

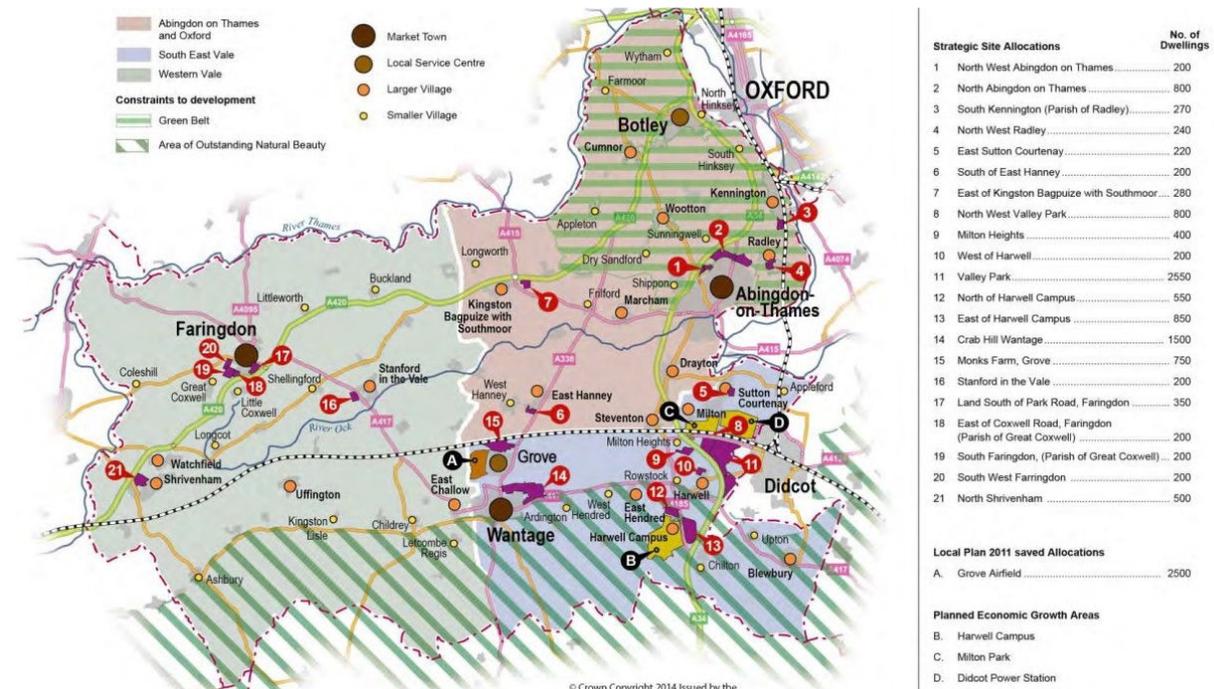
# Vale of White Horse Local Plan Examination in Public Stage 2

## Hearing Statement from North Abingdon Local Plan Group (NALPG)

### Matter 8 – Strategic Housing Allocation (CP 8- CP11, CP 14)

#### Traffic congestion and Air Pollution

This Statement comprises two sections, the first on traffic congestion as a result of housing development in North Abingdon and the second on resulting air pollution and its health effects.



**8.1 Other than in connection with Green Belt issues (considered in Matter 5) are the Strategic Housing Allocations listed in policy CP8 soundly based and deliverable?**

**8.1 (a) Site 2 North of Abingdon-on-Thames**

**8.1 (b) Site 1 North-west of Abingdon-on-Thames**

#### Traffic congestion (Dr A D Turner)

In terms of traffic – CP8 is NOT soundly based for 8.1 (a) and 8.1 (b)

According to the Plan, the over-arching priority for this sub-area is to maintain the service and employment centre roles for Abingdon-on-Thames (and Botley) and ensure growth is managed **to minimise pressure on the highway network whilst protecting the Oxford Green Belt.**

Traffic growth in the VOWH is steadily increasing (estimated to be by 35% from 2003 – 2025) and will be exacerbated by the development of 1,000 houses in the North of Abingdon. Estimates of ~1.5 vehicles/household will add ~1,500 additional cars to local traffic (an increase of a further 28% of Long Furlong/Peachcroft). Dunmore Road and Twelve Acre Drive are currently generally fast, gently curving roads with roundabouts only where they intersect with the Wootton, Oxford and Radley roads - originally built on the periphery of Abingdon along the boundary of the green belt - intended to allow uncongested

