



## Local Air Quality Management Environment Act 1995

### Air Quality Action Plan



North Devon Council  
Environmental Health and Housing Services





# **Air Quality Action Plan**

**In fulfilment of Part IV of the Environment Act 1995  
Local Air Quality Management**

**May 2016**



<b>Local Authority Officer</b>	<b>Andy Cole</b>
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<b>Date</b>	May 2016
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## **Executive Summary**

This report identifies a number of measures which have the potential to achieve the 22% reduction in Road NO<sub>x</sub> required, as calculated in the previously published Further Assessment.

These measures have been evaluated in relation to their estimated air quality impact, non air quality impact, cost, and delivery timeframe.

A package of measures has subsequently been identified which are considered to be potentially viable options for implementation.

The measures identified are :

- 1 Upgrading of the traffic signals at “The Square” to “MOVA” (Microprocessor Optimised Vehicle Actuation)
- 2 Considering amending the South Street one way system in relation to optimising traffic flow
- 3 Considering the implementation of a comprehensive one way system around the village and / or the pedestrianisation of Caen Street
- 4 Reviewing all pedestrian movements around the village, to identify the optimal type and location of signals / crossings to maximise traffic flow  
This review should include – but not be limited to – the consideration of amending signal / crossing timings, resiting / removal of the crossing outside The George Hotel, crossing patrol associated with Caen Primary School
- 5 Improving parking management, including the prevention of parking associated with blocking bus stops
- 6 Installation of a delivery hub
- 7 Redirecting traffic along A399
- 8 Off peak delivery times
- 9 Improving public transport
- 10 Fleet partnerships working with local companies to encourage lower emissions vehicle fleets
- 11 Implementing school / work travel plans
- 12 Developing a supplementary planning document re air quality
- 13 Producing travel packs for holiday accommodation
- 14 Installation of a “Park and Change” facility at Chivenor

## North Devon Council - England

Further evaluation of the above measures shall be undertaken during 2015, and progress with their possible implementation reported in the Air Quality Progress Report in April 2016.

A Technical Working Group was formed to develop this Air Quality Action Plan (AQAP), consisting of technical members of staff from North Devon Council (NDC - Environmental Health and Housing Services, Planning Policy) and Devon County Council (DCC - Highways, Transport Planning).

Extensive stakeholder consultation has been undertaken throughout to ensure that all views and comments have been considered in the production of this report.

The public consultation exercise which was undertaken following the draft being completed resulted in further measures being suggested – which have subsequently been considered in the context of this final report.



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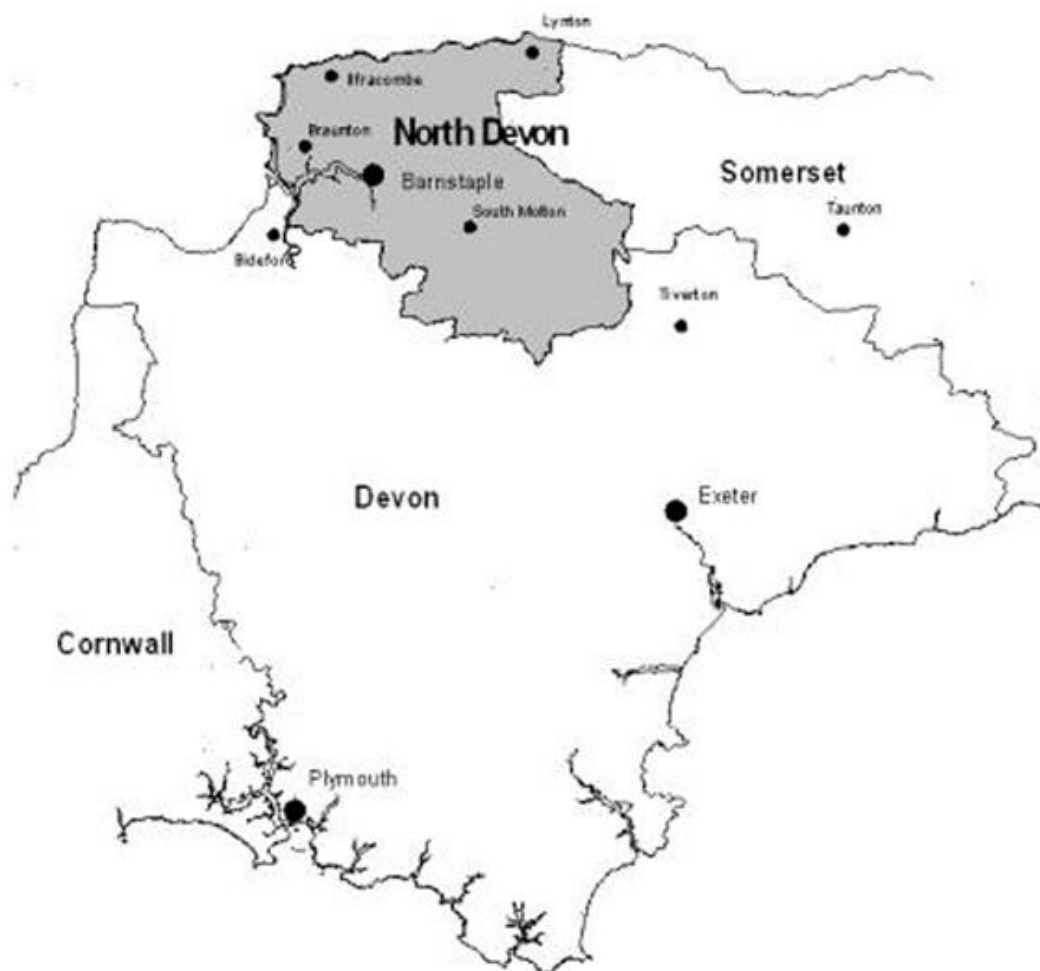


## 1.0 INTRODUCTION

### 1.1 Description of Local Authority Area

The North Devon district occupies the northern most part of the county of Devon and borders the western edges of Somerset and the Bristol Channel, covering an area approximately 1,085 square kilometres (419sq miles). The area is characterised by a rugged northern Bristol Channel coast, the sandy beaches of the West Coast, the estuarine and valley landscapes of the River Taw and the open moorland and farmland of the Exmoor fringes. The district includes approximately one-third of the area of Exmoor National Park.

The character of the North Devon district is inextricably linked to its natural landscape, which is its most prized asset. The landscape is highly valued by residents and tourists alike and incorporates part of Exmoor National Park, numerous Sites of Special Scientific Interest, the North Devon Coast, an Area of Outstanding Natural Beauty and Heritage Coastline.



