to four lanes between Little Hartley and Lithgow Construction expected to commence in 2022, pending planning approval 	<p>Construction impacts of this project include:</p> <ul style="list-style-type: none"> removal of 75.19 ha of native PCT vegetation and 215.32 ha of non-PCT vegetation minor increases in traffic volumes due to construction traffic localised noise and vibration impacts to sensitive receivers and structures, including from blasting near River Lett Hill direct and indirect impacts to Aboriginal heritage sites direct and indirect impacts to non-Aboriginal heritage items, including major impacts to one listed heritage item and three unlisted heritage items acquisition of private and public land temporary local visual amenity impacts from light spill during night work and vegetation clearing. 	<p>Operational impacts of this project include:</p> <ul style="list-style-type: none"> improved safety and road network performance between Little Hartley and Lithgow, with an expected 57 per cent reduction of the total crash rate on this section of the Great Western Highway reduced pollutant loads compared to existing conditions, resulting in a beneficial effect on water quality increased localised flooding near River Lett and Rosedale Creek increased road traffic noise levels for sensitive receivers due to the revised alignment of the Great Western Highway long term positive impacts on access and connectivity between the Central West, Blue Mountains and Sydney safer access and enhanced amenity for residents and businesses within the Little Hartley Village provision of an upgraded active transport network.

Project	Construction impacts	Operational impacts
<p>Medlow Bath West Sectioning Hut</p> <ul style="list-style-type: none"> Construction expected to be complete by 2023 	<p>Construction impacts of this project include:</p> <ul style="list-style-type: none"> localised noise and vibration impacts to sensitive receivers near Coachhouse Lane, Belgravia Street, Kanimbla Street and Station Street, Medlow Bath minor native and non-native vegetation removal, including up to 0.47 ha of low condition PCT 1248 (native vegetation) and up to 0.12 ha of non-native vegetation increased construction traffic and temporary traffic detours. 	<p>Operational impacts of this project include noise impacts from use of a temporary generator during maintenance periods and increased visual dominance of the rail corridor and infrastructure for motorists and pedestrians using Station Street.</p>

6.11.4 Potential impacts

The potential cumulative impacts of the proposal and other nearby projects have been assessed during the period of construction and within 10 years of opening of the proposal, where sufficient information on impacts is publicly available.

Traffic and transport

Construction of the proposal would partially overlap with the construction of the Medlow Bath Upgrade and would be constructed simultaneously with the Little Hartley to Lithgow Upgrade. Concurrent construction work between the projects near Medlow Bath would be staged to minimise concurrent traffic impacts through Medlow Bath and between Katoomba and Blackheath. The proposal has been developed to enable the continual operation of the highway by maintaining traffic flow in line with the existing conditions during construction.

The Great Western Highway between Katoomba and Lithgow and the broader Blue Mountains road network may experience some traffic fatigue between 2023 and 2027 during construction of these projects. Motorists travelling along the Great Western Highway between Katoomba and Lithgow would be most affected by these ongoing disruptions. There would be localised traffic disruptions such as short-term stoppages, traffic switches and incident response during construction along this length of the highway. Access to ancillary facilities and work sites would be in discrete locations that may cause traffic delays through the proposal area and cause frustration for motorists, pedestrians or cyclists. These delays would be most noticeable on weekends and during peak holiday periods, when the Great Western Highway is known to experience higher traffic volumes.

The Blackheath to Little Hartley Upgrade would still be under construction once the other projects within the Great Western Highway Upgrade Program are operational. This may see additional construction vehicles and heavy machinery travelling along the highway until construction of this project is completed.

Once all projects within the Great Western Highway Upgrade Program are operational, there would be positive cumulative impacts associated with improved travel time, safety, freight efficiency, resilience and reduced congestion along the road corridor between Katoomba and Lithgow. The Great Western Highway Upgrade Program would deliver more efficient and reliable journeys for those travelling in, around and through the Blue Mountains, and better connect communities in the Central West.

Transport would also seek to maintain and enhance active transport opportunities along the length of the Great Western Highway Upgrade Program, with these benefits to be realised once construction of the program is complete.

Surface water, groundwater and flooding

Potential impacts to surface water for these projects would be relatively confined to particular catchments, but if not managed appropriately would affect water quality and sensitive receiving environments more broadly in the Blue Mountains area.