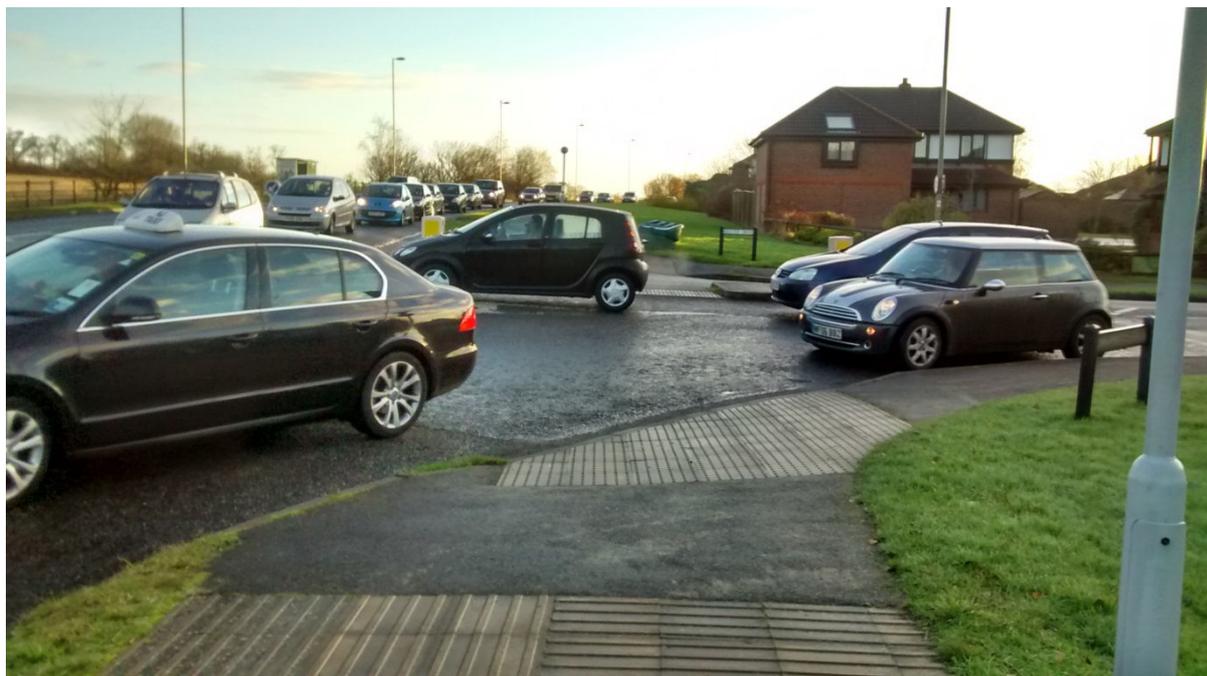
travelling with few entry points from the north. Currently, access can be difficult when there is a fast free flowing traffic along Dunmore Road (either side of the rush hour when there is congestion), particularly for those turning right across two lanes. Congestion can occur at peak times at the roundabouts (in particular at the constricted Wootton Road roundabout) - with queues commonly extending the full length of Dunmore Road. Significant increases in traffic will lead to grid-lock at peak times. The proposed developments will completely change the character of Dunmore Road and Twelve Acre Drive with the road passing through residential areas with several road intersections, roundabouts, pedestrian crossings, and children travelling to the planned local primary school, as well to more distant schools in the town. This will inevitably slow down the through-traffic - perhaps necessitating a 30 mph limit. It would be most appropriate to make roundabouts rather than T junctions for access as part of the development - at least at the Boulter Drive and Alexander Close junctions, if not at all access roads

The Scoping Report describes how the new residential area will link to the existing estates with three crossing points on Dunmore Road and one on Twelve Acre Drive (image below). Presumably these are pedestrian refuges in the centre of the carriageway. Clearly the authors have never attempted to cross these roads. Run!!

A toucan is proposed for Lodge Hill linking the east and west estate. However, no one else can safely reach this crossing point!!



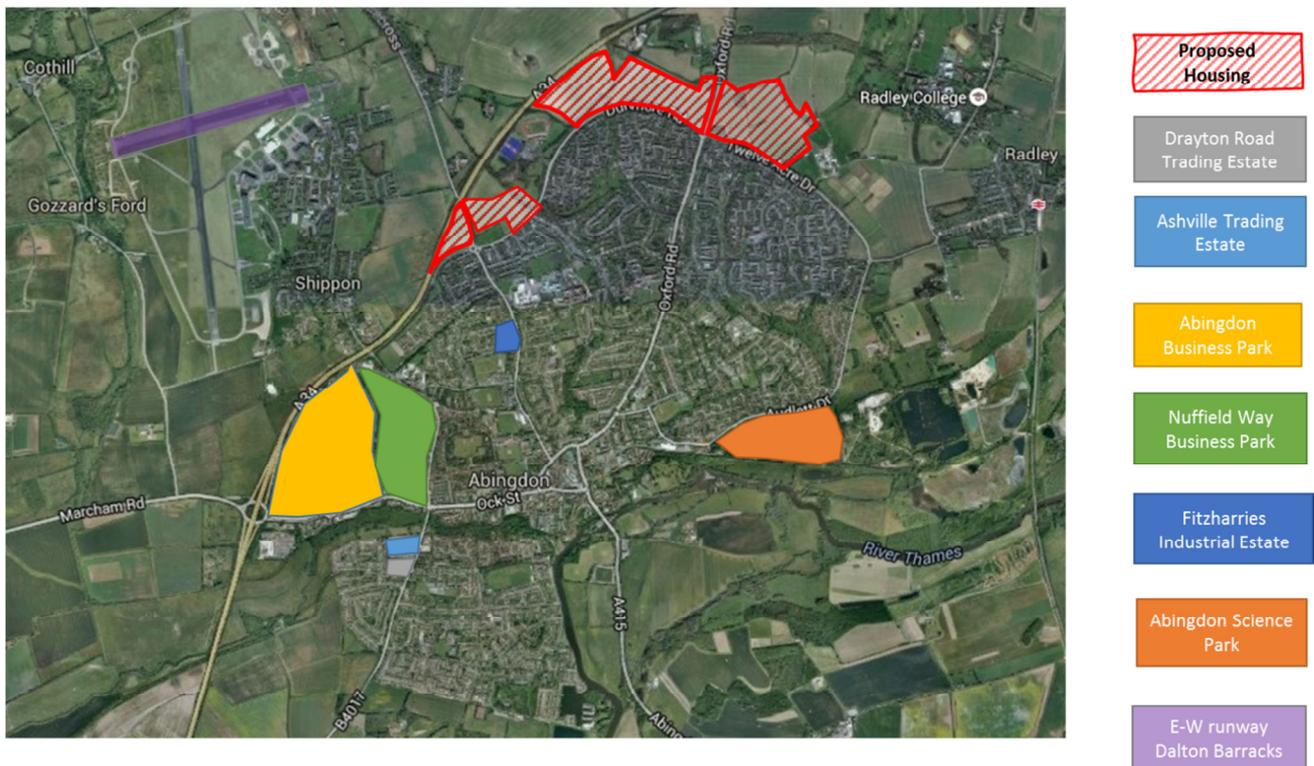
The new estates must be amalgamated to the rest of Abingdon. Somehow school children and the infirm must cross the 40 mph peripheral road. This is already hazardous for vehicles exiting the junctions without pedestrians crossing north/south (image below). Try this on a winter's evening.