The population of the area in 2011 was approximately 93,700 with approximately half the residents living in the four main settlements of Ilfracombe, Braunton, South Molton and Barnstaple. Barnstaple is the sub-regional centre for northern Devon. The remainder of the population lives in the open countryside or in one of the numerous villages and hamlets of the area.

The area has an extensive rural road network and is connected to the rest of the region by the A39, A361 and A377 roads. There is also a regional rail connection between Barnstaple and Exeter, which runs along the valley of the River Taw.

Employment in the district is concentrated in the main settlements. There is a strong dependence on the service industry, especially tourism related in the summer and also in the public administration, health and finance sectors, reflecting Barnstaple's role as a sub-regional centre. There is also a healthy industrial base in the area and this is reflected in the 48 prescribed processes regulated under the Environmental Permitting (England and Wales) Regulations 2010, which are currently in operation within the administrative area of North Devon Council.

## **1.2 Purpose of Report**

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas and to determine whether or not the air quality objectives are likely to be achieved. Where exceedances are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

An AQMA, referred to as "North Devon Council Air Quality Management Area No1" (AQMA#1) was declared by North Devon Council on 11<sup>th</sup> July 2011. A copy of the official Order including a map is attached as Appendix A to this report.

The purpose of this AQAP is to :

- identify and critically evaluate the measures which may be able to be implemented to reduce NO<sub>2</sub> in the AQMA to a level below the air quality objective
- quantify where possible, the impact of these measures over time
- identify the measures which will form a package of measures
- identify further actions which will be taken in pursuit of the air quality objective in the AQMA, and its hopeful eventual revocation

## **1.3 Braunton Air Quality Management Area**

### **1.3.1 History**

The Progress Report (produced in 2010) concluded that the measured bias adjusted annual mean concentration of Nitrogen Dioxide for 2009 was above the threshold limit value, at site 13 –located in Braunton.

The results of the subsequent detailed assessment confirmed that an AQMA would need to be declared for Braunton.

AQMA #1 was declared by North Devon Council on 11<sup>th</sup> July 2011.

A copy of the official Order including a map is attached as Appendix A to this report

### **1.3.2 Nitrogen Dioxide Monitoring**

Nitrogen Dioxide is routinely measured by diffusion tube at 16 locations in the North Devon District and the current monitoring programme has been in place since 2000.

In Braunton, this monitoring network has been expanded over recent years - and again in January 2011 with the specific purpose of informing the Further Assessment and this AQAP.

The exact locations of all the diffusion tubes are more easily understood by viewing the map attached as Appendix B to this report.

The results of all of the diffusion tube monitoring undertaken in Braunton have been discussed in previous reports – and in more detail in the Further Assessment in 2012.

In summary, exceedances of the AQ objective for N02 exist at locations 12 and 13.

## **1.4 Source Apportionment / Air Quality Reductions**

Source apportionment and calculations of the air quality reductions required to ensure the air quality objective is met were undertaken and reported in the Further Assessment in 2012.

This exercise confirmed that 90.52 % of total NOx present at the worst case site in the AQMA (site 12) is attributable to road sources, and that a 22.30% reduction in Road NOx is required to achieve an objective of 36ug/m3.

It should be noted that the 2011 annual mean concentration at this site was reported as being 42.91 – representing an exceedance of the threshold value at that time of approximately 7%.

## **2.0 POLICY CONTEXT**

### **2.1 Local Development Framework (LDF) - Joint Core Strategy**

The draft North Devon and Torridge Local Plan was published in June 2014.

Local improvements to the B3230 corridor between Barnstaple and Ilfracombe and along the A399 from the A361 at Aller Cross towards Ilfracombe form part of the transport strategy (Policy ST10) to alleviate traffic congestion and improve air quality in Braunton.

Policy DM02 (Environmental Protection) also supports development and traffic proposals that help to deliver an adopted Local Air Quality Action Plan or improved overall air quality.

### **2.2 Spatial Vision for Braunton**

The Braunton and Wrafton Spatial Vision and Development Strategy (Policy BRA) indicates Braunton and Wrafton will become healthier and more accessible by improving traffic management to reduce congestion and improve air quality in Braunton village centre.

A park and change facility will be provided close to the A361 as part of development south of Wrafton (Policy BRA01) to facilitate use of existing public transport links to help reduce congestion and improve air quality

### **2.3 Braunton Conservation Area Management Plan**

A management plan for Braunton Conservation Area was adopted in December 2011 – which included the completion of a SWOT (strengths, weaknesses, opportunities and threats) analysis.

This analysis identified heavy through traffic, issues relating to parking and congestion (particularly in summer) as representing a *weakness* - and potential measures to reduce congestion and pollution as a *threat* to the special character and appearance of the conservation area.

## **3.0 MEASURES TO BE TAKEN TO IMPROVE AIR QUALITY**

There are several different measures which are able to be considered, which have the potential to improve air quality in the AQMA. These measures can broadly be categorised into technological and non - technological.

The consideration and implementation of non - technological measures which result in reduced traffic is the most beneficial approach to achieving required reductions in traffic related pollutants.

The various measures identified have been evaluated in relation to estimated air quality impact, estimated non air quality impact, estimated cost, and estimated delivery timeframe,

This evaluation has been undertaken by the Technical Working Group (TWG) which was formed to develop this AQAP, consisting of technical members of staff from NDC (Environmental Health and Housing Services, Planning Policy) and Devon County Council (Highways, Transport Planning).

This Technical Working Group have undertaken extensive consultation with all stakeholders to assist in the identification and evaluation of measures.

A list of all stakeholders is included as Appendix C to this report.

The specific details of the identification, evaluation and ranking of measures is presented in Appendices D, E and G to this report.

## **4.0 CONCLUSIONS AND PROPOSED ACTIONS**

### **4.1 Conclusions**

Following the evaluation of a number of measures, a package of measures with the potential to achieve the required reductions in air quality has been identified, and is presented in Appendix E to this report.

The package of measures evaluated represents what is thought at this stage to be the most cost effective, practical and achievable approach to achieving the standard.

### **4.2 Proposed Actions**

The specific actions which are proposed following the publication of this report, are detailed in Appendix E.

The TWG shall remain in place to steer the delivery of the package of the measures identified.

Progress with the implementation of this AQAP will be reported to DEFRA annually, via the “AQAP Progress Reporting” regime.





