

Public Document Pack



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24 March 2023

Dear Councillor

NOTICE IS HEREBY GIVEN THAT a meeting of the **CABINET** will be held at these offices (Council Chamber) on Monday 3 April 2023 at 11.05 am, or at the conclusion of the previous meeting, whichever is the later, when the following business will be transacted.

Members of the public who require further information are asked to contact Democratic Services on (01304) 872303 or by e-mail at democraticservices@dover.gov.uk.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Nicky', written over a white background.

Chief Executive

Cabinet Membership:

T J Bartlett	Leader of the Council
M Bates	Portfolio Holder for Transport, Licensing and Regulatory Services
N S Kenton	Portfolio Holder for Planning and Environment
D P Murphy	Portfolio Holder for Social Housing, Port Health, Skills and Education
O C de R Richardson	Deputy Leader of the Council & Portfolio Holder for Community and Corporate Property
C A Vinson	Portfolio Holder for Finance, Governance, Digital and Climate Change

AGENDA

1 **APOLOGIES**

To receive any apologies for absence.

2 **DECLARATIONS OF INTEREST** (Page 5)

To receive any declarations of interest from Members in respect of business to be transacted on the agenda.

3 **RECORD OF DECISIONS** (Pages 6-15)

The decisions of the meeting of the Cabinet held on 6 March 2023 numbered CAB 95 to CAB 104 (inclusive) are attached.

ISSUES ARISING FROM OVERVIEW AND SCRUTINY OR OTHER COMMITTEES

To consider any issues arising from Overview and Scrutiny or other Committees not specifically detailed elsewhere on the agenda.

EXECUTIVE - KEY DECISIONS

- 4 **ADOPTION OF INDOOR SPORTS FACILITY STRATEGY 2023-2040** (Pages 16-110)

To consider the attached report of the Strategic Director (Place and Environment).

Responsibility: Portfolio Holder for Community and Corporate Property

- 5 **APPROVAL OF DRAFT AIR QUALITY ACTION PLAN FOR CONSULTATION** (Pages 111-298)

To consider the attached report of the Strategic Director (Corporate and Regulatory).

Responsibility: Portfolio Holder for Transport, Licensing and Regulatory Services

- 6 **EXCLUSION OF THE PRESS AND PUBLIC** (Page 299)

The recommendation is attached.

MATTERS WHICH THE MANAGEMENT TEAM SUGGESTS SHOULD BE CONSIDERED IN PRIVATE AS THE REPORT CONTAINS EXEMPT INFORMATION AS DEFINED WITHIN PART 1 OF SCHEDULE 12A OF THE LOCAL GOVERNMENT ACT 1972 AS INDICATED AND IN RESPECT OF WHICH THE PROPER OFFICER CONSIDERS THAT THE PUBLIC INTEREST IN MAINTAINING THE EXEMPTION OUTWEIGHS THE PUBLIC INTEREST IN DISCLOSING THE INFORMATION

EXECUTIVE - KEY DECISIONS

- 7 **DOVER BEACON PROJECT** (Pages 300-404)

To consider the attached report of the Head of Place, Growth, Investment and Creative Services.

Responsibility: Leader of the Council

- 8 **AWARD OF CONTRACT FOR PROVISION OF HEATING, SERVICING, INSTALLATION AND MAINTENANCE WORKS TO COUNCIL PROPERTIES** (Pages 405-408)

To consider the attached report of the Head of Property Assets.

Responsibility: Portfolio Holder for Social Housing, Port Health, Skills and Education

EXECUTIVE - NON-KEY DECISIONS

9 **FUTURE PROVISION OF COUNCIL'S OUT-OF-HOURS SERVICE** (Pages 409-412)

To consider the attached report of the Head of Transformation.

Responsibility: Portfolio Holder for Community and Corporate Property

10 **YOUR LEISURE ADDITIONAL FUNDING** (Pages 413-416)

To consider the attached report of the Strategic Director (Place and Environment).

Responsibility: Portfolio Holder for Community and Corporate Property

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Declarations of Interest

Disclosable Pecuniary Interest (DPI)

Where a Member has a new or registered DPI in a matter under consideration they must disclose that they have an interest and, unless the Monitoring Officer has agreed in advance that the DPI is a 'Sensitive Interest', explain the nature of that interest at the meeting. The Member must withdraw from the meeting at the commencement of the consideration of any matter in which they have declared a DPI and must not participate in any discussion of, or vote taken on, the matter unless they have been granted a dispensation permitting them to do so. If during the consideration of any item a Member becomes aware that they have a DPI in the matter they should declare the interest immediately and, subject to any dispensations, withdraw from the meeting.

Other Significant Interest (OSI)

Where a Member is declaring an OSI they must also disclose the interest and explain the nature of the interest at the meeting. The Member must withdraw from the meeting at the commencement of the consideration of any matter in which they have declared a OSI and must not participate in any discussion of, or vote taken on, the matter unless they have been granted a dispensation to do so or the meeting is one at which members of the public are permitted to speak for the purpose of making representations, answering questions or giving evidence relating to the matter. In the latter case, the Member may only participate on the same basis as a member of the public and cannot participate in any discussion of, or vote taken on, the matter and must withdraw from the meeting in accordance with the Council's procedure rules.

Voluntary Announcement of Other Interests (VAOI)

Where a Member does not have either a DPI or OSI but is of the opinion that for transparency reasons alone s/he should make an announcement in respect of a matter under consideration, they can make a VAOI. A Member declaring a VAOI may still remain at the meeting and vote on the matter under consideration.

Note to the Code:

Situations in which a Member may wish to make a VAOI include membership of outside bodies that have made representations on agenda items; where a Member knows a person involved, but does not have a close association with that person; or where an item would affect the well-being of a Member, relative, close associate, employer, etc. but not his/her financial position. It should be emphasised that an effect on the financial position of a Member, relative, close associate, employer, etc OR an application made by a Member, relative, close associate, employer, etc would both probably constitute either an OSI or in some cases a DPI.



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Our ref: KBS/CABRCD
Your ref:
Date: 8 March 2023

TO: ALL MEMBERS OF THE COUNCIL

Dear Councillor

CABINET: RECORD OF DECISIONS

Please find attached the Record of Decisions of the Cabinet meeting held on Monday, 6 March 2023. Unless otherwise indicated within the schedule, these decisions may be called in for scrutiny, provided notice is given to me in writing by **10.00am** on **Tuesday, 14 March 2023**.

The call-in procedures are set out at paragraph 18 of the Overview and Scrutiny Procedure Rules. Call-in may be activated by the Chairman of the Overview and Scrutiny Committee, the Controlling Group Spokesperson of the Overview and Scrutiny Committee or any three non-executive Members. The reasons for calling in an item must be given.

Yours sincerely

A handwritten signature in cursive script that reads "Kate Batty-Smith". Below the signature is a short horizontal line.

Kate Batty-Smith
Democratic Services Officer

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Record of the decisions of the meeting of the **CABINET** held at the Council Offices, Whitfield on Monday, 6 March 2023 at 11.00 am.

Present:

Chairman: Councillor T J Bartlett

Councillors: M Bates
N S Kenton
D P Murphy
O C de R Richardson
C A Vinson

Also Present: Councillor S H Beer
Councillor E A Biggs
Councillor P M Brivio
Councillor K Mills
Councillor H M Williams

Officers: Strategic Director (Corporate and Regulatory)
Strategic Director (Finance and Housing)
Strategic Director (Place and Environment)
Head of Finance and Investment
Head of Property Assets
Planning Policy and Projects Manager
Principal Heritage Officer
Principal Planned Works Officer
Senior Natural Environment Officer
Democratic Services Officer

The formal decisions of the executive are detailed in the following schedule.

Record of Decisions: Executive Functions

Decision Status	Record of Decision	Alternative options considered and rejected (if any)	Reasons for Decision	Conflicts of interest (if any) declared by decision maker(s) or consultees (if any)
CAB 95 6.3.23 Open Key Decisions No Call-in to apply Yes Implementation Date 14 March 2023	<u>APOLOGIES</u> It was noted that there were no apologies for absence.	None.	To note any apologies for absence.	

Decision Status	Record of Decision	Alternative options considered and rejected (if any)	Reasons for Decision	Conflicts of interest (if any) declared by decision maker(s) or consultees (if any)
CAB 96 6.3.23 Open Key Decisions No Call-in to apply Yes Implementation Date	<u>DECLARATIONS OF INTEREST</u> There were no declarations of interest.	None.	To note any declarations of interest.	

14 March 2023				
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Decision Status	Record of Decision	Alternative options considered and rejected (if any)	Reasons for Decision	Conflicts of interest (if any) declared by decision maker(s) or consultees (if any)
CAB 97 6.3.23 Open Key Decisions No Call-in to apply Yes Implementation Date 14 March 2023	<u>RECORDS OF DECISIONS</u> It was agreed that the decisions of the meetings held on 6 February and 27 February 2023, as detailed in decision numbers CAB 80 to CAB 90 and CAB 91 to CAB 94 respectively, be approved as correct records and signed by the Chairman.	None.	Cabinet is required to approve the Records of Decisions of the Cabinet meetings held on 6 and 27 February 2023.	

Decision Status	Record of Decision	Alternative options considered and rejected (if any)	Reasons for Decision	Conflicts of interest (if any) declared by decision maker(s) or consultees (if any)
CAB 98 6.3.23 Open Key Decisions Yes Call-in to apply Yes Implementation Date	<u>FEES AND CHARGES 2023/24</u> It was agreed that the Overview and Scrutiny Committee's endorsement of Cabinet decision CAB 84, made at its meeting held on 20 February 2023 (Minute No 83), be acknowledged.	None.	At its meeting held on 20 February 2023, the Overview and Scrutiny Committee endorsed Cabinet decision CAB 84 of 6 February 2023.	