There is already a toucan at Tilsley Park installed for obvious safety reasons. There must therefore be at least three more. Is a 40 mph road zipping through an enlarged housing district really appropriate?

Drivers entering Abingdon from the north cannot see congestion at the Wootton Road roundabout. However, they will be immediately aware of the restricted flow from the Lodge Hill roundabout along Dunmore Road. Do they negotiate the series of toucans or head for the Town Centre?

As a result, the whole of Abingdon will be affected, if motorists from Radley and East Abingdon decide to travel through the town centre instead. The loss of the Dunmore Road as the northern bypass cannot be replaced. This proposed development will discourage, not encourage travel along Dunmore Road. Consequently, traffic in the Abingdon-on-Thames town centre will increase where the congestion is already legendary and now declared as an Air Quality Management Area (AQMA) with air pollution above legal limits. The Vale AQMA Action Plan is that it will encourage the use of the peripheral road (Dunmore Road and Twelve-Acre Drive) and A34 (through a diamond junction at Lodge Hill) to divert traffic from the town. This aspiration will be compromised by the proposed housing developments in Sites 1 and 2 to the north of the town arising from additional vehicles and road junctions from the new estates as well being slowed by the need for pedestrian crossings, cycle routes and reduced speed limits for school children— thus exacerbating the AQMA issues rather than providing a solution. The only solution for this problem is to reduce traffic numbers and increase speed (for more efficient fuel consumption).



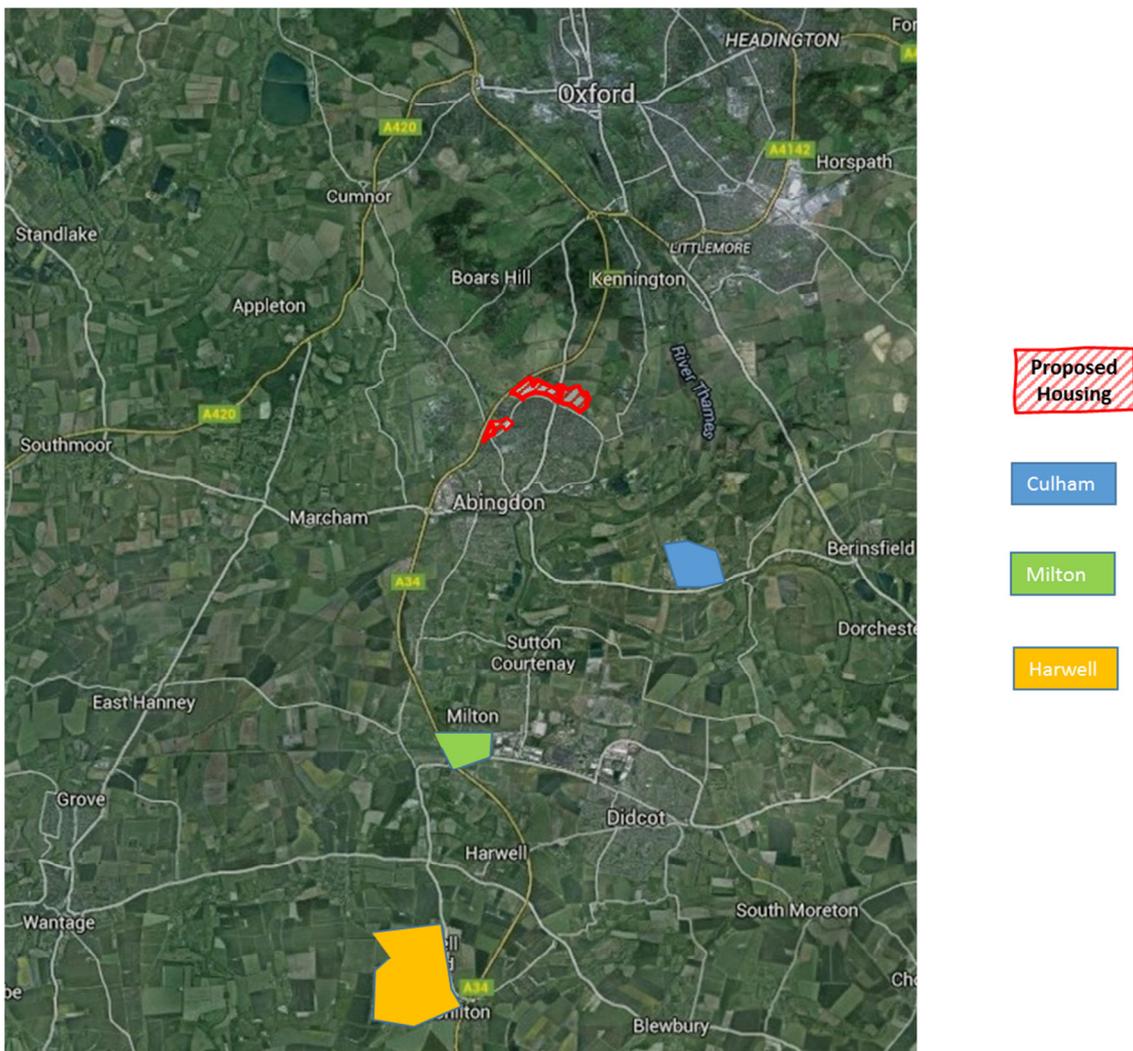
The Business Parks within Abingdon are mainly to the southern part of the town, with little capacity of expansion. Commuting from the North/west of Abingdon, would increase town-centre or orbital road traffic.