Of particular concern would be any downstream impacts to the Blue Mountains National Park and the Special Catchment Areas. The Medlow Bath Upgrade would result in a beneficial effect on surface water quality through an operational water quality treatment process involving the installation of an onsite stormwater detention basin. This process is designed to remove gross pollutants and reduce residual pollutants from surface water runoff from the Great Western Highway. This would minimise the potential for cumulative contamination of surface water sources due to this project and the proposal.

The Little Hartley to Lithgow Upgrade is also expected to result in reduced pollutant loads and a beneficial effect on surface water quality compared to existing conditions through cross and longitudinal drainage and permanent dry biofiltration basins. Cumulative impacts associated with surface water and flooding between this project and the proposal are not expected.

Localised flooding impacts associated with the Medlow Bath Upgrade would be minimised through drainage upgrades. The potential for cumulative impacts between this project and the proposal are anticipated to be minor. These cumulative impacts have been minimised by considering the section of the Medlow Bath Upgrade that drains towards Foy Avenue in the drainage and water quality design for this proposal.

Blockage or diversion of local drainage lines during construction could result in localised flooding upstream of work. This could carry additional contaminants into receiving watercourses, resulting in minor and localised impacts. Across all projects, Transport would appropriately manage runoff from construction in accordance with industry best practice.

The Great Western Highway Upgrade Program would result in a cumulative increase to existing impervious areas and horizontal/vertical alignments along the upgraded road corridor. At present, there is minimal piped infrastructure. This would increase the volume and flow of surface water into receiving catchments and reduce the rate of recharge of groundwater. Changes in stormwater and groundwater interactions may also cause an increase in groundwater and soil salinity.

However, the proposed design for the Great Western Highway Upgrade Program includes provision for capture of surface runoff with a large pit and pipe network and lead to a minimal impact on the receiving surface water sources. This would result in an improvement along the entire Great Western Highway road corridor between Katoomba and Lithgow compared to the existing scenario. Transport would continue to work with Blue Mountains City Council, Lithgow City Council and Water NSW to develop a water quality strategy across the upgrade program to improve water runoff from the highway.

Heritage

The Great Western Highway Upgrade Program would result in impacts to both Aboriginal and non-Aboriginal heritage items between Katoomba and Lithgow. The entire Blue Mountains region has a high level of Aboriginal and non-Aboriginal cultural significance. This includes a high number of heritage items connected with European exploration of the region near the road corridor as well as Aboriginal objects, sites, and places including those registered on AHIMS.

The Great Western Highway Upgrade Program would generate positive outcomes for both non-Aboriginal and Aboriginal heritage values in the Blue Mountains. Transport is currently engaging with specialist heritage consultants and stakeholders to develop a heritage interpretation strategy across the Great Western Highway Upgrade Program – Katoomba to Lithgow. This heritage interpretation strategy would look to interpret both Aboriginal and non-Aboriginal heritage along the highway alignment.

Non-Aboriginal heritage

The Medlow Bath Upgrade would impact non-Aboriginal heritage items including those near Medlow Bath Railway Station, Avenue of Trees and Bellevue Crescent. The project has also avoided impact to other heritage items through the village of Medlow Bath.

The Little Hartley to Lithgow Upgrade would impact listed and unlisted heritage items, including major impacts to four items (including one locally listed heritage item) and moderate impacts to four items (including two State and one locally listed heritage items).

Cumulatively, the Great Western Highway Upgrade Program would result in impacts to multiple individual non-Aboriginal heritage items between Katoomba and Lithgow. However, each project has avoided, minimised or mitigated impacts to these items where possible. Impacts to non-Aboriginal heritage across all projects are not significant when considered cumulatively.

Aboriginal cultural heritage

An Aboriginal Cultural Heritage Assessment Report (Transport, 2021c) has been carried out for the Great Western Highway Upgrade Program.

No AHIMS records have been identified near the proposal or the Medlow Bath Upgrade. The study areas for these projects are highly modified as a result of previous development of the existing Great Western Highway and associated infrastructure and the townships of Medlow Bath and Blackheath. The high levels of previous ground disturbance within these study areas reduces the likelihood of the discovery of unexpected Aboriginal cultural heritage items during construction.