14 March 2023				
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Decision Status	Record of Decision	Alternative options considered and rejected (if any)	Reasons for Decision	Conflicts of interest (if any) declared by decision maker(s) or consultees (if any)
<p>CAB 99 6.3.23 Open</p> <p>Key Decisions Yes</p> <p>Call-in to apply Yes</p> <p>Implementation Date 14 March 2023</p>	<p><u>ADOPTION OF ST MARGARET'S BAY CONSERVATION AREA CHARACTER APPRAISAL</u></p> <p>It was agreed:</p> <p>(a) That the proposed responses to the representations received and the resulting modifications to the St Margaret's Bay Conservation Area Character Appraisal, as set out at Appendix 1 to the report, be approved.</p> <p>(b) That the St Margaret's Bay Conservation Area Character Appraisal, as set out at Appendix 2 to the report, be adopted as a material consideration for planning purposes.</p> <p>(c) That the Head of Planning and Development be authorised, in consultation with the Portfolio Holder for Planning and Environment, to make any necessary editorial changes to the Appraisal prior to publication in order to assist with clarity, consistency, explanation and presentation.</p>	<p>None.</p>	<p>Under the Planning (Listed Buildings and Conservation Areas) Act 1990, local authorities are required to review their conservation areas and to publish proposals for their preservation and enhancement.</p> <p>The Dover District Heritage Strategy recommends that a programme is developed to address the District's deficit of character appraisals.</p> <p>The draft conservation area character appraisal for St Margaret's Bay will be subject to a 6-week period of formal public</p>	

			consultation.	
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Decision Status	Record of Decision	Alternative options considered and rejected (if any)	Reasons for Decision	Conflicts of interest (if any) declared by decision maker(s) or consultees (if any)
<p>CAB 100 6.3.23 Open</p> <p>Key Decisions Yes</p> <p>Call-in to apply Yes</p> <p>Implementation Date 14 March 2023</p>	<p><u>DRAFT GREEN INFRASTRUCTURE STRATEGY</u></p> <p>It was agreed:</p> <p>(a) That the draft Green Infrastructure Strategy, as set out at Appendix 1 of the report, be published for public consultation for a period of 6 weeks.</p> <p>(b) That the Head of Planning and Development be authorised, in consultation with the Portfolio Holder for Planning and Environment, to make minor amendments to the draft Green Infrastructure Strategy prior to consultation.</p>	<p>None.</p>	<p>The Council's emerging Local Plan sets out policies and requirements in relation to green infrastructure, the protection and enhancement of ecological assets and high-quality design. To support these policies and assist the Council in meeting the requirements being brought forward through the Environment Act 2021, there is a need to produce a Green Infrastructure Strategy for the District.</p>	

Decision Status	Record of Decision	Alternative options considered and	Reasons for Decision	Conflicts of interest (if any) declared by
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		rejected (if any)		decision maker(s) or consultees (if any)
CAB 101 6.3.23 Open Key Decisions Yes Call-in to apply Yes Implementation Date 14 March 2023	<u>PROVISION OF INTERIM HOUSING FOR UKRAINIAN AND AFGHAN REFUGEES UTILISING THE GOVERNMENT'S LOCAL AUTHORITY HOUSING FUND</u> It was agreed: (a) That a project to acquire and, where necessary, refurbish ten properties for affordable rent, under the terms of the Local Authority Housing Fund programme, be approved. (b) That the Head of Finance and Investment be authorised, in consultation with the Portfolio Holder for Social Housing, Port Health, Skills and Education, to take the necessary decisions and actions to progress the project and purchase the properties including (but not limited to) accepting grant funding from the Local Authority Housing Fund, agreeing the purchase price, approving the sale purchase agreements, appointing any necessary professional advisers and agreeing works to bring the properties up to lettable standards.	None.	Following the launch of the Government's Local Authority Housing Fund in December 2022, Dover has provisionally been identified as eligible for capital grant funding of £1.1 million for the purchase of ten properties, to be used as affordable housing for refugees in the first instance.	

Decision Status	Record of Decision	Alternative options considered and rejected (if any)	Reasons for Decision	Conflicts of interest (if any) declared by decision maker(s) or consultees (if any)
CAB 102 6.3.23 Open Key Decisions No	<u>STRATEGIC PERFORMANCE DASHBOARD - THIRD QUARTER 2022/23</u> It was agreed that the Council's Strategic Performance Dashboard for the Third Quarter 2022/23 be noted.	None.	Replacing the quarterly Performance Report, the Strategic Performance Dashboard	

<p>Call-in to apply Yes</p> <p>Implementation Date 14 March 2023</p>			<p>provides an overview of how the Council and East Kent Services are performing against a number of key performance indicators as a means of measuring whether the Council is achieving its aims and objectives.</p> <p>The Strategic Performance Dashboard – Third Quarter 2022/23 covers the period from October to December 2022.</p>	
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Decision Status	Record of Decision	Alternative options considered and rejected (if any)	Reasons for Decision	Conflicts of interest (if any) declared by decision maker(s) or consultees (if any)
<p>CAB 103 6.3.23 Open</p> <p>Key Decisions No</p> <p>Call-in to apply Yes</p>	<p><u>EXCLUSION OF THE PRESS AND PUBLIC</u></p> <p>That, in accordance with the provisions of the Local Authorities (Executive Arrangements) (Access to Information) (England) Regulations 2000, the press and the public be excluded during consideration of the following item of business on the grounds that it involves the likely disclosure of exempt information as defined in paragraph 3 of Schedule 12A of the Local Government Act 1972.</p>	<p>None.</p>		

Implementation Date Immediate				
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Decision Status	Record of Decision	Alternative options considered and rejected (if any)	Reasons for Decision	Conflicts of interest (if any) declared by decision maker(s) or consultees (if any)
CAB 104 6.3.23 Exempt Key Decisions Yes Call-in to apply Yes Implementation Date 14 March 2023	<u>AWARD OF CONTRACT FOR ASBESTOS SURVEYING, SAMPLING AND REMOVAL WORKS 2023/24</u> It was agreed that a one-year contract (plus a possible one-year extension subject to performance) be awarded to PA Group (UK) Ltd, for the consideration set out in the report, to provide the required surveying, testing and, where required, removal of asbestos-containing materials within the Council's housing stock, in conjunction with planned maintenance and responsive repair works.	None.	The Council has a statutory duty to carry out asbestos surveying, sampling and testing on its housing stock. It is necessary for the existing contract to be renewed due to the contract value having been reached.	

The meeting ended at 11.17 am.

Subject:	ADOPTION OF INDOOR SPORTS FACILITY STRATEGY 2023-2040
Meeting and Date:	Cabinet – 3 April 2023
Report of:	Roger Walton, Strategic Director (Place and Environment)
Portfolio Holder:	Councillor Oliver Richardson, Portfolio Holder for Community and Corporate Property
Decision Type:	Key Decision
Classification:	Unrestricted

Purpose of the report: Cabinet is requested to consider representations received during consultation on the draft Indoor Sports Facility Strategy. A small number of changes to the strategy are proposed, in response to representations received, and adopt the final version of the Strategy

Recommendation:

- (a) To approve the proposed responses to the representations received, as shown in Appendix 1.
- (b) To approve and adopt the Indoor Sports Facility Strategy, as amended, attached at Appendix 2.

1. Summary

1.1 The Indoor Sports Facility Strategy (ISFS) examines the current and future supply and demand for nine types of indoor sports facilities across Dover District. The purpose of the study is to help guide potential decisions around rationalisation and investment, community use of school facilities, encouraging. The study will also be used to highlight the links to public health and how provision of accessible indoor facilities contributes towards healthy living and well-being. It will help to underpin feasibility work on the proposed redevelopment of Tides Leisure Centre in Deal. Further development of this project is subject to the findings of detailed feasibility study, and dependant on the project being affordable and financially viable. Fundamentally, it will provide robust and up to date evidence to support the Local Plan to 2040 to determine what facilities are needed in certain areas of the district and where there are opportunities for new provision. This will enable the council to seek developer contributions from qualifying new developments.

1.2 Key findings from the updated ISFS included the following requirements:

- i. There is a deficit in swimming pool water space of a 6 lane 25m pool.
- ii. Additional sports hall capacity, or greater access to existing education sites, is likely to be required at Whitfield, Aylesham and Dover Town Centre. The additional planned developments will generate a combined need for additional sports hall space equivalent to 2.4 badminton courts
- iii. There is no requirement for additional indoor bowls, squash and racketball provision in the District. A growing population may generate a need for further provision in the future. Indoor tennis courts at Tides Leisure and Indoor Tennis Centre should be retained.
- iv. There is a requirement to increase the level of provision of dedicated multi-purpose studio space within the District. This is linked to the potential latent demand for

health and fitness facilities, which also support the need for increased studio space for group exercise.

- v. There is a requirement to investigate options for the development of a new dedicated gymnastics and boxing and martial arts facilities in the District.

1.3 Cabinet approved public consultation upon the draft Indoor Sports Facility Strategy on 4 July 2022, which was duly undertaken across an eleven-week period. Appendix 1 to this report provides details of the representations received and proposed responses and changes made to the strategy document. No significant changes are required to the draft strategy. Appendix 2 comprises a final draft of the strategy incorporating amendments arising from the consultation for adoption. It is not considered that further consultation is required because the changes are considered minor and do not fundamentally alter the actions from the Indoor Sports Facility Strategy.

2. Introduction and Background

2.1 Members will recall the ISFS 2016 is out of date and the Council appointed consultants to undertake its review, which commenced in October 2021. This timing aligned with the development of wider district planning policy work to support the emerging Local Plan. Simultaneously, the Council was also investigating the potential redevelopment of Tides Leisure Centre in Deal, with aging pool provision that is reaching end of life.

2.2 The preparation of the draft indoor sports facility strategy was undertaken by using Sport England Guidance to reflect current best practice guidance for the provision of indoor sports facilities. It focuses on sports halls, indoor swimming pools, health & fitness suites, indoor bowls, dance/aerobic studios, indoor tennis courts, squash & racquetball courts, gymnastics, boxing, and martial arts. It examines the age, quality, size, accessibility, community use, opening hours and type of management of each existing facility by way of a desktop review using data made available by Sport England through tools such as Facility Planning Models (FPM), Active Places and Active People Surveys. This information was supplemented by consultation with stakeholders such as operators and facility providers. Additional consultation with key stakeholders including Sport England, National Governing Bodies of Sport, local secondary schools and parish councils with indoor sports facilities, key local sport clubs, facility managers and neighbouring authorities was undertaken to complete a robust draft document.

2.3 Public consultation on the draft ISFS ran for eleven weeks between 18 July and 30 September 2022, significantly longer than the period required or set out by the Council's Statement of Community Involvement. The consultation was advertised in local newspapers, via social media and alerts were sent to everyone who had registered an interest in leisure projects through the Council's 'Keep Me Posted' initiative. In addition, a total of around 1,500 consultees were directly invited to comment, including Cllrs, members of parish and town councils, local community groups and schools, leisure providers and sports clubs, and also all consultees registered to the Local Plan consultation portal. The draft document was available to view on the Council's website throughout the consultation period and promoted via social media communications and posters in the Council's area offices.

2.4 Consultees were required to respond to key questions:

- a) Are the priorities in the draft Strategy the right ones?
- b) If not, explain what could have been done differently?
- c) Are the outcomes in the draft Strategy the right ones?
- d) If not, please explain what could be done differently?
- e) Are there any other comments you would like to make on the draft strategy?