As Site 1 and the west of site 2 are adjacent to the A34, these will suffer significant noise and atmospheric pollution. In addition, Site 2 is in line with the E-W runway of Dalton Barracks/Abingdon Airfield which will be affected by noise of aircraft climbing out and Site 1 from the circuit which is to the South at 800'. They will also be affected by aircraft on the approach especially helicopters.

### Links to the Science Vale

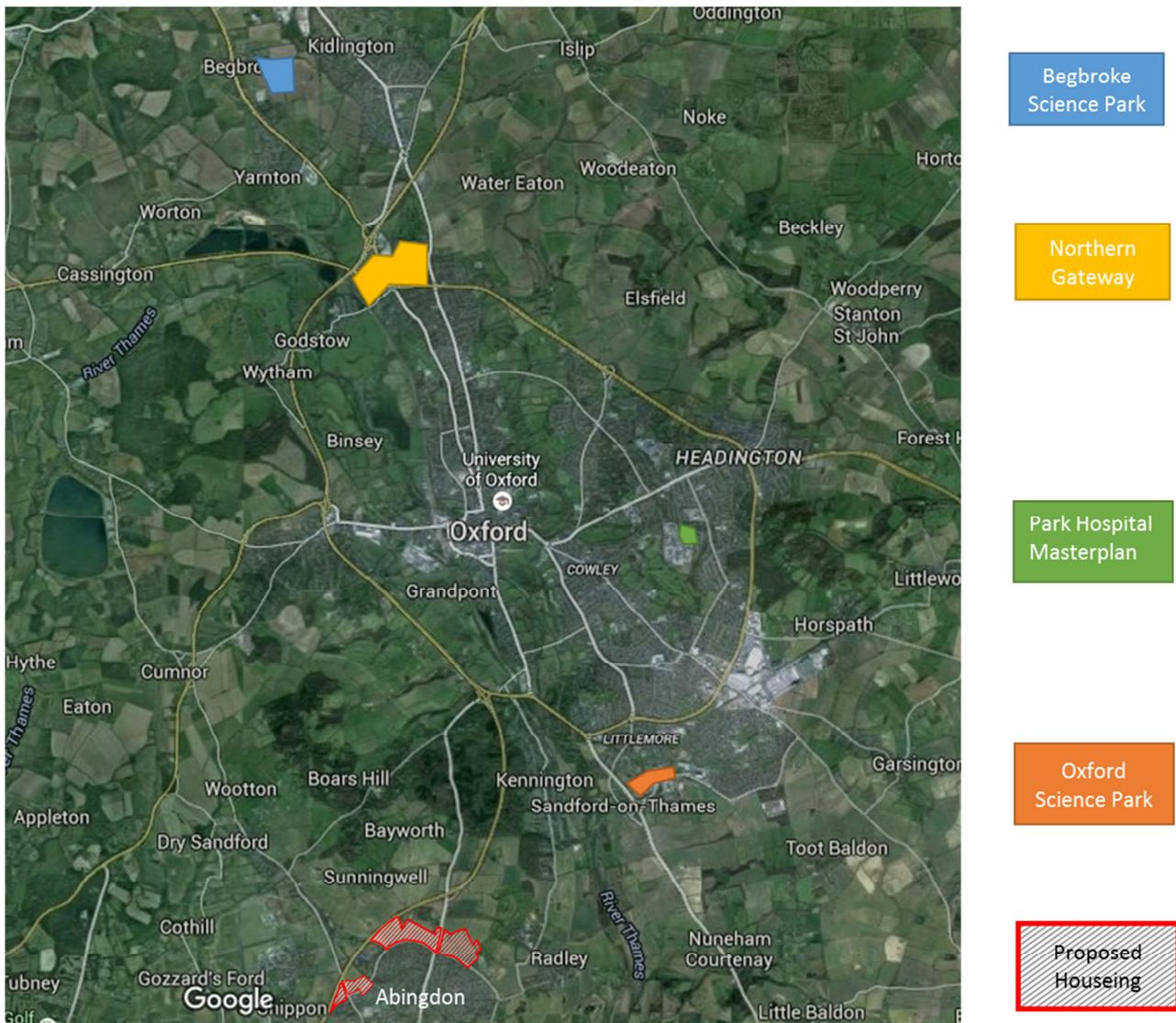
As 70% of the new jobs identified in the Vale plan are associated with the Science Vale to the south of Abingdon, the houses proposed to the north and north-west of Abingdon on Green Belt land will place additional stresses on the road network - severely exacerbating existing traffic problems on both local roads (particularly southwards either through the town to the Culham Science Centre, or the orbital road) and A34. 76% of these anticipated to be by car. In addition, no bus routes are currently available from Peachcroft and Long Furlong to the Science Vale.

The A34 is a dual carriageway without a hard shoulder and is extremely busy at times (>66,000 vehicles/day south of Oxford) and vulnerable to excessive congestion when even one vehicle is forced to stop for any period. Total closure and chaos occurs when two lanes have to close when traffic tries to divert through Abingdon, as there are few alternative routes. According to modelling carried out on behalf of OCC Highways (by CH2M Hill and Atkins), it is probably not capable of coping with the additional traffic derived from the proposed developments in the Vale, without significant investment to improve junctions and road width.