The project area for the entire Great Western Highway Upgrade Program (inclusive of adjacent sites) contains a total of 25 Aboriginal sites. The overall significance of these Aboriginal sites falls within a range of low to high. These have been identified near the Blackheath to Little Hartley Upgrade and Little Hartley to Lithgow Upgrade. These sites located near the Great Western Highway are of increased significance due to their rarity in an increasingly developed environment. Any impact to these sites during construction of each project would minimise the broader cumulative Aboriginal cultural heritage impacts of the Great Western Highway Upgrade Program.

Biodiversity

Residential and infrastructure development near the Great Western Highway (particularly between Mt Victoria and Lithgow) in historic and recent times has led to extensive vegetation clearing near the identified projects. In some areas, remaining remnant vegetation and habitat has also been affected by a variety of disturbance mechanisms, including clearing of undergrowth, altered fire regimes, feral animals and weed invasion. In other areas, large extents of vegetation remain close to the highway, include remnant bushland that wraps around town development and areas that have regenerated such as around Pulpit Hill.

The Great Western Highway Upgrade Program would result in further vegetation removal. This would result in long-term effects such as habitat fragmentation and some loss of wildlife connectivity corridors in the area. Invasion and further spread of weeds, pests and pathogens, and changes to surface hydrology may occur due to these projects and the associated vegetation removal. The direct biodiversity impacts of the identified projects to native vegetation, where publicly available, are identified in Table 6-64.

Table 6-64: Direct impacts to native vegetation

Plant Community Type (PCT)	Direct impacts to native vegetation (hectares)			
	Katoomba to Blackheath Upgrade (this proposal)	Medlow Bath Upgrade	Medlow Bath West Sectioning Hut	Little Hartley to Lithgow Upgrade
PCT 85 – River Oak forest and woodland wetland of the NSW South Western Slopes and South Eastern Highlands Bioregion	-	-	-	4.3
PCT 731 – Broad-leaved Peppermint – Red Stringybark grassy open forest on undulating hills, South Eastern Highlands Bioregion	-	-	-	30.13
PCT 732 – Broad-leaved Peppermint – Ribbon Gum grassy open forest in the north east of the South Eastern Highlands Bioregion	-	-	-	6.42
PCT 963 – Narrow-leaved Peppermint - Mountain Gum - Brown Barrel moist open forest on high altitude ranges, northern South Eastern Highlands Bioregion	-	-	-	1.2
PCT 967 – Narrow-leaved Peppermint – Silvertop Ash – Mountain Grey Gum shrubby open forest of the upper Blue Mountains, Sydney Basin Bioregion	0.76	-	-	-
PCT 1103 – Ribbon Gum – Yellow Box grassy woodland on undulating terrain of the eastern tablelands; South Eastern Highlands Bioregion	-	-	-	23.42
PCT 1155 – Silvertop Ash – Narrow-leaved Peppermint open forest on ridges of the eastern tableland, South Eastern Highlands Bioregion and South East Corner Bioregion	-	-	-	9.72
PCT 1248 – Sydney Peppermint – Silvertop Ash heathy open forest on sandstone ridges of the upper Blue Mountains, Sydney Basin Bioregion	46.8	0.34	0.47	-

Most of the vegetation likely to be affected by the proposal is located adjacent to the Great Western Highway and has been subject to historic clearing and edge effects. It is thinned in areas and some areas are dominated by a range of introduced species. This increase is considered unlikely to significantly exacerbate impacts on biodiversity such that the critical threshold would be reached or that there cumulative significant impacts.

The implementation of a biodiversity offset strategy for individual projects within the Great Western Highway Upgrade Program (where required) would mean that offsets are attributed to the relevant projects. As such, further offsets beyond those identified for each project are not required. The significance of impacts and requirement for offset strategies for each project is as follows:

- This proposal is not likely to significantly impact threatened species or ecological communities or their habitats. However, it requires a biodiversity offset strategy due to the area of vegetation impacted under Transport’s guidelines. Refer to Section 6.3.5 for details.
- The Medlow Bath Upgrade is not likely to have a significant impact on threatened species, ecological communities and their habitats. Residual impacts are to be minimised and mitigated. As such, a biodiversity offset strategy is not required for this project.
- The Little Hartley to Lithgow Upgrade is likely to have a significant impact on the critically endangered ecological community White Box – Yellow Box – Blakely’s Red Gum Grassy Woodland and Derived Native Grassland, listed as critically endangered under the BC Act. A biodiversity offset strategy would be prepared for this project under the BAM.