- f) If you are a sports facility provider and have needs for requirements /plans for enhanced facilities, please provide more detail.
- 2.5 The Council received representations from 28 organisations and individuals. A summary of the comments made and proposed responses to each representation are set out in the analysis table at Appendix 1. Consideration should be given to all the representations in the analysis table, and to the factual corrections and clarifications that are proposed in response. However, it is possible to pick out some common themes raised with examples of minor edits recommended to the draft strategy. These are set out below.
- 2.6 Swimming priorities within the draft action plan generated the most responses with almost a quarter of representatives commenting on this. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. It states the Council should “progress proposals for the redevelopment of a new swimming pool to address unmet demand. Subject to the findings of detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new leisure centre”. Members of the public expressed overwhelming support for the inclusion of swim lane provision. Representations suggested varying pool water needs e.g. from 8 to 6 lanes to the need for a 33m or 50m pool as well as others supporting the continuation of a leisure pool provision. Provision of a 4 to 6 lane pool and a leisure pool is being investigated as part of the detailed feasibility and options appraisal work. The viability of such a proposal is being considered and it is anticipated a separate report on the redevelopment proposals for Tides Leisure Centre will be presented to cabinet in early summer 2023 There are some recommended minor edits to the draft strategy to acknowledge that any new pool provision should complement existing and to also recognise the importance of meeting unmet demand.
- 2.7 Feedback was received from several sports clubs. It is recognised that most of the dedicated sports facilities in gymnastics are run by charities and are non- profitable organisations as was mentioned by Dover Gymnastics Club and a minor edit has been made to the draft strategy to acknowledge this. Walmer Lawn Tennis Club and Deal Aycro Gymnastic Clubs both expressed support for the priorities in the action plan, however, each expressed concern for the continuity of service in connection with redevelopment proposals for Tides Leisure Centre. The Council will take early communication on this matter into consideration in the separate report on Tides Leisure Centre project.
- 2.8 Other minor changes to the draft strategy include updating data records associated to Sandwich Technology School in tabulated data sheets to ensure accuracy. In addition, at the time of writing this report Dover Boys Grammar School has recently opened a new sports hall. This has been added to the mapping and tables while the school considers what level of community use can be achieved.
- 2.9 There were several other comments made which have been noted and responded to in Appendix 1, but have not led to a change required to the ISFS. These include comments around specific sites that may be suitable for meeting future Indoor Sport’s needs, how the Local Plan should consider the locations of future needs and around how developer contributions contribute to the delivery of facilities and whether that is effective.
- 2.10 A summary of the main amendments to the draft ISFS following consultation is presented below:
- a) At 5.4.4, and 5.5. text has been edited to acknowledge that any new pool provision should complement existing, as such, the word ‘complement’ has been added.

- b) Add Strategic Priority 18 under Swimming Pool Priorities to recognise the importance of meeting unmet demand. Add “To seek developer contributions to meet pool water deficiencies across the district” “DDC to work with developers to secure contributions to meet remaining pool water deficiencies across the district, subject to feasibility, demonstrating need and financial viability, in the future.”
 - c) At 5.37.1, remove wording to suggest gymnastic clubs can be developed as commercially viable businesses and replace with “these facilities can be developed as financially viable organisations”.
 - d) At 5.16.4 add text to recognise the contribution made by facilities in Thanet to the north east of Dover. Add “Also, Thanet Indoor Bowling Centre includes 8 rinks and meets the needs of some residents to the north of the district”.
 - e) At tables 5.9.2, 5.9.8, 5.12.2, 5.19.2 and 5.27.1 amend Sandwich Leisure Centre year built to read “1991” and Sandwich Technology School original year built to read “1991” and ownership type to read “Academy”.
 - f) At table 5.9.2 Add “Dover Grammar School for Boys” to show a four courts sports hall under supply information for sports halls. With footnote to read “It should be noted that the 4 court sports hall at Dover Grammar School for boys opened in 2022, during completion of this strategy, and has not been included in Sport England’s Facility Planning model report. This site provides an opportunity to increase the supply of facilities in the district subject to availability to community clubs and user groups.”
 - g) Paragraph 5.9.12 and Strategic Priority ID20 was amended to clarify the current position around the S106 agreement in place for Aylesham for new sports hall and facilities, and to confirm the final project is yet to be determined and defined.
- 2.11 It should also be noted that the Strategy has been updated to report on the consultation approach set out above and to reference the latest stage of Local Plan preparation. A final version of the Indoor Sports Facility Strategy proposed for adoption is attached at Appendix 2, incorporating the suggested changes set out above and in Appendix 1.
- 2.12 Adoption of the ISFS as the Council’s future strategy for indoor sport is important as it identified where there are current and future gaps in provision and will enable the delivery of projects to meet the needs of residents. The projects identified within the ISFS have been included within the emerging Infrastructure Delivery Plan (IDP) which supports the Local Plan and new policy within it which enables the collection of developer contributions towards sports facilities from major developments through the Section 106 process. Adoption of this strategy now, enables DDC to commence collection of financial contributions now towards future projects and maintenance of facilities which are meeting the needs of new development. It will be essential to keep this ISFS up to date and reviewed every five years, as part of the IDP to ensure S106 contributions are being collected and spent on the correct indoor sports provision.
- 3. Identification of Options**
- 3.1 Option one: To approve and adopt the final Indoor Sports Facility Strategy 2023-2040, attached at Appendix 2, incorporating amendments that respond to representations received during the public consultation.
- 3.2 Option two: Not to approve or adopt the final Indoor Sports Facility Strategy 2023-2040 attached at Appendix 2.
- 4. Evaluation of Options**
- 4.1 Option one is preferable because it will allow the Council to adopt an up-to-date Indoor Sports Facility Strategy that can help to shape future provision in a way that meets the needs of current and potential users. It will also help to underpin the facility mix options for a new redeveloped leisure centre in Deal and provide supporting evidence to seek

developer contributions towards facilities and for any potential external funding opportunities.

- 4.2 If option two is selected, the Council will be left without an action plan to address the need for indoor sport provision in the district. There would be no formal evidence to support facility mix options for a new redeveloped leisure centre in Deal and the council will not meet the criteria required to potentially apply for external funding opportunities. There would also be limited opportunity to seek developer contributions towards future identified projects.

5. **Resource Implications**

- 5.1 There will be officer resource required to help facilitate the delivery of some projects identified in the proposed action plan.
- 5.2 The proposed redevelopment of the leisure centre in Deal is a major key project under consideration for DDC. This project will be reported to Members in more detail and the resource implications as appropriate in 2023.

6. **Climate Change and Environmental Implications**

- 6.1 There are no negative environmental or climate change implications as a consequence of this decision being taken. However, one of the Strategic priorities (ID4) identified is to 'Investigate and implement opportunities to reduce carbon consumption at leisure facilities owned by DDC and provide advice and support to encourage other facility operators to explore opportunities for carbon reduction at their sites'.

7. **Corporate Implications**

- 7.1 Comment from the Director of Finance (linked to the MTFP): Accountancy have been consulted in the writing of this report and have no further comment to add (AC)
- 7.2 Comment from the Solicitor to the Council: The Solicitor to the Council has been consulted in the preparation of this report and has no further comments to make.
- 7.3 Comment from the Equalities Officer: The Equality Officer has been consulted during the development of the Indoor Sports Facility Strategy and an equality impact assessment highlights a positive impact for some of the protected characteristic groups. Members are reminded that in discharging their responsibilities they are required to comply with the public sector equality duty as set out in section 149 of the Equality Act 2010 <http://www.legislation.gov.uk/ukpga/2010/15/section/149>
- 7.4 Other Officers (as appropriate):

8. **Appendices**

Appendix 1 – Consultation Analysis Table

Appendix 2 – Final Indoor Sport Facility Strategy 2023-2040

9. **Background Papers**

Indoor Sports Facility Strategy 2016

Sport England Facility Planning Model Standard Report for Halls and Pools 2022

Sport England Facility Planning Model Bespoke Pool Report 2022

Contact Officers: Laura Corby, Strategic Project Manager extn 42448

Carly Pettit, Principal Policy and Infrastructure Planner extn 72422

Q1 - Are you commenting as:	Name / Location of consultee	Q2 - Which Indoor Sport are you specifically commenting on:	Q3 - Are the priorities in the strategy the right ones?	Q4 - Are the outcomes in the strategy the right ones?	Q5 - Which part(s) of the Draft Indoor Sport Facility Strategy are you commenting on: (Please state specific paragraph numbers,	Q3a - If not, please explain what could have been done differently / Q4a - If not, please explain what could have been done differently / Q5a - Please provide your comments on the draft strategy here:(free text) (Comments have been summarised where possible)	Q6 - If you are a sports club or sports facility provider and have needs for or requirements/plans for enhanced facilities? please provide more detail here	DDC Response to comments	Actions/Changes to final ISFS Document following consultation
Town/Parish Council or community group	The Dover Society	All	Yes	Yes	Please see document attached.	<p>Assessment of Current Provision In the statistics that describe the current provision of facilities results, are being compared with other parts of the country to determine the adequacy of that provision. However, included in these statistics are some schools and private sports and leisure centres. This gives an extremely distorted few of the situation since schools are not available to the public seven days a week throughout the year in the way that Local Authority facilities are. To include them is to over estimate the extent of the current provision and this will lead again to an inadequate provision into the future. Recognising that children have the benefit of these school facilities and they are part of the overall population, if such provision if considered at all, it should be weighted downwards to reflect that school age proportion of the population during term time only. Conclusion: Statistics should be amended to more accurately reflect the current provision.</p> <p>Dover Leisure Centre Whitfield - When the old facility in Woolcomber Street was closed and a new facility planned there was a golden opportunity to build a new larger facility that would stand the test of time and would attract people from outside the immediate locality. What we now have is a swimming pool that is too small and dry sports facilities that are inferior to the previous facility. In part this inadequate capacity may be due to increased footfall but this only reflects on lack of vision which has lead to a facility in urgent need of expansion despite being only a few years old. Furthermore, in an age when we are all being encouraged not use cars, the public transport provision for the site is also completely inadequate Conclusion: Firm plans to expand both wet and dry facilities are urgently needed.</p> <p>Tides Leisure Centre - It is self evident that the Tides Leisure centre is in need of replacement. When planning for the new facility care should be taken to avoid the mistakes of the Whitfield facility. The pool should be at least 33m or even 50m in length have at least eight lanes and be suitable for diving. This would then retain within the district those who like or need a high standard facility rather than have them spend their money elsewhere and would also attract people from outside the district. The provision for dry sports should recognise the likely increasing demand by ensuring an adequate number of courts with a large hall that can be used flexibly. Conclusion: the new sports facility should be of a high standard with high capacity.</p>	N/A	Noted. Q.5 The Council has followed Sport England Guidance for the development of the Indoor Sports Facility Strategy and engaged with these representatives throughout the progression of the draft strategy. The FPM data does take account of availability of community use of school site and other factors, so the data has been appropriately weighted according to Sport England's recognised methodology for needs assessment; there is no need to update the report. Dover District Leisure Centre is recognised as an exemplary project by Sport England as evidenced by it's case study and contribution of £1.5m awarded funding to the project. The Council is very proud of this high-quality facility, and it continues to work on improving accessibility. Dover FastTrack is progressing well and likely to be complete late 2023 to transform access from the town centre to Whitfield providing faster and more direct public transportation links to the leisure centre. The Council is currently undertaking detailed feasibility work for the redevelopment of Tides Leisure Centre. Improved pool space provision is being examined and explored as part of this work to address identified deficiencies and meet future need. However, any future provision must be affordable and sustainable. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool • Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure".	

