

Ashbourne – Highways interventions and position summary

1. DCC commitment

Derbyshire Highways alongside PLACE colleagues are committed to supporting the AQAP in collaboration with DDDC colleagues. To optimise interventions to provide the best outcomes for Ashbourne it is essential that all activities are evidence led, are subject to review and updated as work packages are developed and are implemented. Clearly, this means that whilst the areas identified for action were based on a joint assessment and agreement at the time, as knowledge and technologies develop, and the wider series of interventions via BSIP, Levelling Up, DEFRA and Highways capital funded projects are developed and implemented, the action plan will have to be reviewed. This is a mature approach to ensuring that interventions are iterative, evidence based and are tested to ensure that the action plan is delivered and optimised where appropriate.

The interventions in Ashbourne will be undertaken over the short to medium term, with the longer term aim of delivering a relief road. It is clear that maximising the capacity of existing infrastructure whilst optimising its movement is an approach that Highways seeks to promote and is evidenced in the significant investment in traffic management and control systems over the last few years, with the aim of scaling this approach where demand requires. This has the added benefit of attracting funding to undertake projects like BSIP that hitherto would not have been possible.

It is also worth mentioning that Ashbourne is benefitting from a once in a generation investment bringing together Levelling Up funding, BSIP funding, DEFRA funding and Highways capital funded projects to deliver significant public realm, traffic management and control (Intelligent Transport Systems – ITS). These interventions will support improvements in AQ through improved traffic management and control. This is unprecedented investment and Ashbourne is a showcase for the investment in technology and research that is unique in Derbyshire.

Bringing together investment and delivering and implementing a wide range of schemes has its challenges but the collaboration between authorities, the input of technical experts and the willingness to research and deploy new technologies and being able to lever in funding that without the level of collaboration and innovation would not have been possible, and as mentioned earlier is unique in Derbyshire. The possibilities to provide further innovation with the back bone of the technology being deployed provides the basis for far greater traffic management and control, without which would not be possible.

2. Interventions/Action Plan Summary Position

The Air Quality Action Plan (AQAP) measures are intended to deliver Ashbourne's AQ back into compliance, it is not intended to resolve the Ashbourne traffic issues, that all have agreed can only be resolved through the building of a relief road.

Evidence Led Approach

The assessment of the AQAP measures by our AQ experts, Aecom, demonstrated the sensitivity of the emissions and air quality results, and the need to inform a detailed quantitative assessment using a micro simulation model (Vissim model).

The development of a Vissim model will provide the evidence to support traffic management and air quality specialists to optimise the flow of traffic to achieve better and quantified air quality reductions. The model will also help to inform whether additional control measures will be required and to help evaluate impacts.

The procurement and necessary approvals to appoint a consultant to undertake the Vissim modelling is being progressed currently.

20mph/HGV movements

Refer to the letter from Chris Henning, dated 06/02/24, regarding the highways position regarding :

- 20mph zone within Ashbourne town centre and,
- Weight limits on the A515

Levelling Up – Ashbourne Reborn

From a highway's perspective, this project is helping to deliver a series of improvements to highway infrastructure, that seeks to improve the public realm and encourage active travel wherever possible. This in turn supports the move to improving AQ in the town by helping to promote lower car use and the switch to active travel modes.

This work is underway and being led by DDDC in collaboration with Derbyshire Highways.

Bus Service Improvement Plan (BSIP)

A key component of the BSIP programme of work being undertaken in Ashbourne is the introduction of Derbyshire's new Urban Traffic Control (UTC – SCOOT) system an element of our on-going commitment to deploy ITS to maximise capacity and manage demand on our highways networks.

The cloud-based UTC is system will allow the coordinated regional control of all the traffic signal junctions and controlled pedestrian crossings in Ashbourne.

List of Ashbourne traffic signal sites for the application of UTC SCOOT (Split Cycle Offset Optimisation Technique) Control:

Market Place – Pedestrian Crossing

Park Rd – Pedestrian Crossing

Sturston Rd / Park Road – Junction*

Sturston Rd / Compton Street - Junction*

Church St / Dig St

Station Rd / King Edward St

* See below

To accommodate the latest technology, existing traffic signal equipment is required to be at a certain standard. Two existing traffic signal junctions have been identified as requiring additional works, this is due to the age of equipment, and to ensure compatibility with UTC SCOOT. The two junctions are:

Ashbourne: Sturston Rd / Park Road

Ashbourne: Sturston Road / Compton Street

The upgrade of the above 2 traffic signal sites is due to be completed Spring 2024.

To ensure the best possible coordination of traffic movements and the improvement of air quality in Ashbourne, it is proposed that traffic signal control is introduced at a key junction in Ashbourne. This being the Church Street / Station Rd junction. The signalisation will also incorporate controlled pedestrian and cycle crossing facilities.

The upgrade of Traffic Signal Controllers, introduction of traffic signal control to an existing priority (give way) junction, and the application of UTC SCOOT regional control will provide regional coordination of vehicular movements and improve the general flow of traffic through Ashbourne, reduce delays and duration of standing traffic in the town. The production of vehicle emissions is related to the times vehicles have to accelerate and decelerate, particularly where there are gradients. Therefore, the improved signal timings will reduce the number of vehicle stops, time on the network, and also, allow the County Council's specialists to input differential signal linking automatically when and where emissions are high.

An example case study can be found [here](#) that refers to Leicester and the contribution ITS has in helping to understand and manage transport emissions.

AQ Monitoring

We have appointed a supplier, Earthsense, to deploy AQ/particulate monitors in and around Ashbourne. The plan is to install 9 in total, but this will be undertaken in conjunction with the supplier to ensure the best locations are selected to optimise the data collected whilst ensuring that the appropriate health and safety and structural checks are carried out where equipment is to be mounted. Adaptations of the County's traffic technology systems has already been made to

allow the real time receipt of emissions data, which, in turn, will permit pollution minimisation traffic management strategies, in real time, to be developed.

Pre-Emptive Traffic Management System (PTMS) - DEFRA project

DCC were successful in bidding for DEFRA funding to further develop its PTMS and Ashbourne has been identified as an ideal location to help develop and test the solution.

A solution will be developed for real-time monitoring and management of emissions emanating from traffic on the DCC (Derbyshire County Council) road network. This is in relation to both air quality in key priority areas and total emissions across that network. The solution will be developed as an enhancement of PTMS currently operating on DCC's network to manage congestion.

The solution will consume real-time traffic data from a 3rd Party traffic data feed to detect traffic volumes which it will input into a road emissions model to generate emissions level data. The emissions model will be built using a proven methodology sensitive to fleet composition by vehicle category to generate data representative of the actual current emissions state of each road link on the network.

The project will undertake an upgrade of PTMS to build and integrate components enabling it to:

- Represent the current state of emissions across the network in the control room, and highlight air quality levels at sensitive locations
- Generate traffic management interventions, targeting improved local air quality and reductions in total network emissions, whilst balancing these against other priorities (e.g., managing congestion) that the authority may have.
- Report on emissions trends through time and provide an additional evidential base for enabling pollution minimisation traffic control strategies in real time.

The procurement and necessary approvals to appoint a consultant to undertake this work is being progressed currently.

Engagement with local minerals and logistics companies

DCC hosted a specific meeting to discuss transport issues on the 13/2/24 – minerals industry round table. AQ was discussed given the significant part that the minerals sector plays in the Ashbourne local economy and they are committed to do their part in mitigating impacts through vehicle technology and continuing to engage with us in developing our action plan.