The route to the A34 southbound via the western orbital road is to the Marcham interchange via the A415, which is constricted by Abingdon Hospital. If a full diamond Junction were built at Lodge Hill, this would be an alternative route from North Abingdon – avoiding congestion on the A415. Either way, additional traffic will use the A34, which is already at capacity. Mitigation measures of widening the A34 and an additional river crossing to the south of Abingdon (to access the Culham Science Park) will require substantial investment well beyond the scope of CIL (Community Infrastructure Levy). ETI Stage 5 is essentially the final version of the Plan without any transport mitigation (which are described as ETI stages 5A-5C). In all of these, however, the A34 was assessed as being above capacity for morning and evening peaks between Chilton, Marcham and Botley. For Stage 5 with the additional housing on Green Belt land to the north of Abingdon, average speeds on the A34 are estimated to be 43-45 km/h (~ 27-28 mph) – and above capacity (para 7.3.7).

The creation of a full diamond junction on the A34 at Lodge Hill may encourage traffic destined for Milton Park, Didcot and Harwell to travel northwards and then southbound on the A34. If traffic from Peachcroft and further East use that route, this would reduce the flow along Dunmore Road round Abingdon to the A34. However property along Dunmore Road, including the new houses, have no option but to use Dunmore Road, whether to go west to the A34 or east to the A34. Some traffic from Wootton Road or Copenhagen Drive may start to use Dunmore Road as that may be their fastest route to the A34.



### Links to Oxford

If the proposed housing in North Abingdon were to serve new jobs in Oxford associated with proposed developments shown above in the Northern Gateway, Begbroke Science Park, Park Hospital Masterplan site, and an expansion of the Oxford Science Park Village at Grenoble Road, it will create traffic congestion not only at Lodge Hill, but also on the Pear Tree A34 junction and Oxford Eastern Bypass to reach these remote sites. The Hinksey A34 junction is already severely congested at peak commuting times.

In addition, this development at the North of Abingdon makes little contribution to the operation of Abingdon as a Market Town – but simply a dormitory for other employment centres.

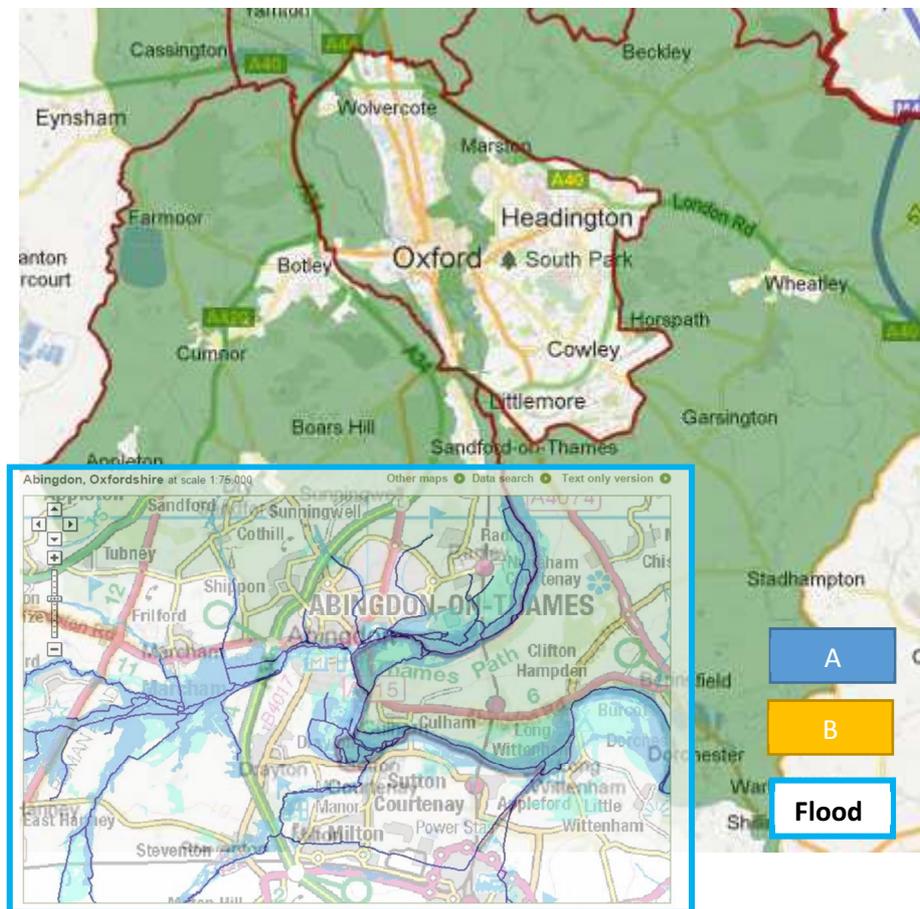
The distances to employment (except those within Abingdon itself) are such that walking and cycling are not really an option; and buses do not serve these routes. The vulnerability of A34 and lack of alternative routes leads to severe congestion at peak times, and at other times if there is an incident on it. Increased traffic through Abingdon to Culham Science Centre, and round the orbital road will increase air pollution in the town.

### 8.1 ( c ) North-West of Radley

If traffic from North-West of Radley wishes to join the A34, the most straightforward route is along Twelve Acre Drive and Lodge Hill – this increasing the level of congestion described above.

## 8.2 Are there other sites which would more appropriately meet the identified need for new housing?

If Sites 1 and 2 were not developed for reasons of traffic congestion and building on the Green Belt, development to the East and South of Abingdon is limited by flood plains. Superimposing Green Belt and Flood maps, only the region to South West of Abingdon is open to development.



If CP14 is released by Thames Water from the need for the Upper Thames Reservoir, this could form the site of a Garden City serving the Science Vale and other local towns – including South Abingdon.

## 8.3 Are the identified and safeguarded Employment sites listed in policy CP8 soundly based and deliverable? Are there other sites which would more appropriately meet the identified need for employment land?