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Town/Parish Council or community group	Aylesham Parish Council	All	No	No	5.3.105.9.4 5.106.6.2	<p>3a: S106 funding appears to be applied very loosely. If Dover District Council are selling land for development then revenues should be used directly for indoor sports facilities, not just S106 monies.</p> <p>5a: Given the amount of development in Aylesham, and the amount planned in the upcoming local plan, additional facilities should be targeted towards Aylesham. This should be above and beyond s106 money.</p> <p>5.3.10 Walking standards have been applied to swimming pools but driving times to most other facilities. Why has this not been done for swimming?</p> <p>5.9.4 There is still need for sports hall facilities in Aylesham, especially as it is difficult to get to the districts facility in Whitfield. We are still waiting for delivery of a hall so simply relying on s106 process doesn't seem to work.</p> <p>5.10 This hall to be built in Aylesham should include as many badminton courts as possible to ensure demand can be met and that locals can use the hall as well as others in the district.</p> <p>6.6.2 DDC should be careful not to lose leisure water facilities whilst attempting to increase the number of 4 or 6 lane swimming pools. These more informal swimming facilities are important for families and should be maintained.</p>		<p>Q.3a With regards to planned and future infrastructure and if it is or can be partly funded through the S106 process, this is an issue which is in part addressed through the emerging Local Plan - through Policy SP11 - Infrastructure and Developer Contributions which sets out how DDC will use evidence, including this update to the Indoor Sport provision, to require new developments to meet the needs of their residents by providing, or financially contributing to infrastructure. With regards to Sports Provision more specifically, Policy PM5 sets out how the Sports England Calculators will be used to calculate the needs for sports from new development. This will then be used in any S106 agreements on new major developments. With regards to already planned provision, S106 funds and how this is to be spent, full details can be found most up to date Infrastructure Funding Statement which is on DDC website. As part of the Local Plan, Infrastructure Delivery Plan (IDP) draft October 2022 is available for public consultation and sets out planned future needs and how this may be delivered through the S106 (developer contribution) process.</p> <p>Q.5 As set out in paragraph 4.2.2 'Sport England determines that differences in rural and urban catchments are reflected within an agreed walk or drive time catchment. The normal acceptable standard would be to apply a 20-minute walk time (1 mile radial catchment) for an urban area and a 20-minute drive time for a rural area. The District is described as being an urban area (65% of population) with significant rural hubs (35% of population), therefore when looking at catchments, a 20-minute walk time has been applied to swimming pools, sports halls, health and fitness suites and dance/aerobic studios. However, for indoor bowls, squash/racketball courts, indoor tennis and gymnastics, it is recognised that provision for these sports attract users from further away and therefore a 20-minute drive time has been applied for these facilities'. It should be noted that in terms of sports halls, swimming and gyms (which were mapped using the 20-min walk catchments) the entire district is covered by a 20-minute drive time, so the walk time accessibility gives more detail on local accessibility in the more urban parts of the district. The Council recognises planned developments for expansion of Aylesham Welfare Leisure Centre as referred to in paragraph 5.9.12 of the draft strategy. Strategic Priority 20 of the Action Plan highlights the need "To support and encourage, where possible, the development of new provision at Aylesham Welfare Leisure Centre. Support initial plans for a 2 or 4 court sports hall, subject to viability being demonstrated. • Assist in delivery of already secured developer contributions for new sports hall and</p>	

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								facilities." In addition to s106 monies, other sources of funding must be explored. With regards to pool water provision, the Council is currently undertaking detailed feasibility work for the redevelopment of Tides Leisure Centre. Improved pool space provision is being examined and explored as part of this work to address identified deficiencies and meet future need. However, any future provision must be affordable and sustainable. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool• Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure".	
A resident	Deal	All	No	No		<p>3a: Too difficult to get public transport to the Whitfield leisure centre. Very few bus services and regularly cancelled. Please build more facilities in Deal to accomodate the big increase in new builds and tourists.</p> <p>4a: Wrong location for a Disrict Leisure centre. Very poor transport links and congestion on A258 makes it a long trip to from Deal.</p> <p>5a: You need to build facilities in the right location for the correct demographic. Huge increase in new builds in Deal and large increase in visitors/tourists.</p>		Noted. Q3. The Council continues to work on improving accessibility to Dover District Leisure Centre. Dover FastTrack is progressing well and likely to be complete late 2023 to transform access from the town centre to the leisure centre in Whitfield providing faster and more direct public transportation links. The Council is currently undertaking detailed feasibility work for the redevelopment of Tides Leisure Centre. Improved pool space provision is being examined and explored as part of this work to address identified deficiencies and meet future need. However, any future provision must be affordable and sustainable. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool• Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure".	

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Town/Parish Council or community group	1st Shepherdswell Brownies & Guides	All	Yes	Yes		<p>3a: I think its a very limited amount of sports being targeted! Would be nice to see some investment in netball courts (which could be multifunctional as also can be used as Tennis courts. There is certainly a lack of these in rural areas.</p> <p>Also swimming provision focusses very heavily on lane swimming - what about kids having fun???</p>		<p>Noted. Q3. The updated Indoor Sports Facility Strategy focuses on nine different facility groups, that accommodate a wide range of sports, which has expanded in number with the addition of racquetball, boxing and martial arts when compared to the previous strategy. The supply and demand for Netball in the district has been recently examined as part of the Dover Playing Pitch & Outdoor Sports Facility Strategy. Please find this document on the following website for more information. https://www.doverdistrictlocalplan.co.uk/uploads/pdfs/playing-pitch-strategy-action-plan.-2019.pdf. The Council is currently undertaking detailed feasibility work on the proposed redevelopment for Tides Leisure Centre. Improved pool space provision is being examined and explored as part of this work to address identified deficiencies and meet future need. However, any future provision must be affordable and sustainable. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool• Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure". It is intended to present a separate report to Cabinet members on the Tides project in the new year and that will be in the public domain.</p>	
An indoor sport facility provider	Invicta Community & Lesuire / Alyesham Welfare Lesuire centre	All	Yes	Yes		<p>4a: A clear prioity for facility development in Aylesham should be made as clear is it is for Tides Support in helping chairtiabile owned as well as council owned but chairtably operated buildings environmently sustinable to improve efficiency and mainatin costs.</p>	Additional faciitiies at Aylesham Welfare Lesuire Centre	<p>Noted. Q4a and 6 - The Council has supported helping to improve indoor facilities in Aylesham by way of commissioning an Needs Analysis and Business Case review on potential development of facilities at Aylesham Welfare Leisure Centre in December 2020. Strategic Priority ID 8 of the Action Plan highlights the need to support where possible stakeholders developing new facilities and specifically refers to Aylesham Welfare Leisure Centre under ID 20. "Support and encourage, where possible, the development of new provision at Aylesham Welfare Leisure Centre. Support initial plans for a 2 or 4 court sports hall, subject to viability being demonstrated. • Assist in delivery of already secured developer contributions for new sports hall and facilities."</p>	Section 5.9.12 relating to the existing development and S106 funds for sports and leisure in the Aylesham area have been redrafted to add clarity.
Other	Historic England	All				<p>5a: The document deals with matters outside Historic England's remit and competences and, therefore, we have no comments to make.</p>		No response required.	

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Town/Parish Council or community group	Dover Youth Hub	All				5a: Do you have a set of proposed plans / architect initial drawings for the Tides Leisure centre. We are Dover Youth Hub, located next door to Tides and would like to display to our youth people the proposed plan for Tides and the benefits it can offer young people in the area.		Noted. Q5. The Council has been directly engaging with Dover Youth Hub and provided consultation material during the public consultation phase. It is intended to present a separate report to Cabinet members on the Tides project in the new year and this will be in the public domain.	
A business	The Land Trust	Boxing/Martial Arts Aerobic studios	Yes	Yes	Boxing/Martial Arts Aerobic studios	5a: In considering future uses of Fort Burgoyne, the Land Trust is keen to maximise delivery of its charitable objectives including community health. In line with this objective and the potential of the Fort to provide significant community benefit to residents of Burgoyne Heights and the planned Connaught Barracks regeneration scheme as well as wider residents of Dover District, we would be interested in exploring whether spaces within the Fort have the potential to provide indoor sport. Owing to the Scheduled Monument status of the Fort, large scale modifications to the building would be inappropriate and as such the areas identified above have been suggested owing to potential space and infrastructure requirements compared to other areas identified as having a need in the draft Strategy.		Policy SAP5 in the Reg 19 Local Plan includes a Policy for Fort Burgoyne. It is a Scheduled monument and Conservation Area but policy supports all uses that conserve or enhance its status. The Policy sets out a number of criteria, including need for detailed heritage assessment. If Indoor sport space can be achieved meeting this criteria, then the Council would support in principle. It is advised that the developers undertake initial assessments and provide draft proposals and then approach DDC planning dept for their views through the pre-application advice process.	
Sports club	Dover Gymnastics Club	Gymnastics	Yes	Yes	6.13 Gymnastics Priorities	Most of the dedicated sports facilities in Gymnastics are run by Charities Like Dover Gym Club or CIC they are non profit and work mostly towards maintaining rates and costs to a minimum to make it affordable to the many and the most challenged segment of the community. Most of us do not operate as commercial entities it is therefore important that we get support in keeping our facilities physically up to date but also maintain our costs to make it affordable all our surpluses if any are reinvested in the facility. Our work is not only to provide Gymnastics training we also train our gymnasts to become coaches and get qualification that lead them to permanent employment in our Gym or other Gyms. Help from the local authority is crucial for our clubs to survive in the future and meet the increase in demand. 6.13.1 There is a requirement to investigate options for the development of a new dedicated gymnastics facilities in the District. There is unmet demand for membership of the clubs in the district due to existing waiting lists. However, it should be noted that these types of facilities can be developed as commercially viable businesses. Therefore, gymnastics should continue to be supported by access to community and educational sports halls, including DDC facilities at Dover District Leisure Centre and Tides Leisure Centre, while clubs looking for dedicated facilities are supported in doing so	WE as a club have been looking to find suitable premises to accommodate our Gymnastics Club. The Sport Trust Based in the Three Hills in Folkestone has offered support. We need help in securing premises and some capital funding can be made available from Sport UK and British Gymnastics	Noted. Q5. Strategic Priority 28 of the action plan recognises the need to support clubs investigate options to provide a new facility. " Work with Dover Gym Club and Deal Gym Club to identify new facilities to accommodate latent demand. This could include (depending on storage availability) utilising spare hall space at sports hall sites, including education sites.". It is acknowledged this will require several implementing partners including the support of DDC. It is recognised that most gymnastic clubs do not operate as commercial entities. At 5.37.1 amend to read ' However, it should be noted that these facilities can be developed as financially viable organisations'.	Wording at section 5.37.1 is redrafted to clarify what is meant by 'Commercial entity' and terminology has been reviewed and amended regarding gymnastics operations. At 5.37.1 amend to read ' However, it should be noted that these facilities can be developed as financially viable organisations'.

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Sports club	East Kent Acro Gymnastics Club	Gymnastics	Yes	Yes		My biggest concern currently is when they make the changes to Tides and improve the swimming side of the building, although the Sports Hall is not being touched will we as a gymnastics club still be able to train and run from there. We are a competitive club and need to train so I am hoping that Your Leisure will be working with DDC to ensure that the Sports Hall and the Tennis Centre remain open whilst ant building work is being completed once a decision is made. This will also still be bringing in income to remain open and just put a new reception in a different part of the building. This is currently our biggest concern as a club. <i>(comment made against 6 but copied here)</i>		Noted. Q5. The Council is currently undertaking detailed feasibility work on the proposed redevelopment for Tides Leisure Centre. Continuity of service during the proposed project programme will be considered in more detail at the next stage of development which is subject to Cabinet approval. It is intended to present a separate report to Cabinet members on the Tides project in the new year and it will be in the public domain. The Council will take account of early communications from existing clubs and users to ensure where possible there is minimal disruption to customers and continuation of existing services in the Sports Hall and Tennis Centre.	
A Resident	Unknown	Indoor Bowls				Several comments made about the Bowling facilities available in Thanet and needs for Outdoor bowls to be considered.		All comments are noted. The contribution made by facilities in Thanet to the north east of Dover district is recognised. Amend paragraph 5.16.4 and add text to read "Also, Thanet Indoor Bowling Centre includes 8 rinks and meets the needs of some residents to the north of the district". It should be noted that the supply and demand for Outdoor Bowls in the district has been recently examined as part of the Dover Playing Pitch & Outdoor Sports Facility Strategy. Please find this document on the following website for more information. https://www.doverdistrictlocalplan.co.uk/uploads/pdfs/playing-pitch-strategy-action-plan.-2019.pdf .	Reference to Thanet Indoor Bowling Centre (8 rinks) as a facility that services some residents in the north of the district has been added to the document at section 5.16.4. to read "Also, Thanet Indoor Bowling Centre includes 8 rinks and meets the needs of some residents to the north of the district".

