

Group	Impact	Level of Analysis	Evidence		
			Option 1	Option 2	Option 3
Communities	Noise Impact of Health and Quality of Life	Qualitative	<p>Changes to in-scope air traffic patterns below 7,000ft account for 1% of the airport's annual movements.</p> <p>The potential noise impacts caused by a very small number (no more than 3 per day maximum) of non-commercial jet flights, descending from above 7000ft at certain times under certain conditions, is neither measurable nor describable, particularly against the wider baseline of the remaining 99% of movements.</p> <p>It is assessed that noise metrics are not measurable given this scenario and there would be no discernible change in impact.</p> <p>In comparison to the baseline, observation and ADS-B tracking of aircraft have shown many approaching aircraft fly a stepped down approach and, in many instances, have flown lower visual approach than they would if an ICAO compliant GPS approach was followed.</p> <p>The environmental benefits of a defined approach using a Constant Descent Approach (CDA) and low power settings have been identified as early as 1978 (CAA Paper 78006). We assess that using this low power CDA approach would reduce the overall noise impact within the area defined for a GPS approach.</p> <p>However, in comparison to Options 2 and 3, this option delivers the shortest defined approach, in terms of Nm and area overflight) and therefore it is suggested would deliver the lowest reduction in noise impact against the current baseline. Although within the defined element of the approach, it will reduce scatter and thus the numbers of those effected, arrivals vectoring to the start of these approaches will not be significantly different from the baseline.</p>	<p>Changes to in-scope air traffic patterns below 7,000ft account for 1% of the airport's annual movements.</p> <p>The potential noise impacts caused by a very small number (no more than 3 per day maximum) of non-commercial jet flights, descending from above 7000ft at certain times under certain conditions, is neither measurable nor describable, particularly against the wider baseline of the remaining 99% of movements.</p> <p>It is assessed that noise metrics are not measurable given this scenario and there would be no discernible change in impact.</p> <p>In comparison to the baseline, observation and ADS-B tracking of aircraft have shown many approaching aircraft fly a stepped down approach and, in many instances, have flown lower visual approach than they would if an ICAO compliant GPS approach was followed.</p> <p>The environmental benefits of a defined approach using a Constant Descent Approach (CDA) and low power settings have been identified as early as 1978 (CAA Paper 78006). We assess that using this low power CDA approach would reduce the overall noise impact within the area defined for a GPS approach.</p> <p>Utilising a T shape for runway 26, in addition to the straight line for 08, as per option 1, would reduce the overall number of people overflown to the east of Kemble, where the current baseline tracks shown the most scatter. However, this may increase overflight and visual intrusion for some as the tracks are concentrated onto a defined approach. Beyond option 1, there is no further change to the effect on AONB tranquility, as approaches to runway 26 are mostly outside the AONB boundary and approaches to 08, would fly directly across one of the shortest points between the AONB boundaries.</p> <p>It is suggested, the low number of current and forecasted movements will mitigate this.</p>	<p>Changes to in-scope air traffic patterns below 7,000ft account for 1% of the airport's annual movements.</p> <p>The potential noise impacts caused by a very small number (no more than 3 per day maximum) of non-commercial jet flights, descending from above 7000ft at certain times under certain conditions, is neither measurable nor describable, particularly against the wider baseline of the remaining 99% of movements.</p> <p>It is assessed that noise metrics are not measurable given this scenario and there would be no discernible change in impact.</p> <p>In comparison to the baseline, observation and ADS-B tracking of aircraft have shown many approaching aircraft fly a stepped down approach and, in many instances, have flown lower visual approach than they would if an ICAO compliant GPS approach was followed.</p> <p>The environmental benefits of a defined approach using a Constant Descent Approach (CDA) and low power settings have been identified as early as 1978 (CAA Paper 78006). We assess that using this low power CDA approach would reduce the overall noise impact within the area defined for a GPS approach.</p> <p>Utilising a T shape for both runway arrivals will deliver the largest reduction in the overall number of people overflown in comparison to the baseline, thus reducing almost all scatter below 7000ft and all scatter below 4000ft. However, this may increase overflight and visual intrusion for some as the tracks are concentrated onto defined approaches. Whilst delivering the greatest reduction in visual intrusion and overflight, it does concentrate aircraft within the AONB and thus may (on the defined approach tracks) have a detrimental effect on AONB tranquility, where scatter of these infrequent arrivals may be deemed better. Equally, concentrating traffic on a northern T leg would place aircraft along the Stroud valley and centrally along both the AONB and the Dark Skies and Tranquillity boundary. This option has the greatest effect on the AONB.</p> <p>It is suggested, the low number of current and forecasted movements will mitigate this.</p>
Communities	Air Quality	N/A	No changes below 1,000ft. At 1000ft (2-3Nm) those in-scope aircraft would follow the same routing as the current baseline.	No changes below 1,000ft. At 1000ft (2-3Nm) those in-scope aircraft would follow the same routing as the current baseline.	No changes below 1,000ft. At 1000ft (2-3Nm) those in-scope aircraft would follow the same routing as the current baseline.