## References

“Local Air Quality Management – Technical Guidance LAQM.TG (09)”, Department for Environment, Food and Rural Affairs, London, 2009.

“North Devon and Torridge Local Plan – Publication Draft” – North Devon and Torridge Councils, June 2014.

“Braunton and Wrafton Area Study”, North Devon Council, October 2011

“Braunton and Wrafton Area Workshop Feedback Report”, North Devon Council, November 2011

“Braunton Conservation Area Management Plan”, North Devon Council, December 2011



## **Appendices**

- Appendix A AQMA Order and Map**
- Appendix B Map Showing Approximate Diffusion Tube Locations**
- Appendix C List of Stakeholders**
- Appendix D Evaluation and Ranking of Measures**
- Appendix E Package of Measures**
- Appendix F Ranking Matrix**
- Appendix G Consultation Comments**



**Appendix A**

**AQMA Order and Map**





## **Air Quality Management Area Order**

### **Environment Act 1995 Part IV Section 83(1) North Devon Council AQMA Order**

North Devon Council, in exercise of the powers conferred upon it by Section 83(1) of the Environment Act 1995, hereby makes the following Order:

This Order may be cited/referred to as the North Devon Council Air Quality Management Area No.1 and shall come into effect on 11<sup>th</sup> July 2011.

The area shown on the attached map in red is to be designated as an air quality management area (the designated area).


The designated area incorporates the area encompassing the B3231 in Braunton, in between the junction known as "The Square" in the middle of the village, and the Village Green.

The map may also be viewed at the Council Offices.

This Area is designated in relation to a likely breach of the nitrogen dioxide (annual mean) objective as specified in the Air Quality Regulations 2000.

This Order shall remain in force until it is varied or revoked by a subsequent order.

The Common Seal of North Devon Council was hereto affixed on 11<sup>th</sup> July 2011 and signed by:

  
.....  
**Jeremy Mann**  
**Head of Environmental Health and Housing Services**  
**North Devon Council.**





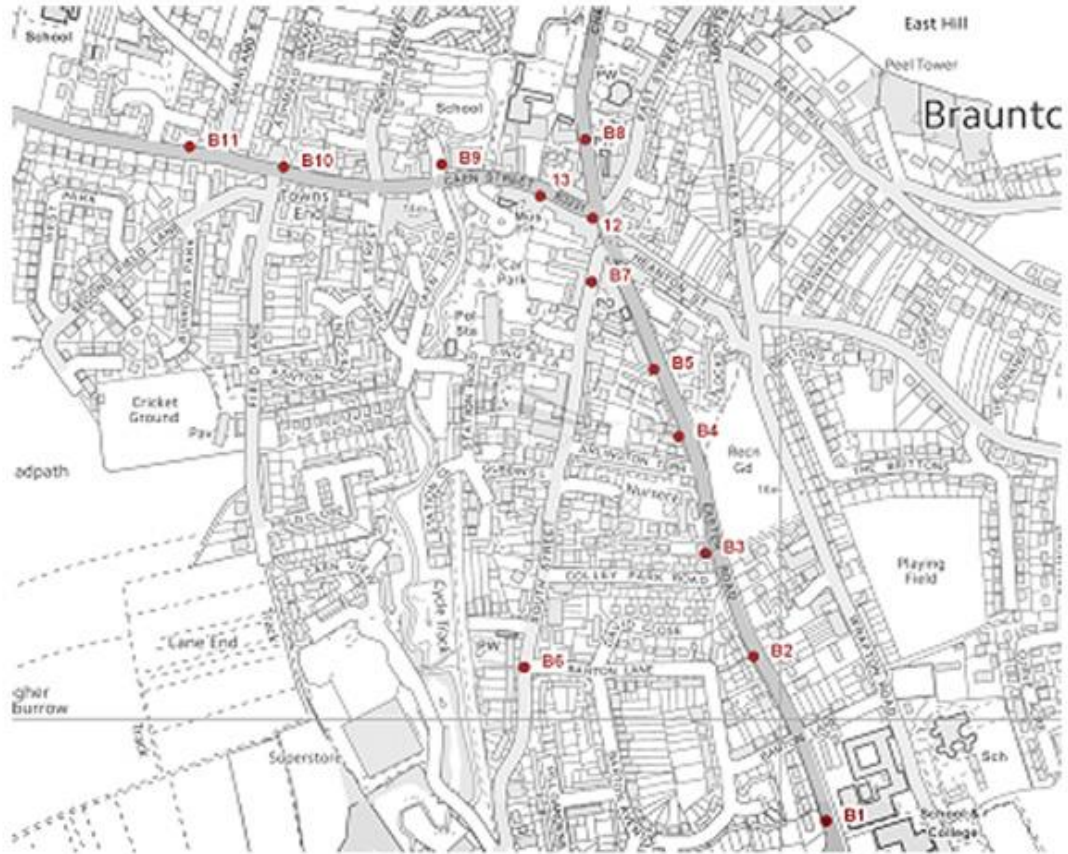
**Appendix B**

**Map Showing Approximate Diffusion Tube Locations**

**Diffusion Tube Monitoring Locations - Braunton**



## Diffusion Tube Monitoring Locations – Braunton





**Appendix C**

**List of Stakeholders**



Department of Environment and Rural Affairs

Environment Agency

Devon County Council

Planning and Development Services, North Devon Council

Exmoor National Park Authority

Braunton Parish Council

Devon Primary Care Trust

Caen Medical Centre

West Somerset Council

Torrige District Council

Mid Devon District Council

Local residents

Local Businesses





## Appendix D

### Evaluation and Ranking of Measures



**Table 1 - Non - Technological Measures**

<b>Measure Number</b>	<b>Measure Description</b>	<b>Estimated Air Quality Impact</b>  (low/med/high)	<b>Potential Non Air Quality Impacts</b>	<b>Estimated Cost</b>  (low/med/high /very high)	<b>Estimated Delivery Time</b>  (0-2 years, 2-5 years, 5 Years +)	<b>Lead Agency</b>	<b>Ranking</b>  (using matrix shown in Appendix E)	<b>Comments / Actions</b>
1	Upgrading of the traffic signals at "The Square" to "MOVA" (Microprocessor Optimised Vehicle Actuation)	High	Reduction in traffic congestion and associated road safety issues	Med	0-2 years	DCC	High	Air Quality Modelling to be undertaken to quantify the Air Quality impact before progressing further.
2	Development of supplementary planning document re air quality.	Med	Improved communication between NDC and applicants.  Consistent approach re data which developers are required to submit	Low	0-2 years	NDC	High	Supplementary planning guidance note to be prepared
3	Braunton Bypass / Relief Road – to link the A361 with the B3231	High	Reduction in traffic congestion and associated road safety issues.	Very High	5 Years +	DCC	Medium	Evaluated over recent years and deemed by DCC not to be viable – on financial and environmental grounds – therefore