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Sports representative body	English Indoor Bowling Association Ltd	Indoor Bowls	Yes	Yes	Consultees	Our name in the section entitled "Consultees" should show as English Indoor BOWLING Association not "BOWLS!		Noted. Q5.	The typing error is noted and the detail is amended at appendix one as highlighted by EIBA to read "English Indoor Bowling Association"
Sports representative body	unknown	Indoor Cricket				Several comments made about the Indoor Cricket facilities available.		All comments are noted. The Indoor Sports Facility Strategy refers in to the need to consider further access to sports halls for indoor cricket in several sections of the document. For example paragraph 5.9.18 refers to NGB comments and reports "The lack of indoor cricket facilities within the District was highlighted. Currently, there is limited provision in Dover. Goodwin Academy and Duke of York's Royal Military School offer indoor cricket facilities. Demand is also catered for in Canterbury, however, the facilities in Canterbury are in high demand and bookings at peak times are very difficult to attain". At paragraph at 5.10, the summary highlights "Some clubs and NGBs are reporting issues in accessing sports hall space at peak times and there is an unmet demand for indoor cricket net provision." In addition, Strategic Priority ID19 of the action plan highlights the need to "Continue dialogue and explore with schools to help address additional needs arising from housing demand and in particular for indoor cricket league matches and pre-season indoor cricket training (Easter holiday). " There are no changes needed to the report to highlight the lack of indoor cricket facilities in the district.	
A resident	Deal	Indoor Swimming	Yes	Yes		3a: There could be more emphasis on facilities accessible by walking. 5a: I welcome the development of Tides, Deal to provide a 25m lane swimming pool, and would encourage the provision of six rather than four lanes.		Noted. Q.3a As set out in paragraph 4.2.2 'Sport England determines that differences in rural and urban catchments are reflected within an agreed walk or drive time catchment. The normal acceptable standard would be to apply a 20-minute walk time (1 mile radial catchment) for an urban area and a 20-minute drive time for a rural area. The District is described as being an urban area (65% of population) with significant rural hubs (35% of population), therefore when looking at catchments, a 20-minute walk time has been applied to swimming pools, sports halls, health and fitness suites and dance/aerobic studios. However, for indoor bowls, squash/racketball courts, indoor tennis and gymnastics, it is recognised that provision for these sports attract users from further away and therefore a 20-minute drive time has been applied for these facilities'. It should be noted that in terms of sports halls, swimming and gyms (which were mapped using the 20-min walk catchments) the entire district is covered by a 20-minute drive time, so the walk time accessibility gives more detail on local accessibility in the more urban parts of the district. Q.5 The Council is currently	

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								undertaking detailed feasibility work for the redevelopment of Tides Leisure Centre. Improved pool space provision is being examined and explored as part of this work to address identified deficiencies and meet future need. However, any future provision must be affordable and sustainable Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool• Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure".	
A resident		Indoor Swimming				Blank reply		No representation. No response possible.	
A resident	Walmer	Indoor Swimming	Yes	Yes		We need a bigger indoor pool in Deal !!! Keep the current leisure one and add on a large lanes one.		Noted. Q5 The Council is currently undertaking detailed feasibility work for the redevelopment of Tides Leisure Centre. Improved pool space provision is being examined and explored as part of this work to address identified deficiencies and meet future need. However, any future provision must be affordable and sustainable. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool• Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure".	

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A resident	Deal Tri Club	Indoor Swimming	Yes	Yes	Swimming pool	Yes please to 25m length lanes. Will save a lot of travelling to Dover.		Noted. The Council is currently undertaking detailed feasibility work for the redevelopment of Tides Leisure Centre. Improved pool space provision is being examined and explored as part of this work to address identified deficiencies and meet future need. However, any future provision must be affordable and sustainable. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool • Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure".	
A resident	Dover	Indoor Swimming	No	No		<p>3a: I fail to see the logic behind only taking into account a 20-minute walk time or driving time, what about public transport. If like myself you do not drive relying on buses to move around the town, makes it very difficult/virtually impossible to attend any of these</p> <p>4a: I feel the residents in whole west side of Dover have not been taken into account, as it falls outside of the 20 minute walk time of your analysis and any residents of Dover who do not drive have also been excluded from your analysis. Public transportation should and needs to be taken into consideration when making any reviews of sports facilities or any other facilities in the Dover District area</p> <p>5a: 5.3.10 Accessibility - The whole west side of Dover including Tower Hamlets have been excluded from this section, given in section 3.4.1 you state "The ward with the smallest area is Tower Hamlets, covering 89 hectares, which represents 0.3% of the total area of the district. It is the most densely populated ward with 74.99 people per hectare.", so despite being the most densely populated ward we are overlooked and ignored when it comes to requiring facilities, especially if you do not drive and have to rely on buses to move around.</p>		The Council recognises there will be parts of the district which are not covered by the 20 min walk time catchments and this is where vehicle access is likely to be required. Public transport accessibility is not mapped but it is acknowledged that some residents will be reliant on this to access facilities. A good working example of significant improvement to public transport for accessing leisure facilities is Dover Fast Track. This is progressing well and likely to be complete late 2023 to transform access from Dover town centre to the leisure centre in Whitfield providing faster and more direct public transportation links. There are accessibility challenges for residents in some wards across the district and this is not unique to the ward of Tower Hamlets.	

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A resident	Deal	Indoor Swimming				5a: Having reviewed the above in draft form I would like draw your attention to the extensive problems that there has been with disabled access to the teaching pool at the new Dover leisure centre. The pool Pod has been broken down countless times and this has prevented access and on one occasion required rescue from the pool. The equipment is not resilient and greater focus on maintenance and rapid repair is needed. As part of the strategy going forward please include greater focus on resilience and reliability with aim of making access for disabled people more reliable. Within an inclusive strategy the importance of enablers like the pool pods should be clear and their importance better understood.		Noted. The pool pod is a mechanical machine that is used a lot and while it is designed to function in a harsh pool environment and it will break down from time to time. The Council investigated the mechanical issues experienced with the Pool Pod for the teaching pool at Dover District Leisure Centre in September of last year. Maintenance records demonstrated regular servicing in line with manufacturers recommendations. To reduce the risk of mechanical issues and achieve more resilience, the operators have increased the services visits from two to four per year.	
A resident	Walmer	Indoor Swimming	No	No	Deal	5a: Deal Leisure centre should have at east 8 swim lanes - any less will be insufficient	NA	Noted. Q.4 & 5 - The Indoor Sports Facility Strategy analysis work in consultation with Swim England, indicates there is a deficit of water space in the district equivalent to 6 lanes 25m pool up to 2040. However any future provision must be affordable and sustainable. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool • Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure".	A new strategic priority ID18, has been added to highlight the need to meet pool water deficiencies across the district and seek developer contributions from new qualifying development, subject to feasibility work being completed and viability assessments. Strategic priority ID 18 to read "Seek developer contributions to meet pool water deficiencies across the district" "DDC to work with developers to secure contributions to meet remaining pool water deficiencies across the district, subject to feasibility, demonstrating need and financial viability, in the future"
A resident	Dover	Indoor Swimming				5a: I am very disappointed with the pool at the monent as it's use is very limited. I feel we need: 1. A play pool for families with water shoots and a lazy river, fountains and some swimming spaces. 2. A separate swimming area with lanes for serious swimmers 3. A decent sized open area for swimmers who want to swim and chat at the same time. 4. Pools which are NOT constantly shut for galas, particularly at weekends when the majority of families want to use the		The Council is currently undertaking detailed feasibility work for the redevelopment of Tides Leisure Centre. Improved pool space provision is being examined and explored as part of this work to address identified deficiencies and meet future need. However, any future provision must be affordable and sustainable. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool• Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred	

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						facilities. I voted with my feet - when the original site shut and the leisure centre at Whitfield was built I did try it - then became a member of St Margaret's Health Club instead and go there at least three times a week. This is sad as I only live a couple of miles away from the Whitfield site.		option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure". It is intended to present a separate report to Cabinet members on the Tides project in the new year and this will be in the public domain.	
A resident	Unknown	Indoor Swimming				5a: A new leisure centre in Deal should include a minimum of 8 swim lanes		Q.5 The Council is currently undertaking detailed feasibility work for the redevelopment of Tides Leisure Centre. Improved pool space provision is being examined and explored as part of this work to address identified deficiencies and meet future need. However, any future provision must be affordable and sustainable. Strategic Priority 15 of the Action Plan highlights the Council's approach to the redevelopment of Tides Leisure Pool. "The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: • A 4 or 6 lane 25m main pool • Leisure water. Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure".	

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Sports representative body	Swim England	Indoor Swimming				5a: I've had a read through the report and within the swimming consultancy have noticed that there is a no mention Health & Wellbeing within Aquatic Facilities. We are currently working with Ramsgate Leisure Centre run by Your Leisure to get them Water Wellbeing accredited and they are very close to completing. Ali Noyce is our lead on Health & Wellbeing on this matter and can describe the process, outcomes and benefits in great detail to you if you were interested in learning more. If you have a Health & Wellbeing agenda within this consultancy, this would be a fantastic addition to the report to implement across sites within the Council area. If you're open to it, we'd love to set up a call to explain in more detail about what is involved and how it can help the local area. Within the wider Swim England remit, we have teams that can assist with the Design of the new facility that is needed within the report and can showcase many other products and services that will be of use to you not only during the start of the process, but also into the everyday running of the facility to maximise its' potential.		Noted. Q.5 Subject to the findings of the detailed feasibility study on Tides Leisure Centre, and dependant on the project being affordable and financially viable, proceed with the development of a new centre leisure". It is intended to present a separate report to Cabinet members on the Tides project in the new year and this will be in the public domain. The Council will engage further with Swim England on design development of Tides Leisure Centre.	
Sports club	Walmer Lawn Tennis & Croquet Club	Indoor Tennis	Yes	Yes	Indoor Tennis facility at Tides Leisure Complex, Deal	5a: Walmer Club completely agree that the Indoor tennis centre at Tides should be retained. Walmer Club has a 4 year signed agreement with Your Leisure (who currently manage the whole facility) so that our Tennis Club uses the Indoor Courts as our Club winter venue for Club nights, Club afternoons, Kent League match play and discounted pay and play court hire. Should Tides be demolished (other than the Sports Hall and Tennis Courts), we would be willing to be further engaged to ensure the indoor courts are maximised all year round, assuming that Your Leisure would have their overall management cancelled.	Walmer Lawn Tennis & Croquet Club are also considering building a Padel Court on our grounds by 2024 for general community use. We are also considering offering tennis coaching to non-members for greater participation in the great game of tennis. Our Club has had	Noted. Q5. The Council notes the comments and feedback from Walmer Lawn Tennis Club and will continue to engage with the club as the project progresses. The Council is currently undertaking detailed feasibility work on the proposed redevelopment for Tides Leisure Centre. Continuity of service during the proposed project programme will be considered in more detail at the next stage of development which is subject to Cabinet approval. A separate report to Cabinet members on the Tides project will be presented in the new year and in the public domain. The Council will take account of early communications from existing clubs and users to ensure where possible there is minimal disruption to customers and continuation of existing services in the Sports Hall and Tennis Centre.	