Wider Society	Greenhouse Gas Impact	Qualitative	<p>WebTAG A3 could not provide any useful data for so few aircraft that this proposal aims to address. Using 2018's movement data, 53 aircraft approached from the East to land on Kemble's runway 26 and 43 approaches from the West onto runway 08. It is assessed that greenhouse gas metrics are not possible to measure given this scenario and there would be no discernible change in impact.</p> <p>However, although unquantifiable, this concept would likely yield a positive Net Present Value which reflects a benefit i.e. a CO2 emissions reduction against the current baseline. Observation and ADS-B tracking of aircraft have shown many approaching aircraft fly a stepped down visual approach at varying airspeeds and, in many instances, have flown lower than they would if an ICAO compliant GPS approach was followed. The environmental benefits of a defined approach using a Constant Descent Approach and low power settings have been identified as early as 1978 (CAA Paper 78006)</p> <p>In comparison to Options 2 and 3, this option delivers the least reduction against the current baseline, since it provides for the smallest area/shortest defined approach length where a CDA would be applied.</p>	<p>WebTAG A3 could not provide any useful data for so few aircraft that this proposal aims to address. Using 2018's movement data, 53 aircraft approached from the East to land on Kemble's runway 26 and 43 approaches from the West onto runway 08. It is assessed that greenhouse gas metrics are not possible to measure given this scenario and there would be no discernible change in impact.</p> <p>However, although unquantifiable, this concept would likely yield a positive Net Present Value which reflects a benefit i.e. a CO2 emissions reduction against the current baseline. Observation and ADS-B tracking of aircraft have shown many approaching aircraft fly a stepped down visual approach at varying airspeeds and, in many instances, have flown lower than they would if an ICAO compliant GPS approach was followed. The environmental benefits of a defined approach using a Constant Descent Approach and low power settings have been identified as early as 1978 (CAA Paper 78006)</p> <p>In comparison to Options 1 and 3, this option delivers the same unquantified reduction to the West of Kemble, but suggest it would deliver a significant reduction to the East, where the T shape provides an opportunity for Constant Descent Approach from around 3500-4000ft, thus reducing power settings and decreasing the number of throttle changes.</p>	<p>WebTAG A3 could not provide any useful data for so few aircraft that this proposal aims to address. Using 2018's movement data, 53 aircraft approached from the East to land on Kemble's runway 26 and 43 approaches from the West onto runway 08. It is assessed that greenhouse gas metrics are not possible to measure given this scenario and there would be no discernible change in impact.</p> <p>However, although unquantifiable, this concept would likely yield a positive Net Present Value which reflects a benefit i.e. a CO2 emissions reduction against the current baseline. Observation and ADS-B tracking of aircraft have shown many approaching aircraft fly a stepped down visual approach at varying airspeeds and, in many instances, have flown lower than they would if an ICAO compliant GPS approach was followed. The environmental benefits of a defined approach using a Constant Descent Approach and low power settings have been identified as early as 1978 (CAA Paper 78006)</p> <p>In comparison the baseline and options 1 and 2, It is suggested, this option delivers a significant reduction in both the East and West of Kemble, where the T shape provides an opportunity for Constant Descent Approach from around 3500-4000ft, thus reducing power settings and decreasing the number of throttle changes.</p> <p>In short, although unquantified, it is suggested this option delivers the most benefit in reducing greenhouse gas emissions.</p>
Wider Society	Capacity/Resilience	Qualitative	Increased flight planning options can allow aircraft operators to avoid capacity-constrained areas.	Increased flight planning options can allow aircraft operators to avoid capacity-constrained areas.	Increased flight planning options can allow aircraft operators to avoid capacity-constrained areas.