Indirect impacts on biodiversity from noise, dust, light and contaminant pollution are likely to result from the projects and would likely result in incremental cumulative effects. The environmental safeguards and mitigation measures implemented as part of each project would minimise potential impacts such as appropriate controls to manage dust emission, runoff, spills and leaks during construction.

Even though the Little Hartley to Lithgow Upgrade is likely to have a significant impact on threatened species or ecological communities or their habitats, this finding does not change the non-significant impact finding of this proposal.

As part of the Great Western Highway Upgrade Program, Transport is considering a parcel of land which may be suitable to meet its biodiversity offset requirements as well as provide compensatory land for the national park revocation. This offset land could be protected as part of the Blue Mountains National Park.

Property and land use

The Medlow Bath Upgrade would result in the full acquisition of eight properties and partial acquisition of one property. The Little Hartley to Lithgow Upgrade would result in the full acquisition of 11 properties (including four properties owned by the NPWS) and the partial acquisition of 50 properties. While this proposal would also result in property acquisition, impacts to affected property owners would be localised. This would minimise the potential for any cumulative impacts due to property acquisition.

However, as noted, both this proposal and the Little Hartley to Lithgow Upgrade would impact part of the Blue Mountains National Park. Transport is seeking to revoke the land required for the program.

There could be cumulative impacts to the natural and cultural resources which exist within the national park by reducing its extent. However, the area proposed for revocation is a small part of the entire Blue Mountains National Park and is adjacent to the existing highway, with numerous access trails. Part of the revocation process is providing compensatory lands to the national park being revoked in all areas of the Great Western Highway Upgrade Program. Transport is investigating opportunities for additional land near the Great Western Highway to be gazetted as national park to offset the cumulative impact on national park in the area. This would result in more land in the Blue Mountains region being protected as national park and enhance protection of the natural and cultural resources of the regional landscape. These discussions are ongoing between Transport and NPWS.

Noise

Construction noise impacts from the Medlow Bath Upgrade, the Little Hartley to Lithgow Upgrade and this proposal would be expected to impact some sensitive receivers during construction.

The Little Hartley to Lithgow Upgrade would result in construction noise impacts to receivers, including sparsely distributed rural residential properties and a small number of commercial properties. This project and the proposal are not expected to cause cumulative construction noise impacts due to the length of the project and because the noise impacts would be localised.

The construction of the Medlow Bath Upgrade has been staged to be complete before main construction work commences for this proposal (refer to Section 3.3.2). This is to deliver access improvements in Medlow Bath and limit the amenity impacts of multiple construction projects running in and around Medlow Bath at the same time.

Construction staging would mean that construction work from both projects would not be occurring simultaneously. This would mean that there is no cumulative increase in construction noise levels for sensitive receivers near Coachhouse Lane, Foy Avenue and Delmonte Avenue, Medlow Bath, near the tie-in of the proposal with the Medlow Bath Upgrade. However, there may be some sensitive receivers in these areas who may also experience noise impacts over a longer duration due to the projects. However, the impacts would not be for the full construction period of the proposal and the Medlow Bath Upgrade.

Transport would work with eligible receivers to provide appropriate mitigation, including respite periods where feasible.

There would also be cumulative operational noise impacts on some receivers in these areas. The noise and vibration assessment carried out for this proposal identified two sensitive receivers as being eligible for at-property treatment which were also identified as part of the Medlow Bath Upgrade. These cumulative noise impacts would be considered when determining noise mitigations for individual receivers. Transport would also make sure that noise impacts are treated consistently across all projects within the Great Western Highway Upgrade Program.

Landscape character and visual impact

Construction work for the Great Western Highway Upgrade Program would be linear, and as such, static receivers such as townships or receivers would experience limited cumulative landscape character and visual impacts. Medlow Bath residents who travel regularly to Katoomba or Blackheath would be exposed to the visual impacts of the proposal, the Medlow Bath West Sectioning Hut project and the Medlow Bath Upgrade. These future projects would have localised visual impacts in the township.

The largest cumulative visual impacts from the upgrade program would be motorists and active transport users travelling along the Great Western Highway beyond one project area.