The employment sites are linked with existing developments – so in that respect are soundly based. However, in order to fulfil sustainable transport Core Policies (CP 33) and Promoting Public Transport, Cycling and Walking (CP 35) and to minimise adverse impact from traffic congestion, the housing supply supporting this employment growth needs to be with 5 miles commuting distance. A more sensible measure would be to locate the additional housing required by jobs growth nearer the employment sites – especially as it is a goal of the plan to encourage the use of more ecologically friendly means of commuting (walking, cycling and public transport) which is clearly impractical if the housing is located to the north of Abingdon. The houses should therefore be located nearer to the Science Vale – where 70% of the new employment will be located – thus reducing the commuting distances and opening up the possibility of cycling and walking to work as more environmentally-friendly modes of transport

#### **8.4 (b) Abingdon Shopping Centre and the Charter (CP10)**

The development of the Abingdon Shopping Area and Charter is critically connected to accessibility and availability of inexpensive parking availability. The current congestion and atmospheric pollution (AQMA) within the town will only be solved by diverting through-traffic away from the central roads. While an excellent bus service is available to the North of the town, only an infrequent service is available to the south of Ock Street. Building additional housing to the north of the town will only exacerbate this problem and prevent realization of this Policy (CP 10).

#### **8.4 (d) Upper Thames Reservoir (CP14)**

The uncertainty over retaining this land is blocking a potential critical development for housing supply. If CP14 is released by Thames Water from the need for the Upper Thames Reservoir, this could form the site of a Garden City serving the Science Vale and other local towns – including South Abingdon.

## Air Pollution (Geoff Broughton)

In terms of air pollution – CP8 is NOT soundly based for 8.1(a) and 8.1 (b).

The proposed Environmental Impact Assessment (EIA) will conclude that air pollution exposure will be below the Government’s health guidelines for these two sites in Abingdon. However, the EIA must address the detrimental effect of these developments on the Air Quality Management Area (AQMA) in Abingdon Town Centre which is 1.6 km to the south.

### Health

Air pollution is a serious issue and was dramatically placed in context by Public Health England<sup>1</sup>: They found that pollutants (PM<sub>2.5</sub> fine particles) contribute to 29,000 deaths in the UK a year. The average British citizen has their life expectancy shortened by six months because of long-term exposure to pollutants caused by car exhausts, industry and domestic energy use. They estimate this kills an additional 52 people in the Vale each year in the 25+ age group (image below). This is 5.6% of all deaths in this age group.