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							to close our membership for 2 years running and still have a waiting list for the 2023/24 season starting 1st April 2023.		
Sports representative body		Indoor Tennis	Yes	Yes				No response possible.	
Other		Other	Yes	Yes			Cost of access	Unclear representation. No response possible.	
Sports representative body	KCAFU	Other	Yes	Yes		I am responding on behalf of KCAFU as we are always looking out for potential venues to hold county fencing events, so would always be interested in information regarding existing or new sports hall.	Fencing competitions require a sports hall with a good floor (non slip) ideally changing facilities/showers and reasonably priced.	Noted. Q5&6.	
An indoor sport facility provider	Sandwich Technology School	Sports / Activity Halls general	Yes	Yes		My comments are only really on the age of the facilities at Sandwich Technology School P31 Table Sandwich Leisure centre Year built should be 1991 not 2004 (refurbished 2020) P33 Table Year built should be 1935 not 1950 and an academy P38 Table - Sandwich Leisure centre Year built should be 1991 not 2004 not an LA school but an academy P42 Table Sandwich Leisure centre Year built should be 1991 not 2004. P47 Table - Sandwich Leisure centre Year built should be 1991 not 1999			The Indoor Sports Facility Strategy is updated to include the data as provided by the school. Tables and maps at sections 5.9.2, 5.9.8, 5.12.2, 5.19.2 and 5.27.1 amend Sandwich Leisure Centre year built to read "1991" and Sandwich Technology School original year built to read "1991" and ownership type to read "Academy".



Dover District Council
Indoor Sports Facility Strategy
2023-2040



Dover District
Supporting document

Local Plan



DOCUMENT CONTROL

Amendment History

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9	28/11/22	T Pinnington	Initial draft for consultation

Sign-off List

Name	Date	Comments
Tom Pinnington	28/11/22	Approved for issue

Distribution List

Name	Organisation	Date
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APPENDICES

APPENDIX 1: LIST OF KEY STAKEHOLDERS

1 EXECUTIVE SUMMARY

1.1 Introduction

1.1.1 The Sports Consultancy was appointed by Dover District Council (DDC) in October 2021 to complete an audit and assessment of indoor sports facilities and to produce an Indoor Sports Facility Strategy for Dover District (the District).

1.2 Project Brief

1.2.1 The project brief required that the indoor sports facility strategy should consider the age, quality, size, accessibility, community use, opening hours and type of management of each existing facility. In doing so, the assessment focused on providing the following:

- A clear understanding of the current and future supply and demand issues for key sporting facilities in terms of quantity, quality and location.
- Identification of recommendations and priorities to assist the authority and key stakeholders in the delivery of sporting outcomes for the area.
- Development and delivery of a facility strategy that is capable of formal adoption by DDC to shape its investment and facility priorities within the emerging Local Plan and Infrastructure Delivery Plan.

1.2.2 The assessment has been prepared in accordance with Sport England's guidelines (Sport England's Assessing Needs and Opportunities Guidance) to reflect current best practice for the provision of indoor sports facilities. It included a detailed assessment of supply and analysis of the quality, quantity and accessibility for the following indoor facilities:

- Sports halls
- Other activity halls (flexible indoor space with space for at least one court, if used for sport)
- Indoor swimming pools
- Health & fitness suites
- Indoor bowls
- Dance/aerobic studios
- Indoor tennis courts
- Squash and racquetball courts
- Gymnastics
- Boxing and martial arts.

1.2.3 The following paragraphs contain a summary of the key findings from the needs assessment work, by facility type.

1.3 Key Findings for Indoor Swimming Pools

1.3.1 Dover District currently provides 10m² water space per 1,000 population. This compares to a southeast average of 13m² and a national average of 12m². The Council should continue to support and investigate proposals for new swimming pool provision, in order to address the deficit in swimming pool water space in the District up to 2040 equivalent to an additional 6 lane 25m pool.

1.3.2 A feasibility and options appraisal study for the potential improvement and replacement of the existing Tides Leisure Centre is being undertaken. The study is still progressing, however initial options include a 4 or 6 lane 25m main pool and replacement leisure water. This would add a 25m pool in place of the existing leisure water only offer currently at the site, which does not currently provide adequately for lane swimming. The option of a 6 lane 25m pool, as part of a replacement pool at Tides, would best meet the

projected future needs of the district, however any new provision must be affordable and sustainable.

1.4 Key Findings for Sports Halls

- 1.4.1 Dover District currently provides 3.7 badminton courts per 10,000 population. This compares to a southeast average of 4.5 and a national average of 4.2. Demand is broadly being met within the district of Dover but at the expense of several facilities operating above the maximum comfort level of 80% used capacity. Therefore, where additional housing is being proposed it is likely to put further pressure on local sports halls and additional sports hall space may be required to meet that additional need.
- 1.4.2 On the basis of the results from the Sports Facility Calculator, additional sports hall capacity, or greater access to existing education sites, is likely to be required at Whitfield, Aylesham and Dover Town Centre. These planned developments will generate a combined need for additional sports hall space equivalent to 2.4 badminton courts. As a result these areas should be a focus for future sports hall provision subject to funding and affordability.
- 1.4.3 The opportunity to allocate Section 106 funding towards these developments should be investigated as and when the opportunities arise. Existing educational sites could provide additional access for community use to increase capacity, as currently many do not open for the full weekly peak period hours.

1.5 Key Findings for Health and Fitness Suites

- 1.5.1 The Council should support the development of new community accessible health and fitness facilities, where these are viable and supported by site specific latent demand analysis. The findings of latent demand reports completed for Tides Leisure Centre show that a significant level of latent demand exists for that site. Other potential areas for improved health and fitness facilities are Aylesham and Sandwich.

1.6 Key Findings for Indoor Bowls

- 1.6.1 Current provision across the district is meeting existing need. There is no requirement for additional indoor bowls provision in the District. The District does however have a growing ageing population and this could improve future trends in participation. There is a need to support Betteshanger Indoor Bowls Club in maintaining current levels of participation.

1.7 Key Findings for Squash & Racketball Courts

- 1.7.1 Dover District has approx. 11 courts across 5 squash venues. Squash England comment that the recommended number of courts should meet its national requirement of 1 court per 10,000 people. Currently the district provides 1 court per 10,200 people, so is meeting this standard. It should be noted more investment is required to maintain the standard of courts, ensure positive user experience. A growing population may generate a need for further courts in the future.
- 1.7.2 If court provision is reduced this would have a negative impact on squash and current users may find it difficult to secure bookings at alternative sites during peak times. Improved access to courts at Duke Of York's Military School may be a possible solution to increasing capacity in the district.

1.8 Key Findings for Indoor Tennis

- 1.8.1 Due to the existing facilities in Deal and nearby Canterbury, Dover District is not identified by the LTA as having a lack in provision. Indoor tennis courts at Tides Leisure Centre should be retained.

1.9 Key Findings for Dance/Aerobic Studios

- 1.9.1 There is a requirement to increase the level of provision of dedicated multi-purpose studio space within the District and maintain access to general purpose spaces at village halls and community centres. This is linked to the potential latent demand for health and fitness facilities, which also support the need for increased studio space for group exercise. The Council should support development of new community accessible dance and activity studios, where these are viable and particularly where they complement a wider health and fitness offer. The findings from this strategy support initial options for consideration by DDC, which include the provision of 1 or 2 aerobic/dance studios and a dedicated spin studio at a new Tides Leisure Centre, to complement the expanded health and fitness offer.

1.10 Key Findings for Gymnastics

- 1.10.1 There is a requirement to investigate options for the development of a new dedicated gymnastics facilities in the District. There is unmet demand for membership of the clubs in the district due to existing waiting lists. However, it should be noted that these types of facilities can be developed as commercially viable businesses. Therefore, gymnastics should continue to be supported by access to community and educational sports halls, including DDC facilities at Dover District Leisure Centre and Tides Leisure Centre, while clubs looking for dedicated facilities are supported in doing so.

1.11 Key Findings for Boxing and Martial Arts

- 1.11.1 There is a requirement to investigate options for the development of new dedicated boxing and martial arts facilities in the District. There unmet demand in the district, with strong growth in club membership in recent years. Boxing and martial arts clubs looking for dedicated facilities should be supported in doing so, as well as being provided access to suitable community halls and studio spaces to support their activities.

1.12 Strategy and Action Plan

- 1.12.1 The strategy and action plan has been commissioned, by DDC, on behalf of all leisure stakeholders in the District but it is recognised that the recommendations and actions cannot be delivered by the Council alone. DDC is only one stakeholder in the District and has limited resources, in terms of officer support and funding. All partners involved in indoor sports provision, whether public, private or voluntary will need to work together to take the strategy through to implementation. The relevant stakeholders have been identified in the Action Plan, and include:

- Dover District Council
- Kent County Council
- Schools and colleges
- Sports clubs
- Facility operators
- National Governing Bodies of Sport (NGBs)
- Other commercial providers.

1.12.2 The action plan contained in the report has been developed to address a number of strategic priorities, identified during the study, and the needs identified for each facility type reviewed. The actions are set out under the following headings:

- General Strategic Priorities
- Swimming Pool Priorities
- Sports Hall Priorities
- Health and Fitness Priorities
- Indoor Bowls Priorities
- Squash & Racketball Priorities
- Aerobic/Dance Studio Priorities
- Gymnastics Priorities
- Boxing and Martial Arts Priorities.

1.12.3 The specific actions have been identified in the Action Plan, as well as target timescales for completion.

1.13 Anticipated Outcomes

1.13.1 Delivery of the objectives contained in this strategy will result in the following outcomes being achieved:

- The loss of strategically valuable sports facilities, that are available for community use or could contribute to meeting future community needs, will be minimised. Any that are lost will be replaced by equivalent or better provision, in terms of quantity and quality, in a suitable location.
- Strategically valuable sites will be better utilised and options to maximise revenue generation from facilities will be investigated, to improve revenue generation and participation.
- Proposals for the improvement of facilities at Tides Leisure Centre will be progressed, leading to recommendations for improvements to the centre.
- Additional sports hall capacity, or greater access to existing education sites, will be investigated to support future housing development at Whitfield, Aylesham and Dover Town Centre, subject to funding and affordability.
- Opportunities for DDC to reduce carbon consumption and emissions from its centres will be investigated, in line with the Councils Climate Change Strategy.
- Community use of sports facilities on educational sites will be protected and enhanced where required.
- Sports facility charges should remain reasonable, in terms of affordability to residents, and be comparable with similar facilities elsewhere.
- Stakeholders will work together to increase the levels of community access to sites and to reduce inequalities. Stakeholders should include Council departments, health agencies, facility operators, education providers, NGBs, and local sports clubs to expand the range of affordable and accessible facilities for both residents and visitors to Dover.
- Stakeholders will be supported, where possible, in developing new indoor facilities.
- New sports facilities, provided as part of future educational provision in Dover, will be designed for curricular, extra-curricular, community and sports development use to ensure that opportunities for community use out of school hours is secured.
- New developments (e.g. residential, commercial and retail) will contribute towards the development and enhancement of sports facilities to meet identified needs with priority being given to projects identified in this Strategy.
- There will be collaborative working between neighbouring authorities to maximise cross-boundary usage.
- Specific issues relating to the district's demographic profile will be addressed. This will include using indoor sport and leisure facilities to improve levels of physical

activity in the whole population and reduce the gap in health inequalities by promoting access and engagement with at risk groups.