There would be a change in landscape character between Katoomba and Lithgow due to the entire Great Western Highway Upgrade Program. The removal of vegetation and widening of the Great Western Highway road corridor from one to two lanes in each direction would lead to cumulative operational visual impacts. This would be most noticeable for motorists travelling the length of the upgraded highway. However, the Great Western Highway Upgrade Program has applied a consistent urban design framework across all projects. The design of the Medlow Bath Upgrade is an integrated design that fits with the existing visual qualities, ecology and character of Medlow Bath and the Blue Mountains. This proposal has also considered the urban design and visual impacts on the township of Medlow Bath. The design of the Little Hartley to Lithgow Upgrade integrates the project within the surrounding rural landscape and minimises the visual impact of the proposal.

The application of the consistent urban design strategy would minimise the potential for inconsistent landscape character impacts along the upgraded road corridor between Katoomba and Lithgow.

Socio-economic

Some residents of the Blue Mountains community may be impacted by consultation for and construction of multiple upgrades within the Great Western Highway Upgrade Program. This may lead to consultation and construction fatigue for local communities and stakeholders, with construction of these projects spanning from 2023 to 2027.

Cumulative impacts from construction would be in the form of reduced amenity and disruptions for road users during the construction of the Medlow Bath Upgrade, Little Hartley to Lithgow Upgrade and this proposal. There would be air quality, noise and visual impacts which could impact on the health and wellbeing of sensitive receivers who live near the Great Western Highway between Katoomba and Lithgow. These impacts would also be experienced by active transport users travelling between Katoomba and Blackheath along the existing active transport network. While the Medlow Bath Upgrade may be completed prior to the main construction work of this proposal, there would be extended impacts along the road corridor beyond the length of one of the projects. However, due to the linear nature of the projects, impacts at any one location would be localised for only part of each project's construction period. Transport would manage the staging of construction of the Great Western Highway Upgrade Program to minimise these impacts on receivers.

Cumulatively, the projects within the Great Western Highway Upgrade Program would improve connection to social infrastructure and provide new active transport opportunities along the Great Western Highway. There would be long term positive impacts on access and connectivity for local and regional communities, business and industry. The projects would improve resilience for local traffic movements, including during peak travel periods and emergencies. The Medlow Bath Upgrade would provide better east/west connectivity for residents, visitors and recreation users on the proposed shared user path. This would enhance the tourism reputation of the town of Medlow Bath and broader Blue Mountains area. The Little Hartley to Lithgow Upgrade also includes provision for the future development of shared paths near that project. These features would also provide wellbeing benefits to residents and visitors, who would be more easily able to access recreational sites in the region.

Significance of impacts

The impact of this proposal, when considered cumulatively with other projects, would not increase to the extent that would change a non-significant impact (identified in Sections 6.1 to 0) to a significant impact. For biodiversity, the significant impact from Little Hartley to Lithgow Upgrade due to TEC impacts would not result in a cumulatively larger impact or change the impacts of this proposal to be significant. As such, there would not be significant cumulative assessed impacts of the Great Western Highway Upgrade Program.

Overall, a number of positive cumulative impacts would occur across the Great Western Highway Upgrade Program through completion of upgrades to the last section of the Great Western Highway (between Sydney and Lithgow). This would result in improved:

- resilience and emergency management conditions
- connectivity for all road users along and across the corridor
- active transport links
- consistency of travel conditions
- network efficiency and freight productivity
- safety for all road users
- quality of surface water run off to the surrounding environment
- local amenity through heritage interpretation.

6.11.5 Safeguards and management measures

Safeguards and management measures for cumulative impacts are outlined in Table 6-65.

Table 6-65: Safeguards and management measures – cumulative impacts

Impact	Environmental safeguards	Responsibility	Timing	Reference
Cumulative impacts	Ongoing consultation will be carried out between proponents and construction contractors of nearby projects to identify the potential for cumulative impacts to occur should construction occur concurrently with the proposal.	Transport / Contractor	Detailed design / Pre-construction / Construction	Additional safeguard
Cumulative impacts	Co-ordination of traffic management controls will be considered to minimise cumulative traffic impacts, particularly during peak holiday periods.	Transport / Contractor	Detailed design / Pre-construction / Construction	Additional safeguard
Cumulative impacts	Co-ordination of out of hours work will be considered across the Great Western Highway East – Katoomba to Blackheath and the Great Western Highway Upgrade – Medlow Bath in Medlow Bath to minimise out of hours work periods and minimise ongoing out of hours work noise to sensitive receivers and ensure respite periods are achieved where required.	Transport / Contractor	Detailed design / Pre-construction / Construction	Additional safeguard