Measure Number	Measure Description	Estimated Air Quality Impact (low/med/high)	Potential Non Air Quality Impacts	Estimated Cost (low/med/high /very high)	Estimated Delivery Time (0-2 years, 2-5 years, 5 Years +)	Lead Agency	Ranking (using matrix shown in Appendix E)	Comments / Actions
			<p>Negative impact on housing / lifestyles of those affected by location of by-pass.</p> <p>Negative archaeological impact on Braunton Great Field.</p>					no further action
4	Upgrading of route around Great Field to be used as a relief road	High	<p>Reduction in traffic congestion and associated road safety issues</p> <p>Negative impact on housing / lifestyles of those affected by upgrading</p>	Very High	2-5 years	DCC	Medium	<p>Evaluated during technical working group meetings and deemed by DCC not to be viable – on financial and ecological grounds – therefore no further action.</p> <p>It should be noted that eth Great Field has added heritage / historic landscape</p>

Measure Number	Measure Description	Estimated Air Quality Impact (low/med/high)	Potential Non Air Quality Impacts	Estimated Cost  (low/med/high /very high)	Estimated Delivery Time  (0-2 years, 2-5 years, 5 Years +)	Lead Agency	Ranking  (using matrix shown in Appendix E)	Comments / Actions
								value
5	Off Peak delivery times	Low	Reduction in traffic congestion and associated road safety issues  Noise	Low	0-2 years	DCC	Medium	To be investigated further in conjunction with relevant stakeholders
6	Replacement of traffic lights at "The Square" junction with mini roundabout	High	Demolition of properties.  Negative impact on conservation area.	High	2-5 years	DCC	Medium	Evaluated over recent years and deemed by DCC not to be viable – on financial and practical grounds, in relation to the amount of space required / available to build a conventional roundabout in this location – therefore no further action
7	Improving parking management	Low	Reduction in traffic congestion and associated road safety issues	Low	0-2 years	NDC / DCC	Medium	

Measure Number	Measure Description	Estimated Air Quality Impact (low/med/high)	Potential Non Air Quality Impacts	Estimated Cost (low/med/high /very high)	Estimated Delivery Time (0-2 years, 2-5 years, 5 Years +)	Lead Agency	Ranking (using matrix shown in Appendix E)	Comments / Actions
			Difficulty in deliveries to businesses					
8	Use of anti NOx paint	Low	None identified	Low	0-2 years	NDC	Medium	No scientific evidence to suggest this is an effective measure
9	Installation of traffic lights by Williams Arms	Low	Improved pedestrian safety	Med	0-2 years	DCC	Low	suggested by local resident through consultation process
10	Tree planting to trap / filter pollutants	Low	Improved perceived visual amenity	Low	0-2 years	NDC	Medium	suggested by local resident through consultation process  initial research confirms low air quality impact therefore no further action
11	Installation of a Delivery Hub	Med	Financial savings for users	Med	2-5 years	NDC / DCC	Med	Difficult to resolve – may need to be off highway – a loading area to rear of Caen

Measure Number	Measure Description	Estimated Air Quality Impact (low/med/high)	Potential Non Air Quality Impacts	Estimated Cost  (low/med/high /very high)	Estimated Delivery Time  (0-2 years, 2-5 years, 5 Years +)	Lead Agency	Ranking  (using matrix shown in Appendix E)	Comments / Actions
			Reduced congestion					St on private land or car park may allow for no loading on Caen St and improve traffic flow
12	Linking Barton Avenue to Vellator Way	Low	Reduction in traffic congestion and associated road safety issues  Negative impact on housing / lifestyles of those affected by location of new road	Med	2-5 years	DCC	Low	Low Ranking therefore no further action
13	Upgrading of Field Lane to give access to Vellator Way	Low	Reduction in traffic congestion and associated road safety issues  Negative impact on	Med	2-5 years	DCC	Low	Low Ranking therefore no further action

Measure Number	Measure Description	Estimated Air Quality Impact (low/med/high)	Potential Non Air Quality Impacts	Estimated Cost  (low/med/high /very high)	Estimated Delivery Time  (0-2 years, 2-5 years, 5 Years +)	Lead Agency	Ranking  (using matrix shown in Appendix E)	Comments / Actions
			housing / lifestyles of those affected by location of by-pass					
14	Lower emissions Local Authority fleet	Low	Financial benefits through reduced fuel consumption	Med	2-5 years	NDC	Low	Low Ranking therefore no further action
15	Amending the South Street one way system in relation to optimising traffic flow	High	Reduction in traffic congestion and associated road safety issues Negative impact on housing / lifestyles of South Street residents.	Low	0-2 years	DCC	Very High	Suggested by local residents through consultation process, and supported by DCC as requiring review.  Air Quality Modelling to be undertaken to quantify the Air Quality impact before progressing further.



Measure Number	Measure Description	Estimated Air Quality Impact (low/med/high)	Potential Non Air Quality Impacts	Estimated Cost (low/med/high /very high)	Estimated Delivery Time (0-2 years, 2-5 years, 5 Years +)	Lead Agency	Ranking (using matrix shown in Appendix E)	Comments / Actions
16	Review all pedestrian movements around the village, to identify the optimal type and location of signals / crossings to maximise traffic flow. This review should include – but not be limited to – the consideration of amending signal / crossing timings, resiting / removal of the crossing outside The George Hotel, crossing patrol associated with Caen Primary School	Med	Reduction in traffic congestion and associated road safety issues  Impact on housing / lifestyles on all village users.	Med	0-2 years	DCC	Med	Suggested by local residents through consultation process, and supported by DCC as requiring review.  Cost of review is ranked low, but implementation of any measures identified may be high.  Comprehensive review to be undertaken identifying options to be implemented
17	Consider the implementation	Med	Improved pedestrian	Med	0-2	DCC	Med	Suggested by local residents through