General Aviation	Access	Qualitative	<p>This proposal is within Class G airspace and none of the options change access to this airspace, nor seek to establish new areas of controlled airspace. It is acknowledged that a defined approach, even in Class G airspace, will create areas of avoidance, when the approach is active and would require careful Air Navigation Service Provider (ANSP) management between Kemble and RAF Brize Norton to mitigate against this risk.</p> <p>GA use of this airspace is dependent on weather conditions and seasonality but can be assumed to exist generally throughout the year, although less so in poor weather officially termed Instrument Meteorological Conditions (IMC). This proposal is expected to cause a relatively low impact on GA users and on the 99% of Kemble's annual GA movements.</p> <p>Analysis of engagement feedback has suggested a positive response from the GA and glider communities in placing these larger aircraft into a defined or known areas, whilst they are arriving into Kemble. They noted that this is not permanent and that the approach is likely to only be active up to 3 times a day (worst case) and only on one runway.</p> <p>We contend that, although in Class G, this reduces the potential Mid Air Collision (MAC) risk from the current baseline.</p> <p>When assessed against Options 2 and 3, this option delivers the least certainty to GA users when jet and airlines are approaching Kemble. It is noted that this option is one favoured by the local glider community as it creates minimal impact to the west of Kemble and routes Kemble's in-scope approaching aircraft through an area of low utilisation by gliders. However, in the east of Kemble, it may exacerbate a known choke point between Kemble's ATZ and South Cerney aerodrome's parachute dropping zone.</p> <p>All four options could account for the establishment of a notifiable segregation mechanism to identify when the approach is active, either through ANSP or direct communications with other ANSPs, further mitigating potential effects on GA access.</p>	<p>The first two paragraphs from option 1 also apply to this option.</p> <p>This option provides the best compromise between the benefits of options 1 and 3. By concentrating all arrivals onto runway 26 into the T shape, it provides the most certainty (the same as option 3) to the GA and glider operating between Kemble and Brize Norton, and importantly in the choke point between South Cerney and Kemble. Equally, in the west for arrivals to Kemble's runway 08, it does not intersect known areas of glider concentration (north of the option's airspace concept area and importantly between the two glider sites of Nympsfield and Aston Down, as highlighted in the Step 2a engagement feedback table).</p>	<p>The first two paragraphs from option 1 also apply to this option.</p> <p>This option delivers the most certainty to GA and glider airspace users around Kemble by placing all in-scope Kemble inbound traffic into a known area.</p> <p>However, this does place Kemble's inbound traffic arriving from the North onto Runway 08 into a known area of high glider concentration and intersects a known area of ab-initio glider pilot training between Aston Down and Nympsfield. This may create a higher MAC risk and would have a disproportionate effect on gliders in the Cotswold area, especially if it was always assumed to be active (for all the right safety reasons) by glider pilots, in the same way GA pilots avoid glider sites and parachute drop sites.</p>
General Aviation/Commercial Airlines	Economic Impact from increased effective capacity	N/A	<p>There are no air transport movements, passenger numbers of cargo carried as an outcome of this proposal.</p> <p>The Flight Plan options this proposal would introduce could allow Commercial Air Transport (CAT) to avoid capacity constrained areas and avoid consequential delay and cost. However, this is not quantifiable, and no specific capacity increase is assumed by this proposal.</p>	<p>There are no air transport movements, passenger numbers of cargo carried as an outcome of this proposal.</p> <p>The Flight Plan options this proposal would introduce could allow Commercial Air Transport (CAT) to avoid capacity constrained areas and avoid consequential delay and cost. However, this is not quantifiable, and no specific capacity increase is assumed by this proposal.</p>	<p>There are no air transport movements, passenger numbers of cargo carried as an outcome of this proposal.</p> <p>The Flight Plan options this proposal would introduce could allow Commercial Air Transport (CAT) to avoid capacity constrained areas and avoid consequential delay and cost. However, this is not quantifiable, and no specific capacity increase is assumed by this proposal.</p>
General Aviation/Commercial Airlines	Fuel Burn	N/A	<p>It is not proportionate to attempt to monetise any fuel burn reductions created by this proposal. Equally, it is not proportionate, nor realistically possible to quantify or monetise any changes to GA fuel burn.</p>	<p>It is not proportionate to attempt to monetise any fuel burn reductions created by this proposal. Equally, it is not proportionate, nor realistically possible to quantify or monetise any changes to GA fuel burn.</p>	<p>It is not proportionate to attempt to monetise any fuel burn reductions created by this proposal. Equally, it is not proportionate, nor realistically possible to quantify or monetise any changes to GA fuel burn.</p>