- There will be increased engagement with representatives of protected and target groups when developing projects that provide new indoor sports facilities.

1.14 Delivery of the Strategy

1.14.1 The delivery of this strategy is dependent upon the formation of close working partnerships with stakeholders to collectively enhance the operation and provision of indoor sports facilities in the District.

1.15 Funding

1.15.1 It is clear that the development of a new Tides Leisure Centre and other priorities included in this strategy are required to improve the quality of facilities in order to meet both current and future demand. Any leisure facility development or improvements in the District will be reliant on affordability, sustainability and securing funding. The current financial climate has placed pressure on the finances of all facility operators, including local authorities.

1.15.2 The Council will seek to work with others to use the indoor leisure assets in the District innovatively and a multi-agency approach is required to address the facility requirements in the strategy. The main funding delivery mechanisms for DDC and others in delivering the strategy are:

- **Council funding:** capital funding allocated to deliver facilities within DDC's ownership, and potentially the use of capital receipts from the sale of existing assets.
- **Development contributions:** Section 106 development contributions, or any other planning obligations.
- **Capital Grant funding:** national agencies such as Sport England.
- **Third party funding:** Financing capital through the forecast operational surplus and finance packages as part of the leisure management procurement process or construction contracts.
- **Commercial sector funding:** limited potential for investment from commercial leisure operators such as those who provide health and fitness centres.

1.16 Monitoring and Review

1.16.1 This strategy has been produced to enable the development of indoor sports facilities within the District to be provided for in a planned and co-ordinated way that meets the needs of the local population and addresses areas that could have the greatest future demand.

1.16.2 The strategy is based on the current known and planned facilities, but it will need to be reviewed periodically, particularly when there are significant changes in facility provision. The progress against the plan should be reviewed on an annual basis and the strategy and action plan should be updated if there are any significant changes in order to ensure that the strategy requirements keep pace with changes in facility provision and the amount of growth planned for the District.

2 INTRODUCTION

2.1 Introduction

2.1.1 The Sports Consultancy was appointed by Dover District Council (DDC) in October 2021 to complete an audit and assessment of indoor sports facilities and to produce an Indoor Sports Facility Strategy for Dover District (the District).

2.1.2 Since completion of the previous strategy in 2016 DDC has successfully delivered the new Dover District Leisure Centre in Whitfield. It has also moved ahead with options appraisal and feasibility studies to guide the future development of Tides Leisure centre and the develop of a new 2 or 4 court sports hall at Aylesham. A number of private health and fitness facilities have also been developed in the District since 2016.

2.2 Project Brief

2.2.1 The project brief required that the indoor sports facility strategy should look at the age, size, accessibility, community use, opening hours and type of management of each existing facility. In doing so, the assessment focused on providing the following:

- A clear understanding of the current and future supply and demand issues for key sporting facilities in terms of quantity, quality and location.
- Identification of recommendations and priorities to assist the authority and key stakeholders in the delivery of sporting outcomes for the area.
- Development and delivery of a facility strategy that is capable of formal adoption by DDC to shape its investment and facility priorities within the emerging Local Plan and Infrastructure Delivery Plan.

2.2.2 The assessment identifies and assesses the provision of the indoor sports facility types listed below:

- Sports halls
- Other activity halls (flexible indoor space with space for at least one court, if used for sport)
- Indoor swimming pools
- Health & fitness suites
- Indoor bowls
- Dance/aerobic studios
- Indoor tennis courts
- Squash and racquetball courts
- Gymnastics
- Boxing and martial arts.

2.2.3 The assessment has been prepared in accordance with Sport England's guidelines (Sport England's Assessing Needs and Opportunities Guidance) to reflect current best practice for the provision of indoor sports facilities.

2.2.4 The guide focuses on the practicalities of producing a clear and robust assessment to help develop and apply local planning policy. The guide will therefore assist DDC with meeting the requirements of the National Planning Policy Framework. The approach has been developed so that it can be tailored to apply to a range of sports facilities is intended

to help Local Authorities (as the key strategic and statutory planning lead) to understand the facility needs in their area.

2.3 Methodology and Approach

2.3.1 The audit and assessment methodology included the following stages of work:

Stage 1 Project initiation

Stage 2 A review of policy review of relevant strategic background documentation - analysis of existing and emerging local planning policies for indoor sport facility provision in the District.

Stage 3 Audit of local provision - A desktop review of the existing facility supply in the area using data made available by Sport England, via Active Places Power, to establish the current level of provision within the District including the range of facilities, age, management type and accessibility. This information was supplemented by consultation with operators.

Stage 4 Identifying local needs - Consultation with key stakeholders (i.e. DDC Officers, Sport England, National Governing Bodies of Sport, local educational establishments with indoor sports facilities, key local sports clubs, facility managers, neighbouring local authorities and use Sport England's strategic planning tools such as the Facilities Planning Model and Active Places Power, to complete a robust assessment of the demand for indoor sports facilities. A list of these key stakeholders can be found in Appendix 1.

Stage 5 Using the outputs from stages 3 and 4, identification of surpluses, shortfalls, issues and recommendations to help ensure that existing and future of indoor sports facility needs are met across the District. This stage identified opportunities for improving existing indoor facilities in terms of their quality, quantity, physical and social accessibility, community access to school sites and current maintenance and management.

Stage 6 Production of an indoor sports facility strategy document and a prioritised and timeline action plan for the District. This incorporates the key findings from each of the stages listed above. The final strategy takes a long-term view for the period 2022 – 2040 to conform with the detailed modelling tools, which run the facility planning horizon to 2040.

2.3.2 The findings in this report are based on data collected from a range of sources including:

- Published policy and strategy documents
- Sport England tools including:
 - The Facility Planning Model
 - Active Places Power website
 - Active Lives Survey
- Stakeholder consultation including:
 - Council officers
 - Sport England
 - Facility operators
 - Relevant National Governing Bodies of Sport
 - Kent Sport
 - User clubs
 - Neighbouring local authorities.

2.3.3 This document contains the findings from the audit and assessment of indoor sports facilities and the strategy and action plan.

3 BACKGROUND AND POLICY REVIEW

3.1 Introduction

3.1.1 This section contains a review of local and national policies and other information, which is of significance in the development of the needs assessment, strategy and action plan. This includes consideration of the following:

- National policy context
- Local policy context
- Demographic profile
- Health and sports participation trends.

3.1.2 The key issues arising from the policies and information reviewed have been summarised in the following pages. A summary of the key findings is provided at the end of the section.

3.2 National Policy Context

3.2.1 The following documents have been reviewed and summarised in relation to the National Context for sport and physical activity:

- Uniting the Movement (Sport England (2020)
- National Planning Policy Framework (NPPF) (2021)
- Everybody Active, Everyday (Public Health England, 2014)
- UK Active's Blueprint for an Active Britain (2016)
- Social and Economic Value of Community Sport and Physical Activity (Sport England, 2020).

Uniting the Movement – Sport England (2021-2031)

3.2.2 Sport England has published its 10-year strategy to transform lives and communities through sport and physical activity.

3.2.3 Key extracts from Uniting the Movement are included in the following paragraphs:

3.2.4 As we adapt and rebuild from the huge disruption caused by the coronavirus pandemic, we need to collectively reimagine how we keep movement, sport and activity central to the lives of everyone. Because if we harness its power, we'll be able to improve people's lives in so many ways. Sport England will focus its time and resources on three key objectives as stated below:

Advocating for movement, sport and physical activity

3.2.5 Distributing Exchequer and National Lottery money is an important part of our role, but we're so much more than a funder. We have a broader responsibility: to advocate for the transformational impact sport and activity can have on the nation's health and wellbeing. For us, it's more than just being a part of the change that's needed so everyone can benefit from being active – we want to help lead and shape that change. To do this demands much more from us than our investment. It's why we've forged great partnerships and built a network of relationships that span national and local organisations far beyond what you might describe as our 'traditional' sector, because we know we can make the biggest difference when we share our expertise and experience.

3.2.6 Looking forward, we'll lead on a common purpose and a common agenda, one that every person and every organisation committed to creating change can get behind. This strategy requires us to shape the conversation and the evidence on the value of movement, sport and physical activity so that it resonates with partners, both within and

outside our sector. It's why relationships and influence are key pillars in this strategy, alongside investment. We know many will share our aims, but not everyone will see how a common agenda for a more active nation can help them achieve those aims. It is our role to do just that.

Joining forces on five big issues

3.2.7 The ambitions at the heart of Uniting the Movement, and all the choices we've made, are the result of a process that's involved thousands of people and hundreds of organisations. In these many conversations, whether they've happened in the Houses of Parliament, in a community hall or online, the same issues and opportunities have emerged. It's this shared sense of what matters to us all that are our five 'big issues'. These are the things that will need people to work together to address. They're some of the biggest challenges to an active nation over the next decade and are also the greatest opportunities to make a lasting difference.

- Recover and reinvent
- Connecting communities
- Positive experiences for children and young people
- Connecting with health and wellbeing
- Active environments.

Creating the catalysts for change

3.2.8 If we work together, we believe the five big issues in this strategy will have the most profound impact on increasing and sustaining activity levels across the nation. But we can only give them the focus they need if we also acknowledge how we must change and improve what we deliver. We need to create the right conditions for change: across the people, organisations and partnerships with the potential to contribute and help turn our shared plans and ideas into action. We know there are specific capabilities, information, approaches and relationships that - used in the right way - will make progress possible. These are:

- Effective investment models
- Realising the power of people and leadership
- Applying innovation and digital
- High-quality data, insight and learning
- Good governance.

National Planning Policy Framework (NPPF) (2021)

3.2.9 The NPPF sets out planning policies for England. It details how these changes are expected to be applied to the planning system. It also provides a framework for local people and their councils to produce distinct local and neighbourhood plans, reflecting the needs and priorities of local communities. It states that the purpose of the planning system is to contribute to the achievement of sustainable development. Achieving sustainable development means that the planning system has three overarching objectives:

- An economic objective
- A social objective
- An environmental objective.

3.2.10 A presumption in favour of sustainable development is a key aspect for any plan-making and decision-taking processes.

3.2.11 The "promoting healthy communities" theme identifies that planning policies should be based on robust, up-to-date assessments of need for open space, sports and recreation

facilities and opportunities for new provision. Specific needs and quantitative and qualitative deficiencies and surpluses in local areas should also be identified. This information should be used to inform what provision is required in an area.