Measure Number	Measure Description	Estimated Air Quality Impact (low/med/high)	Potential Non Air Quality Impacts	Estimated Cost (low/med/high /very high)	Estimated Delivery Time (0-2 years, 2-5 years, 5 Years +)	Lead Agency	Ranking (using matrix shown in Appendix E)	Comments / Actions
	of a comprehensive one way system around the village and / or the pedestrianisation of Caen Street		safety  Reduction in traffic congestion and associated road safety issues					consultation process.  Feasibility to be investigated further by DCC
18	Installation of a small roundabout Williams Arms	Low	Improved pedestrian safety	Med	0-2 years	DCC	Low	Suggested by local residents through consultation process, and considered by DCC to be likely to have minimal impact on traffic flow
19	Install additional signage to direct Ilfracombe bound traffic along the B3230 from Barnstaple	Med	Reduction in traffic congestion through Barnstaple and potentially Braunton, but associated road safety issues in areas on redirected traffic routes	Low	0-2 years	DCC	High	Suggested by local residents through consultation process,  DCC advise that as a result of the implications of re-routed traffic on other areas, a better option might be to promote the A399 route from the main A361 North

Measure Number	Measure Description	Estimated Air Quality Impact (low/med/high)	Potential Non Air Quality Impacts	Estimated Cost (low/med/high /very high)	Estimated Delivery Time (0-2 years, 2-5 years, 5 Years +)	Lead Agency	Ranking (using matrix shown in Appendix E)	Comments / Actions
								Devon link road. To be investigated further by DCC.
20	Prevention of parking associated with blocking bus stops	Low	Reduction in traffic congestion	Low	0-2 years	DCC	Med	Suggested by local resident through consultation process,  Increased vigilance of enforcement authority may help.  To be investigated further in conjunction with relevant stakeholders



**Table 2 – Smarter Choices**

	<b>Measure Description</b>	<b>Estimated Air Quality Impact</b> (low/med/high)	<b>Potential Non Air Quality Impacts</b>	<b>Estimated Cost</b>  (low/med/high /very high)	<b>Estimated Delivery Time</b>  (0-2 years, 2-5 years, 5 Years +)	<b>Lead Agency</b>	<b>Ranking</b>  (using matrix shown in Appendix E)	<b>Comments / Actions</b>
1	Implementation of school / work travel plans	Low	Financial benefits to users	Low	0-2 years	DCC	Medium	To be investigated further in conjunction with relevant stakeholders
2	Fleet partnerships – working with local companies to encourage lower emissions fleets	Low	Financial benefits through reduced fuel consumption	Low	2-5 years	NDC / DCC	Medium	To be investigated further in conjunction with relevant stakeholders
3	Producing Travel Packs for holiday accommodation	Low	Increased public awareness.	Low	0-2 years	DCC	Medium	To be investigated further in conjunction with relevant stakeholders

	<b>Measure Description</b>	<b>Estimated Air Quality Impact</b> (low/med/high)	<b>Potential Non Air Quality Impacts</b>	<b>Estimated Cost</b> (low/med/high /very high)	<b>Estimated Delivery Time</b> (0-2 years, 2-5 years, 5 Years +)	<b>Lead Agency</b>	<b>Ranking</b> (using matrix shown in Appendix E)	<b>Comments / Actions</b>
4	Park + change facility at Wrafton / Chivenor	Med	Health benefits associated with increased use of Tarka Trail (cycling, walking)	Med	2-5 years	NDC / DCC	Medium	Planning permission obtained, work scheduled to be completed June 2015
5	Improving Public Transport	Med	Reduced congestion.	Med	2-5 years	DCC	Med	To be investigated further in conjunction with relevant stakeholders
6	Improving walking and cycling	Low	Health benefits	Med	2-5 years	DCC	Low	Low Ranking therefore no further action - in the context of air quality action planning

**Note:** Estimated air quality impacts, costs and delivery time have been determined at this stage utilising professional judgement and through discussion at Technical Working Group. For the package of measures chosen, identified in Appendix D, these parameters will be quantified in more detail and reported in subsequent Action Plan Progress Reports.

Measures with a medium or above ranking have been selected to be included in the package of measures

**Appendix E**

**Package of Measures**





**Table 3 – Package of Measures**

(measures from Tables 1 and 2 with a medium or above ranking - as presented in Appendix D)

*NOTE – August 2016 - Initial dates for progress were established throughout the consultation process – these will now be revised as part of the routine progress review*

<b>Measure ID</b>	<b>Measure Description</b>	<b>Lead Agency</b>	<b>Comments / Actions</b>	<b>Indicator to be used to demonstrate potential Success of this Measure</b>	<b>Existing Funding in place to Deliver this Measure</b>	<b>How Success of this Measure will be Monitored</b>	<b>Timeframe</b> (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
1	Upgrading of the traffic signals at “The Square” to “MOVA” (Microprocessor Optimised Vehicle Actuation)	DCC + NDC	Traffic Assessment to be undertaken by DCC, Air Quality (AQ) Modelling to be undertaken by NDC to quantify the AQ impact before progressing further	Results of AQ modelling to confirm required NO2 reductions are achievable through implementation of this measure  Review of traffic flow data	None – to be applied for by NDC as part of AQ Grant application	Review of diffusion tube monitoring results - if measure is implemented - to confirm reduction in NO2. Review of AQ modelling results	AQ modelling to be undertaken in 2015.

Measure ID	Measure Description	Lead Agency	Comments / Actions	Indicator to be used to demonstrate potential Success of this Measure	Existing Funding in place to Deliver this Measure	How Success of this Measure will be Monitored	Timeframe (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
2	Considering amending the South Street one way system in relation to optimising traffic flow	DCC + NDC	Traffic Assessment to be undertaken by DCC, Air Quality (AQ) Modelling to be undertaken by NDC to quantify the AQ impact before progressing further	Results of AQ modelling to confirm required NO2 reductions are achievable through implementation of this measure	Funding for AQ modelling to be applied for by NDC in AQ Grant application  No funding in place to implement changes – to be identified further by DCC / NDC	Review of diffusion tube monitoring results - if measure is implemented - to confirm reduction in NO2	AQ modelling to be undertaken in 2015

Measure ID	Measure Description	Lead Agency	Comments / Actions	Indicator to be used to demonstrate potential Success of this Measure	Existing Funding in place to Deliver this Measure	How Success of this Measure will be Monitored	Timeframe (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
3	Consider the implementation of a comprehensive one way system around the village and / or the pedestrianisation of Caen Street	DCC	Review to be undertaken by DCC to identify options, options to be investigated further in conjunction with relevant stakeholders.	Improved traffic flow if implemented	Existing DCC resource in place to deliver feasibility study	Review of traffic data	To be reported to NDC by 31 <sup>st</sup> March 2016
4	Review all pedestrian movements around the village, to identify the optimal type and location	DCC	Comprehensive review to be undertaken identifying options to be implemented.  Options to be	Improved traffic flow following delivery	Review already underway utilising existing DCC resource	Review of traffic data	To be undertaken in 2015 by DCC and results reported to NDC by 31 <sup>st</sup> March 2016