Commercial Airlines	Training Cost	N/A	<p>It is not proportionate to attempt to quantify airline training costs.</p>	<p>It is not proportionate to attempt to quantify airline training costs.</p>	<p>It is not proportionate to attempt to quantify airline training costs.</p>
Commercial Airlines	Other costs	N/A	<p>There are no other known costs which would be imposed on commercial aviation.</p>	<p>There are no other known costs which would be imposed on commercial aviation.</p>	<p>There are no other known costs which would be imposed on commercial aviation.</p>
Airport/Air Navigation Service Provider	Infrastructure costs	N/A	<p>There would be no costs attributable to infrastructure.</p>	<p>There would be no costs attributable to infrastructure.</p>	<p>There would be no costs attributable to infrastructure.</p>
Airport/Air Navigation Service Provider	Operational costs	N/A	<p>This proposal would not lead to changes in operational costs.</p>	<p>This proposal would not lead to changes in operational costs.</p>	<p>This proposal would not lead to changes in operational costs.</p>

<p>Airport/Air Navigation Service Provider</p>	<p>Deployment costs</p>		<p>The current baseline utilises an LOA and strong relationship between Kemble and RAF Brize Norton to provide a radar service for the larger jet aircraft leaving the national airways system and descending on an approach into Kemble. This option does overfly RAF Fairfield's Aerodrome Traffic Zone (ATZ) and requires permission to transit through the Fairford MATZ, when activated. Fairford's traffic is controlled by RAF Brize Norton's ATC, so although achievable through a revised LOA it may require resourcing, which is not supported by the MoD (from engagement with them this option was not supported). It also does not account for RAF Brize Norton's own planned airspace change, nor any already announced planned operational/capacity increases at RAF Fairford.</p> <p>NB Cotswold Airport cannot quantify training costs for other ANSPs such as RAF Brize Norton; however, their acceptance of this proposal is a high-priority design principle. This proposal cannot be introduced without their agreement through an updated LOA, but this proposal does not require a guaranteed level of ANSP support from the MoD. We contend there is negligible training costs, and these are acceptable to these agencies.</p>	<p>The current baseline utilises an LOA and strong relationship between Kemble and RAF Brize Norton to provide a radar service for the larger jet aircraft leaving the national airways system and descending on an approach into Kemble. This option does overfly RAF Fairfield's Aerodrome Traffic Zone (ATZ) and requires permission to transit through the Fairford MATZ, when activated. Fairford's traffic is controlled by RAF Brize Norton's ATC, so although achievable through a revised LOA it may require resourcing, which is not supported by the MoD (from engagement with them this option was not supported). It also does not account for RAF Brize Norton's own planned airspace change, nor any already announced planned operational/capacity increases at RAF Fairford.</p> <p>NB Cotswold Airport cannot quantify training costs for other ANSPs such as RAF Brize Norton; however, their acceptance of this proposal is a high-priority design principle. This proposal cannot be introduced without their agreement through an updated LOA, but this proposal does not require a guaranteed level of ANSP support from the MoD. We contend there is negligible training costs, and these are acceptable to these agencies.</p>	<p>The current baseline utilises an LOA and strong relationship between Kemble and RAF Brize Norton to provide a radar service for the larger jet aircraft leaving the national airways system and descending on an approach into Kemble. This option does overfly RAF Fairfield's Aerodrome Traffic Zone (ATZ) and requires permission to transit through the Fairford MATZ, when activated. Fairford's traffic is controlled by RAF Brize Norton's ATC, so although achievable through a revised LOA it may require resourcing, which is not supported by the MoD (from engagement with them this option was not supported). It also does not account for RAF Brize Norton's own planned airspace change, nor any already announced planned operational/capacity increases at RAF Fairford.</p> <p>NB Cotswold Airport cannot quantify training costs for other ANSPs such as RAF Brize Norton; however, their acceptance of this proposal is a high-priority design principle. This proposal cannot be introduced without their agreement through an updated LOA, but this proposal does not require a guaranteed level of ANSP support from the MoD. We contend there is negligible training costs, and these are acceptable to these agencies.</p>
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