#### ESTIMATING LOCAL MORTALITY BURDENS ASSOCIATED WITH PARTICULATE AIR POLLUTION

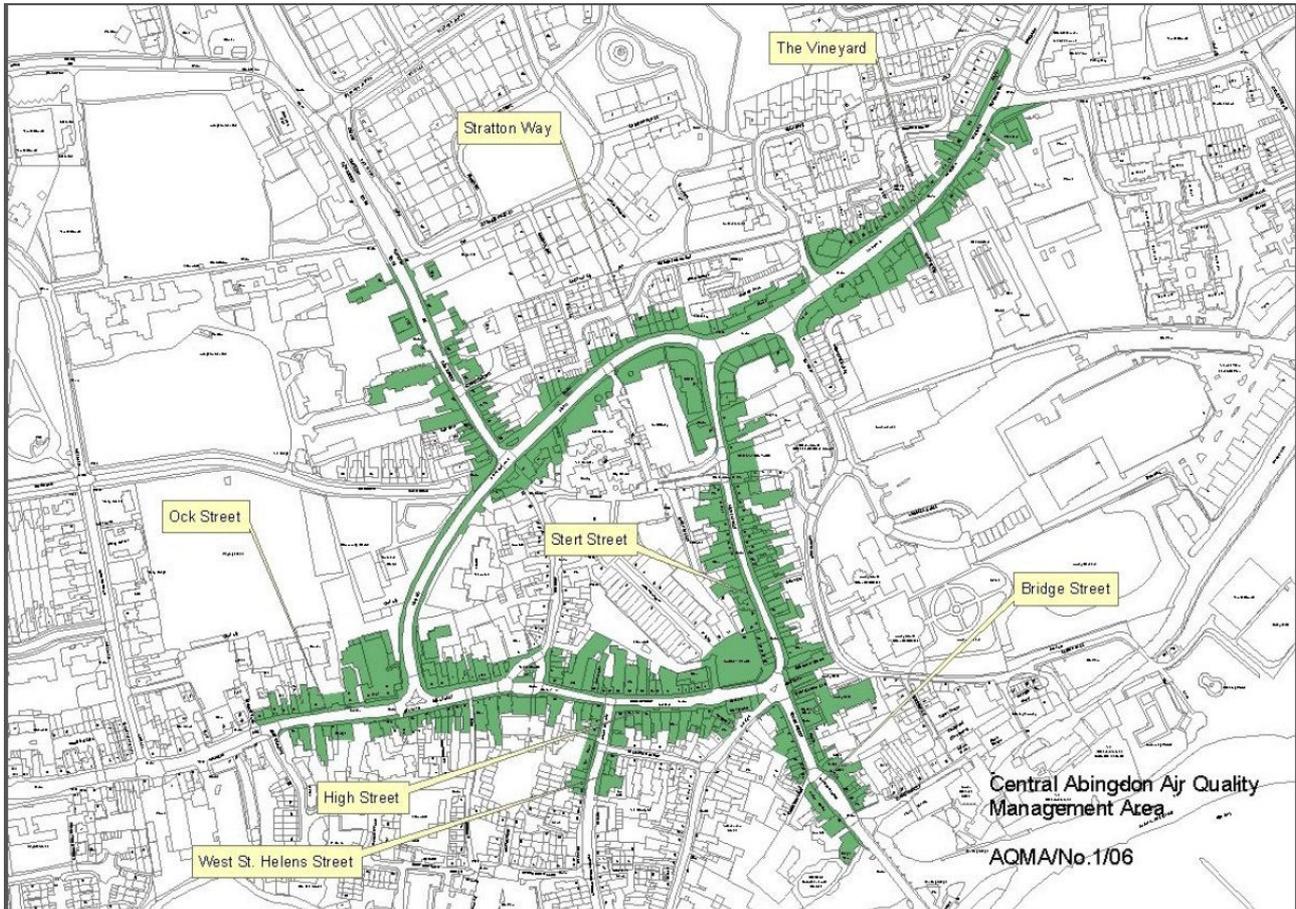
TABLE 1 Continued

Area	Population age 25+ (x 10 <sup>3</sup> )	Deaths age 25+	Mean anthropogenic PM <sub>2.5</sub> (µg m <sup>-3</sup> ) <sup>a</sup>	Attributable fraction <sup>†</sup> (%)	Attributable deaths <sup>‡</sup> age 25+	Associated life-years lost <sup>§</sup>
Oxfordshire CC	437.2	4967	9.8	5.6	276	2944
Cherwell	97.4	1090	9.9	5.6	61	638
Oxford	91.3	920	10.6	6.0	55	673
South Oxfordshire	92.4	1077	9.6	5.4	59	608
Vale of White Horse	83.1	936	9.8	5.6	52	557
West Oxfordshire	73.0	944	9.2	5.2	49	468
Wycombe	112.1	1165	10.1	5.7	66	768

Defra<sup>2</sup> estimates that nitrogen dioxide (NO<sub>2</sub>) also kills 23,500 people each year. Defra’s plans to eliminate air pollution problems outside of London by 2020 have been widely discredited<sup>3</sup>. The recent VW defeat scandal and real-world driving emissions have demonstrated the reduction plans are over optimistic.

## Air Quality Management Area (AQMA)

High levels of NO<sub>2</sub> exceeding the government's health standards are measured in Abingdon. Consequently, an AQMA was declared in Abingdon Town Centre in 2006 (image below).



Professor Duncan Laxen advised<sup>4</sup> the Vale to extend the AQMA to include Marcham Road and Ock Street but this was ignored.

The Vale is required to devise an Air Quality Action Plan to reduce human exposure air pollution. The 2009 plan<sup>5</sup> ranked 33 measures by effectiveness with the highest two measures shown below.

## 5.2. Tables of Proposed Measures

Traffic Management							
Paragraph In Appendix	Proposed Measure	Impact on air quality Score:	Cost Score:	Feasibility Score:	Responsible authorities 'VWH' Vale of White Horse DC 'OCC' Oxfordshire County Council	Timescale	Ranking Score
		1-Low 5-High	1-High 5-Low	1-Low 5-High			
4.14	To encourage more traffic onto the peripheral road (improved signage)	2	4	5	OCC	Short	13
4.5	To investigate making the A34 Lodge Hill Junction into a four way interchange	4	1	3	Highways Agency	Long	12

The highest scoring measure was *“To encourage more traffic onto the peripheral road (improved signage)”*. This 40 mph peripheral route is therefore required to divert traffic away from the Town Centre. The new Air Quality Action Plan (under consultation) does not list this measure because this has already been actioned.

## Planning

Two planning documents refer to AQMAs.

- The National Planning Policy Framework<sup>6</sup>

*124. Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan.*

- EPUK<sup>7</sup>

*3.5 ..... In terms of air quality, particular attention should be paid to the potential for the development to give rise to breaches of the national air quality objectives and of EU Limit Values, to whether the development will materially affect any air quality action plan or strategy, and to the overall degradation in local air quality. It is also important to consider whether the development will introduce new public exposure into an area of existing poor air quality.*

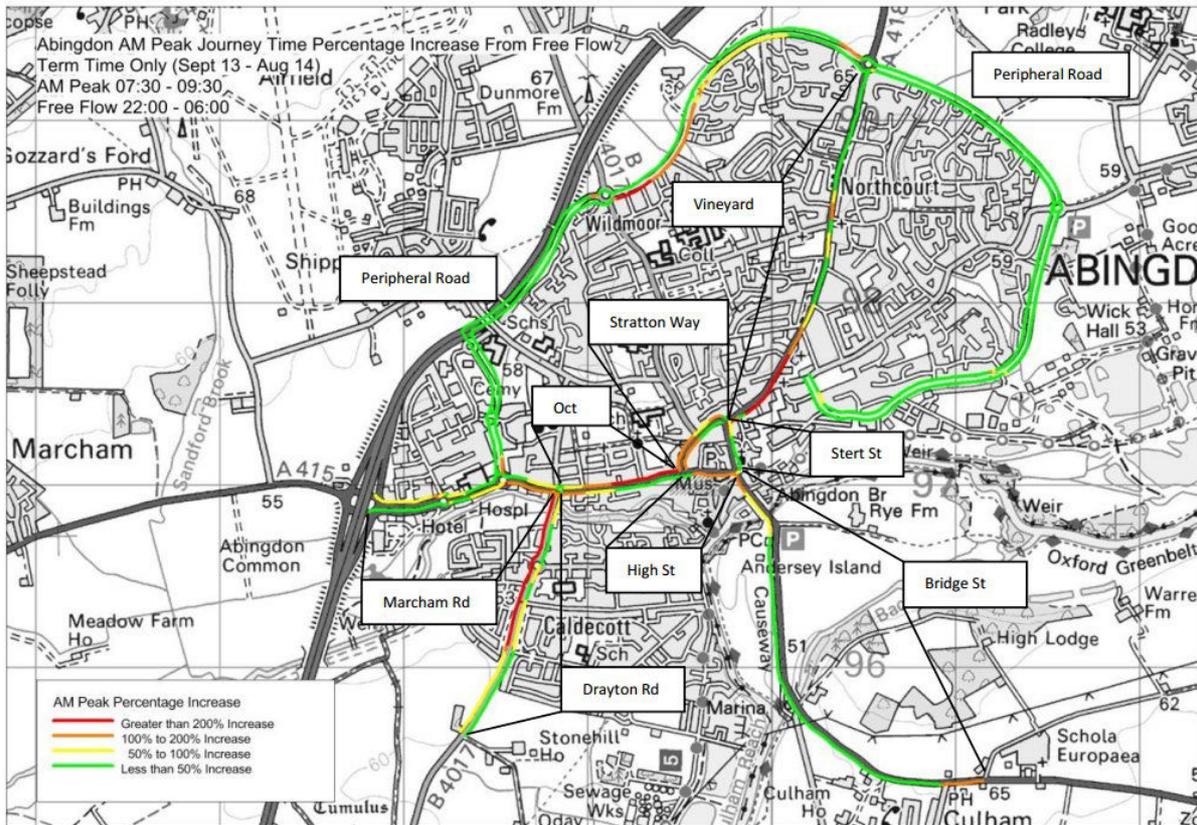
The last sentence of EPUK is very significant. The effect of the development on an area of existing poor air quality (i.e. Abingdon Town Centre AQMA) **must** be considered.