Measure ID	Measure Description	Lead Agency	Comments / Actions	Indicator to be used to demonstrate potential Success of this Measure	Existing Funding in place to Deliver this Measure	How Success of this Measure will be Monitored	Timeframe (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
	of signals / crossings to maximise traffic flow. This review should include – but not be limited to – the consideration of amending signal / crossing timings, resiting / removal of the crossing outside The George Hotel, crossing		investigated further in conjunction with stakeholders		No funding currently in place to implement changes - additional funding to be identified by DCC / NDC for specific measures if they are identified as being viable.		

<b>Measure ID</b>	<b>Measure Description</b>	<b>Lead Agency</b>	<b>Comments / Actions</b>	<b>Indicator to be used to demonstrate potential Success of this Measure</b>	<b>Existing Funding in place to Deliver this Measure</b>	<b>How Success of this Measure will be Monitored</b>	<b>Timeframe</b> (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
	patrol associated with Caen Primary School						

Measure ID	Measure Description	Lead Agency	Comments / Actions	Indicator to be used to demonstrate Success of this Measure	Existing Funding in place to Deliver this Measure	How Success of this Measure will be Monitored	Timeframe (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
5	Improving parking management, including the prevention of parking associated with blocking bus stops	NDC / DCC	Parking review completed in 2014 – additional parking controls to be investigated further in conjunction with relevant stakeholders	Monitoring parking compliance on Caen Street and Exeter Road	Existing DCC resource in place, plus potential for additional funding to become available to DCC if required	Demonstrable increase in parking compliance	To be progressed during 2015

Measure ID	Measure Description	Lead Agency	Comments / Actions	Indicator to be used to demonstrate Success of this Measure	Existing Funding in place to Deliver this Measure	How Success of this Measure will be Monitored	Timeframe (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
6	Installation of a delivery hub	NDC / DCC	Options investigated in 2014.  To be investigated further in conjunction with relevant stakeholders	Improved traffic flow / reduction in vehicle movements  Monitoring parking compliance on Caen Street and Exeter Road	None	Demonstrable increase in parking compliance	To be progressed during 2015
7	Redirecting traffic along A399	DCC	To be investigated further in conjunction with relevant stakeholders	Reduction in vehicle movements along A 361 into Braunton	DCC owned hardware already in place but traffic monitoring system decommissioned	Review of traffic data	To be progressed during 2015

Measure ID	Measure Description	Lead Agency	Comments / Actions	Indicator to be used to demonstrate Success of this Measure	Existing Funding in place to Deliver this Measure	How Success of this Measure will be Monitored	Timeframe (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
					<p>d in 2014 – DCC to evaluate viability of re-commissioning traffic monitoring / variable message signage systems.</p> <p>Funding sources to be identified by NDC / DCC for re-commissioning if viable.</p>		



<b>Measure ID</b>	<b>Measure Description</b>	<b>Lead Agency</b>	<b>Comments / Actions</b>	<b>Indicator to be used to demonstrate Success of this Measure</b>	<b>Existing Funding in place to Deliver this Measure</b>	<b>How Success of this Measure will be Monitored</b>	<b>Timeframe</b> (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
8	Off peak delivery times	DCC	To be investigated further in conjunction with relevant stakeholders	Improved traffic flow / reduction in vehicle movements  Monitoring parking compliance on Caen Street and Exeter Road	None	Proven increase in parking compliance	To be progressed during 2015
9	Improving Public Transport	DCC	Progress lower emission bus fleets  Encourage patronage by	Reduction in vehicle movements through Braunton	DCC funding in place to co-ordinate with bus operators  Further funding /	Review of traffic flow data and / or diffusion tube monitoring results – if measure is implemented	To be progressed during 2015

Measure ID	Measure Description	Lead Agency	Comments / Actions	Indicator to be used to demonstrate Success of this Measure	Existing Funding in place to Deliver this Measure	How Success of this Measure will be Monitored	Timeframe (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
			<p>promoting bus travel, including park and change to beaches., and improving bus facilities.</p> <p>Support bus services for new developments.</p> <p>To be investigated further in conjunction with bus</p>		grant / developer contributions opportunities to be identified by DCC.	– to confirm reduction in N02	

Measure ID	Measure Description	Lead Agency	Comments / Actions	Indicator to be used to demonstrate Success of this Measure	Existing Funding in place to Deliver this Measure	How Success of this Measure will be Monitored	Timeframe (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
			companies and other stakeholders				
10	Fleet partnerships – working with local companies to encourage lower emissions fleet vehicles	NDC / DCC	Eco-Stars membership scheme currently being implemented across North Devon	Reduction in vehicle movements through Braunton  Reviewing fleet data from participating organisations	Public Health grant funding being used - additional funding may need be applied for as part of the AQ grant application process	Review of traffic flow data and / or diffusion tube monitoring results to confirm reduction in N02	Currently underway - to be progressed further during 2015
11	Implementing school / work travel plans	DCC	investigated further in conjunction with	Reduction in vehicle movements through	Existing DCC resource in place	Review of performance indicators associated	To be progressed during 2015

<b>Measure ID</b>	<b>Measure Description</b>	<b>Lead Agency</b>	<b>Comments / Actions</b>	<b>Indicator to be used to demonstrate Success of this Measure</b>	<b>Existing Funding in place to Deliver this Measure</b>	<b>How Success of this Measure will be Monitored</b>	<b>Timeframe</b> (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
			relevant stakeholders	Braunton		with school travel	
12	Developing a supplementary planning document re air quality	NDC	Preparation of supplementary planning document	Monitoring number of planning applications where AQ is assessed	Achievable utilising existing NDC resource	Compilation of evidence to show AQ has been assessed in applications where potential impact on AQ exists in AQMA	To be progressed during 2015
13	Producing travel packs for holiday accommodation	NDC / DCC	To be investigated further in conjunction with relevant	Reduction in vehicle movements through Braunton	This is able to be partially achieved using existing DCC resource, but	Review of traffic data	To be progressed during 2015

Measure ID	Measure Description	Lead Agency	Comments / Actions	Indicator to be used to demonstrate Success of this Measure	Existing Funding in place to Deliver this Measure	How Success of this Measure will be Monitored	Timeframe (progress with all measures identified to be reported routinely as part of LAQM reporting regime)
			stakeholders	Monitoring number of relevant companies who agree to participate	additional funding may need be applied for by NDC as part of the AQ grant application process		
14	Installation of a "Park + Change" facility at Chivenor	NDC / DCC	Planning permission obtained, work commenced	Reduction in vehicle movements through Braunton  Car parking tickets bought  Bus tickets bought	In progress – resource already allocated	Review of traffic flow data and / or diffusion tube monitoring results to confirm reduction in NO2	Currently in the 1 <sup>st</sup> phase of development



**Appendix F**  
**Ranking Matrix**





**Table 4 - Ranking Matrix**

		<b>Cost</b>			
		<b>Very High</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>
<b>AQ Impact</b>	<b>High</b>	Medium	Medium	High	Very High
	<b>Medium</b>	Low	Low	Medium	High
	<b>Low</b>	Very Low	Very Low	Low	Medium

Source: Air Quality Management Resource Centre, University of West of England, Bristol, 2011



**Appendix G**

**Consultation Comments**



<b>Comment Number</b>	<b>Comment Received from consultation</b>	<b>Agency to respond</b>	<b>Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?</b>	<b>NDC comments following further consideration</b>
1	Pedestrian crossing in Exeter Road causing flow of traffic to stop	DCC	YES. It is in the process of being investigated. But this will also consider the signals in The Square and pedestrian movements crossings around the village centre. This crossing could possibly be changed and relocated.	added to the potential measures in the AQAP and evaluated accordingly
2	Stop South Street one-way system	DCC	YES but likely to have a minimal impact on traffic flow and air quality in Caen St. But DCC have reported to the Parish that we are prepared to review and consider local support for change through the Traffic Management Plan Process. .	added to the potential measures in the AQAP and evaluated accordingly
3	Sync. crossing in Square - both cause traffic back-up in Caen Street	DCC	NO. This has been the case on Exeter Road since 2005. pedestrians are delayed by the main lights. See comment 1	added to the potential measures in the AQAP and evaluated accordingly
4	Change South Street back to two-way traffic	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
5	Turn the traffic lights off	DCC	See comment (1) But promoting A361 traffic may adversely affect queuing and air quality in caen st.	no justification for further consideration following DCC comments
6	Traffic lights outside The George too long	DCC	NO. This is a demand crossing not fixed time. See comment (1) regarding possible removal.	added to the potential measures in the AQAP and evaluated accordingly

<b>Comment Number</b>	<b>Comment Received from consultation</b>	<b>Agency to respond</b>	<b>Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?</b>	<b>NDC comments following further consideration</b>
7	South Street one-way a big mistake	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
8	Sync or remove lights outside Co-Op	DCC	See comment (1) & (6)	added to the potential measures in the AQAP and evaluated accordingly
9	Make Caen Street one-way and widen pavements	DCC	YES but only with a new road route to divert the opposing traffic which is difficult to achieve.	added to the potential measures in the AQAP and evaluated accordingly
10	Wrafton Road parking - long term, top Hills View / Heanton	DCC+ Devon and Cornwall Police	See 15	no justification for further consideration following DCC and Devon and Cornwall Police comments re 15
11	Reinstate two-way traffic in South Street	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
12	Close crossing by The George	DCC	See comment (1)	added to the potential measures in the AQAP and evaluated accordingly
13	Problems occurred when traffic lights moved to adjacent The George	DCC	See comment (1)	added to the potential measures in the AQAP and evaluated accordingly
14	Braunton needs a bypass	DCC		considered in preparation of draft AQAP
15	Parking in Lower Park Road can be dangerous	DCC	NO minimal impact on traffic flows or air quality.	no justification for further consideration following DCC comments

Comment Number	Comment Received from consultation	Agency to respond	Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?	NDC comments following further consideration
		Devon and Cornwall police	<p>There have been no recorded collisions in Lower Park Road over the past five years. The only section of this road that has restricted parking is a short section at the Wrafton Road end. The Civil Enforcement Team (currently North Devon Council) are responsible for enforcement of these double yellow lines. They will be able to provide you with details of the number of patrol visits made there and the number of fixed penalty tickets issued. The rest of Lower Park Road is not subject to any parking restriction, which means vehicles can be lawfully parked along the road. This will act as a natural form of traffic calming and will have a positive impact on road safety in that area.</p> <p>Conversely, if parking were restricted along the length of the road, it is likely that speeds of vehicles would increase significantly which would raise greater concerns in relation to road safety.</p>	no justification for further consideration following DCC comments

<b>Comment Number</b>	<b>Comment Received from consultation</b>	<b>Agency to respond</b>	<b>Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?</b>	<b>NDC comments following further consideration</b>
16	Move pedestrian X by Co-Op further up the road towards Barnstaple	DCC	See comment (1)	added to the potential measures in the AQAP and evaluated accordingly
17	Traffic lights at South Street end of Caen Street	DCC	See comment (1)	added to the potential measures in the AQAP and evaluated accordingly
18	Removal of pelican	DCC	See comment (1)	added to the potential measures in the AQAP and evaluated accordingly
19	Reverse direction of South Street one-way	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
20	Pedestrianise Caen Street - would allow for Square traffic lights to be switched off	DCC	See comment (9)	added to the potential measures in the AQAP and evaluated accordingly
21	South Street one-way should flow away from Square	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
22	Adjust traffic lights by The George	DCC	See comment (1)	added to the potential measures in the AQAP and evaluated accordingly



<b>Comment Number</b>	<b>Comment Received from consultation</b>	<b>Agency to respond</b>	<b>Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?</b>	<b>NDC comments following further consideration</b>
23	Construct new road to create one-way loop and removal of all traffic lights	DCC	See comment (9)	added to the potential measures in the AQAP and evaluated accordingly
24	Remove all traffic lights and put a traffic management plan in place	DCC	See comment (5)	no justification for further consideration following DCC comments
25	Synchronise crossing outside The George with main traffic lights	DCC	See comment (3)	added to the potential measures in the AQAP and evaluated accordingly
26	Shorten time pedestrian lights in Exeter Road are on red	DCC	See comment (3)	added to the potential measures in the AQAP and evaluated accordingly
27	Pedestrian crossing outside The George to be moved nearer Recreation Ground	DCC	See comment (1)	added to the potential measures in the AQAP and evaluated accordingly
28	Timing of pedestrian lights in Caen Street needs addressing	DCC	See comment (1) (NB this is not a timed crossing it is on demand crossing)	added to the potential measures in the AQAP and evaluated accordingly