## The effect of the new developments on the AQMA

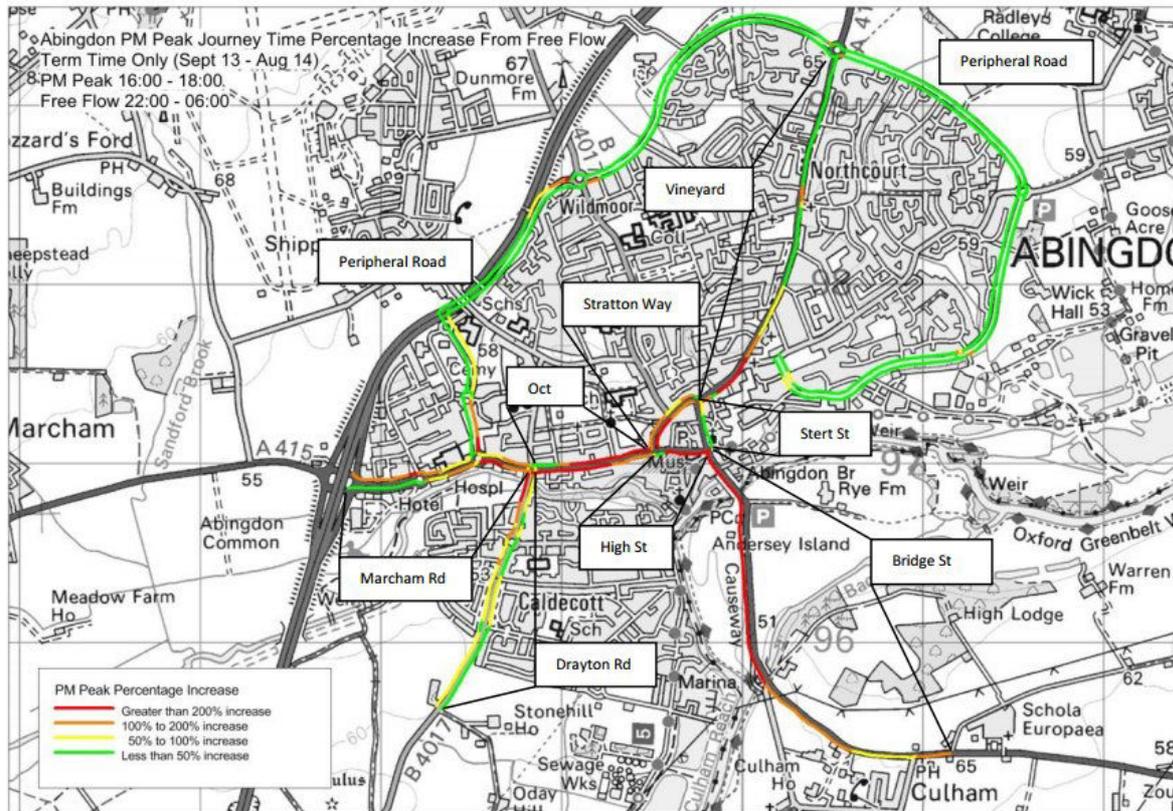
The OCC traffic congestion report<sup>8</sup> shows that the Abingdon peripheral is already congested during the rush hours (images below). These are real measurements, not models, using Trafficmaster journey times from anonymous GPS equipped vehicles.

2013-14 Town Congestion Report

### ABINGDON AM



**ABINGDON PM**



There are only two routes from Tesco to Lodge Hill: via the Town Centre or the peripheral road. Dunmore Road has a range of colours during the morning because congestion is very unpredictable. The unplanned bottleneck caused by the new road layout at the Wootton Road roundabout (2014) is clearly visible. Will the new estates become another unplanned bottleneck?

This is the ½ mile queue from Site 1 to the Wootton roundabout.



The peripheral route is already heavily used by HGVs particularly when the A34 is blocked.



This road is either a 40 mph free flowing highway or jammed solid. The bus shelter (right) is inaccessible and abandoned. How can residents cross this road safely without adding to congestion?



### Conclusions (Air Pollution)

- Air quality is unlikely to be a problem on the new estates.
- The effect of the development on an area of existing poor air quality (i.e. Abingdon Town Centre AQMA) must be considered as required by EPUK<sup>7</sup>.
- The new estates will either increase congestion on the peripheral road or become a hazard to the isolated residents.
- The peripheral road will actively discourage traffic, particularly HGV, leading to increased traffic through the town centre AQMA.
- This is inconsistent with the number one action in the Air Quality Act Plan<sup>5</sup> *"To encourage more traffic onto the peripheral road"* as required by The National Planning Policy Framework<sup>6</sup>.

## References

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