<b>Comment Number</b>	<b>Comment Received from consultation</b>	<b>Agency to respond</b>	<b>Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?</b>	<b>NDC comments following further consideration</b>
29	Need small roundabout at Williams Arms	DCC	Minimal impact on AQ on Caen Street	added to the potential measures in the AQAP and evaluated accordingly
30	Traffic lights & pedestrian crossings need to be interlinked to improve flow	DCC	See comment (1) & (3)	added to the potential measures in the AQAP and evaluated accordingly
31	Remove crossing patrol to avoid traffic stopping for patrol and pelican crossing	DCC	See comment (1) but yes the location and operation of the school patrol should be considered as well	added to the potential measures in the AQAP and evaluated accordingly
32	One-way traffic system would allow the removal of traffic lights in The Square	DCC	See comment (9)	added to the potential measures in the AQAP and evaluated accordingly
33	Pedestrian crossing by The George stays on red too long	DCC	See comment (1) & (3)	added to the potential measures in the AQAP and evaluated accordingly
34	Amend bus stops in Caen Street so they are not on the road	DCC	YES but would need to use laybys outside shops and would be objected to strongly	no justification for further consideration following DCC comments

<b>Comment Number</b>	<b>Comment Received from consultation</b>	<b>Agency to respond</b>	<b>Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?</b>	<b>NDC comments following further consideration</b>
35	Shorten pedestrian crossing times	DCC	NO They are on demand not fixed time	no justification for further consideration following DCC comments
36	Traffic from ILF to BA often held up by one car turning right towards Saunton	DCC	YES but no physical space for a right turn lane for more than one car	no justification for further consideration following DCC comments
37	Yellow lines on L side of Ex.Rd to stop large vehicles exiting into oncoming traffic	DCC	Don't understand presume they might mean box junctions.	no justification for further consideration following DCC comments
38	Get rid of the South St one-way system	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
39	Guide traffic up the Muddiford Rd to get to Ilfracombe	DCC	Probably no in terms of changing primary route signing as it has knock on effects to consider due to road layout and barnstaple traffic. But a partial yes in terms of barnstaple based traffic, But probably better to promote the A399 route from the NDL.	added to the potential measures in the AQAP and evaluated accordingly
40	Pedestrian crossing close to Square has too long timespan & not synced to lights	DCC	See comment (1) & (3)	added to the potential measures in the AQAP and evaluated accordingly

<b>Comment Number</b>	<b>Comment Received from consultation</b>	<b>Agency to respond</b>	<b>Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?</b>	<b>NDC comments following further consideration</b>
41	Right turn lane and filter lights on A361	DCC	See comment (36) - no physical space for a right hand lane and filter on A361	no justification for further consideration following DCC comments
42	Pedestrian bridge would make a much safer crossing	DCC	YES but probably not justified as there are more than one pedestrian desire lines around the square. Access for a bridge would be difficult to accomodate within the streetscape and the cost would be high	no justification for further consideration following DCC comments
43	Make Field Lane one-way and extend it to join Velator Way roundabout	DCC	See comment (9) but many problems associated with additional traffic along this route.	considered in preparation of draft AQAP
44	Road needs to be widened to allow either additional parking or bus lanes	DCC	Not feasible	no justification for further consideration following DCC comments
45	Reinstate South Street as two-way with upgraded lights on The Square	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
46	Reverse traffic flow in South Street	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly

<b>Comment Number</b>	<b>Comment Received from consultation</b>	<b>Agency to respond</b>	<b>Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?</b>	<b>NDC comments following further consideration</b>
47	Restrict parking along Wrafton Road	DCC	NO minimal impact on traffic flows or air quality.	added to the potential measures in the AQAP and evaluated accordingly
48	Have a give way left turn on Exeter & Chaloners Rds, when traffic light is red	DCC	See comment (41)	no justification for further consideration following DCC comments
49	Do something about people parking and blocking the bus stops	DCC	YES enforcement	added to the potential measures in the AQAP and evaluated accordingly
50	Reversing traffic flow in South St.would make most improvement for least cost	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
51	Replace crossing by The George with a zebra crossing	DCC	See comment (1)	added to the potential measures in the AQAP and evaluated accordingly
52	Would like the engineers to demonstrate how road speeds will be impacted	DCC	Depends on measures implemented	no justification for further consideration following DCC comments
53	Pedestrian crossing should be moved further along Exeter Road	DCC	See comment (1)	added to the potential measures in the AQAP and evaluated accordingly

Comment Number	Comment Received from consultation	Agency to respond	Agency Response – in relation to the question “Do you consider this to be a specific measure which could improve traffic flow in the village, and therefore justifies further investigation in the context of the Air Quality Action Plan ?	NDC comments following further consideration
54	Stop vehicles stopping to use bank cash machines	DCC	P&D would help manage the existing short stay parking spaces to avoid obstruction and aid enforcement. NB this has been recently discounted locally through public consultation.	no justification for further consideration following DCC comments
		Devon and Cornwall police	You do not say where exactly this is happening, so I have to assume it means by Lloyds Bank on Caen Street and HSBC on Exeter Road. In either case, there are parking restrictions in place (double yellow lines) at both locations. These are enforceable by the Civil Enforcement Team (currently North Devon Council), and you will be able to obtain the levels of patrols and tickets issued from them as explained at point 1 above.	no justification for further consideration following DCC and Devon and Cornwall Police comments re 15
55	Reverse South Street, would suck traffic out of Caen St instead of adding to it	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
56	Return South Street to two-way traffic	DCC	See comment (2)	added to the potential measures in the AQAP and evaluated accordingly
57	Unable to open windows on a domestic property on South Street owing to traffic noise & pollution -	NDC Env Health	Previously investigated, no specific action able to be taken by NDC, but may be addressed by implementation of improved traffic control measures by DCC	no justification for further consideration in the context of the AQAP as this is a statement of concern, which is acknowledged, but is not a suggestion for improvement
58	Worried about fumes from cars idling outside Caen Primary	NDC Env Health	Previously investigated, no specific action able to be taken by NDC, but may be addressed by implementation of improved traffic control measures by DCC	no justification for further consideration in the context of the AQAP as this is a statement of concern, which is acknowledged, but is not a suggestion for improvement