Everybody Active, Everyday (Public Health England, 2014)

- 3.2.12 Public Health England (PHE) is aiming to drive a step change in the public's health. Tackling physical inactivity is a key step to making the change to reduce preventable death, disease and disability and support people and their surrounding communities to ultimately achieve their potential. Other high-income countries including Finland and Germany have illustrated that such a situation can be changed.
- 3.2.13 PHE want to engage with providers, professionals, and commissioners in health, social care, transportation, planning, education, sport and leisure, culture, the voluntary and private sector to drive through this campaign.
- 3.2.14 Being active everyday needs to ultimately be embedded across every community in every aspect of life. England is currently 24% less active than in 1961. Public Health England has developed four domains for action at both a national and regional scale. These include:
- Active society: creating a social movement
 - Moving professionals: activating networks of expertise
 - Active lives: creating the right environments
 - Moving at scale: scaling up interventions that make us active.
- 3.2.15 A cultural turnaround in attitudes to physical activity needs to change with a long-term promotion of physical activity ultimately needed. Professionals need to be activated in a variety of practices including spatial planning, social care, sport and leisure and the media.
- 3.2.16 PHE recognises that monitoring progress and measuring impact at a population, organisational, programme and individual level needs to occur. To support the evaluation at a local level, PHE have developed the Physical Activity Standard Evaluation Framework (SEF).
- 3.2.17 It is recognised that delivering the vision of everyone being active everyday will not be achieved in ten years. The following steps provide actions for local areas to support and facilitate change:
- Lead by example in all public sector workspaces
 - Make every contact count for volunteers and professionals to encourage active lives
 - Teach every child to value, enjoy, and have the skills to be active every day and build environments that are age friendly, safe for cyclists and make walking easier.
- 3.2.18 Alongside Everybody Active Everyday, PHE is publishing supporting publications that provide in-depth resources and information to support local and national action.

UK Active's Blueprint for an Active Britain (2016)

- 3.2.19 The national cost of physical inactivity now stands at £20 billion per year and the UK Active's Blueprint for an 'Active Britain' calls for a single-minded focussing of resources, energy and policy to turn the tide of physical inactivity.
- 3.2.20 The purpose of the document is to support government, local authorities, businesses and activity providers to re-embed activity into daily life.
- 3.2.21 We are currently faced with the most inactive generation of all time in England, with nearly one in three adults failing to meet the Chief Medical Officer's Guidelines on Physical Activity as of 2014.
- 3.2.22 To turn the tide on inactivity, getting people moving must be considered a top-tier standalone health issue, and embedding activity into all aspects of daily life must be a priority for the government while reaffirming their commitment to public health as a crucial area of health policy.
- 3.2.23 Physical activity must become a crucial part of the delivery mechanisms of the NHS, with the development of a comprehensive, evidence-based, systematic integration of physical activity into clinical care.
- 3.2.24 Powerful, robust research and high-quality evidence is the cornerstone of activity promotion. The first step to any behavioural intervention strategy must be obtaining a clear understanding of whether it will achieve its goal and whether it is the most effective way of doing so.
- 3.2.25 The physical activity sector, supported by the government and local authorities across the country, should utilise its vast resources to ensure that there are ample opportunities for disabled people to get active.
- 3.2.26 The report identifies that work needs to be done to create a greater understanding between teachers and parents, the health sector, children's activity and sports providers and children themselves, as to what works in getting children moving again.
- 3.2.27 It recommends the need for local authorities to work with high schools and academies to provide a long-term motivational behavioural change intervention scheme in partnership with activity providers, to engage the most inactive children and signpost activity opportunities tailored to individual needs.

Social and economic value of community sport and physical activity (Sport England, 2020)

- 3.2.28 Sport England commissioned the Sport Industry Research Centre at Sheffield Hallam University to calculate the social impact and the economic importance of sport and physical activity in England. They found that, when measured against costs of engagement and providing opportunities, for every £1 spent on community sport and physical activity, a return on investment (ROI) of £3.91 was created for individuals and society. Furthermore, the combined economic and social value (SROI) of taking part in community sport and physical activity in England in 2017/2018 was £85.5 billion.
- 3.2.29 The research showed that £42 billion worth of value was created from improved life satisfaction for 24 million participants and 3.9 million volunteers through their involvement in sport and physical activity. The findings also demonstrate how physical activity plays an important role in preventing several serious physical and mental health conditions,

with the research showing this had a value of £9.5bn. Of this amount, £5.2bn was in healthcare savings, while £1.7bn was in social care savings.

3.2.30 More than £3.6bn worth of savings were generated by the prevention of 900,000 cases of diabetes, while a further £3.5bn of value was generated through avoided dementia cases and the related care. A total of £450 million was saved by preventing 30 million additional GP visits. A further £20bn of value came from stronger and safer communities, including:

- 10,000 fewer crime incidents
- The replacement value of work done by sports volunteers (£5.7bn)
- Improved levels of social trust, belonging and community engagement (£14.2bn).

3.3 Local Policy Context

3.3.1 The following documents have been reviewed and summarised in relation to the local context for sport and physical activity:

- Dover District Council Corporate Plan (2020-2024)
- Emerging Dover District Local Plan - Regulation 18 (2021)
- Tides Leisure Centre Feasibility and Options Appraisal (2022)
- Kent and Medway Clinical Commissioning Group (CCG) - The five-year plan and priorities for Kent and Medway.

Dover District Council Corporate Plan (2020-2024)

3.3.2 The Corporate Plan 2020 to 2024 identifies the Council's ongoing commitment to the regeneration of the district, both physical and social. It emphasises the importance of tourism in realising the opportunities for our district and local economy. The climate change agenda has become more important in our everyday lives and is a cross-cutting theme to facilitate a better environment for everyone. The Corporate Plan also highlights our focus on Dover Town as the Gateway to the UK/Europe and as a benefit to the whole district.

3.3.3 The Corporate Plan sets out the Council's vision and the priorities for council actions for the period 2020 to 2024. In summary, these are:

Priority Theme One: Regeneration - Tourism and Inward Investment

- Providing a clear vision and direction of place-shaping for the district, creating a vibrant destination with good transport links, making tourism everyone's business.
- Supporting the business community to enable a thriving local economy that provides the jobs, services, training and career opportunities that we need.

Priority Theme Two: Housing and Community

- Enable a range of good quality affordable homes for our residents in an attractive environment.
- Work to build healthy, resilient and sustainable communities, where residents have good access to facilities and transport links to further their wellbeing. This includes a commitment to continuing 'to invest in leisure facilities across the District, complementing and building on the success of the Dover District Leisure Centre'. *It should be noted that the Indoor Sports Facility Strategy sets out the priorities for future development in indoor sports facilities.*

Priority Theme Three: Climate Change, Environment and Assets - A cleaner, sustainable environment

- Support the wider climate change agenda to facilitate a better environment for everyone.

- Support the development and protection of our environment and open spaces, making the most of our enviable landscapes, heritage and assets and making our parks destinations of activity, recreation and community.

Priority Theme Four: Working Smartly and Delivering Services

- Continue to develop our business to be more effective, efficient and forward-looking for the benefit of our residents.

Emerging Dover District Local Plan

- 3.3.4 At the time of writing this strategy the Council was in process of producing a new Local Plan. The Local Plan sets out planning policies and proposals for new development in the District over the period from 2020 to 2040. Once adopted, the Local Plan will replace the current suite of Development Plan documents. The Indoor Sports Facility Strategy will inform the local plan policies and the Infrastructure Delivery Plan and will become a background document once it is adopted.
- 3.3.5 The proposed future housing growth sites as set out in the Regulation 18 Local Plan to 2040, were considered. The largest development, of is the expansion of Whitfield Urban Extension an allocation of over 5,000 homes with an additional 2,000 identified in the plan, which accounts for 38% of the emerging new housing allocations. There is also a significant development proposed in Aylesham and Elvington and Eythorne. In the town of Dover, over 1,000 additional homes are proposed. These proposals are in addition to new housing already permitted or planned for in existing development plans. It is important to note that at the time of drafting this strategy, the Local Plan to 2040 was at Regulation 18 stage only, and proposals for sites may change during Local Plan preparation. These housing sites and associated population projections have been considered in the application of Sport England’s Facility Planning Model report for Swimming Pools.

Tides Leisure Centre Feasibility and Options Appraisal (2022)

- 3.3.6 A feasibility and options appraisal study for the improvement and replacement of the existing Tides Leisure Centre is being undertaken alongside this needs assessment. The study is still progressing, however initial options include a 4 or 6 lane 25m main pool, replacement leisure water and an expanded health and fitness offer. The existing 4 court sports hall and indoor tennis centre will be retained.

Kent and Medway Clinical Commissioning Group (CCG) - The five-year plan and priorities for Kent and Medway

- 3.3.7 The NHS Long Term Plan, published in January 2019, set out a vision for the future of healthcare. The CCG has worked with its health and care partners and local people to develop a five-year strategy which will deliver on the ambitions of the NHS Long Term Plan for local people. The Kent and Medway response is summarised in the following extracts:

‘Our five-year plan, created by the Kent and Medway Sustainability and Transformation Partnership, describes our priorities and actions to continuously improve the health and wellbeing of our population and to address the challenges of our health and care system. To develop the plan we engaged widely with patients, residents and partners.

Our priorities

Health and social care partners across the county have committed to invest in population health, ensuring prevention is part of every single health and care pathway.

By taking positive action on underlying issues, such as smoking, obesity and alcohol consumption, we will reduce deaths and disability caused by cardiovascular disease, stroke, diabetes, respiratory disease and some cancers such as lung and colon.

Additionally, we know that feeling lonely has a major impact on both our physical and mental health. Together, we need to do more to tackle deprivation and social isolation.

We plan to improve outcomes for all major conditions. This is underpinned by an overriding principle that we focus on the person and their needs and goals, not just a condition. Our plan also includes a commitment to:

- Continue to improve cancer services and make sure more cancers are diagnosed earlier and more people survive cancer.
- Focus on mental health, expand mental health services and better look after the physical health of people with severe mental illness.
- Make sure children, young people and adults with special educational needs and disabilities, learning disabilities and autism - and their families and carers - receive the care and support they need and deserve'.

3.4 Dover District Council Area Key Facts

3.4.1 Some key facts about the District, taken from the Council's Dover District Summary – July 2020 are listed below:

- The Dover District covers an area of 31,484 hectares (123 square miles), with a coastline of around 20 miles, and is one of twelve districts that make up the county of Kent.
- The District contains two urban areas, a market town and a large rural area made up of dozens of villages and hamlets. Home to the internationally famous White Cliffs, it is the UK's Gateway to Europe, within easy access of London and the continent.
- Over a fifth (22%) of the District is designated as part of the Kent Downs Area of Outstanding Natural Beauty. Of this area, 3% is designated as Heritage Coast, centred on the white cliffs either side of Dover.
- With a resident population of 118,100, the Dover District has the fourth-smallest local authority population in Kent - equivalent to 7.5% of the Kent population. The population density of the District is 3.7 persons per hectare.
- The ward with the largest area is Little Stour and Ashstone, covering 6,572 hectares, which represents 20.9% of the total area of the District. It is least densely populated ward with 1.1 people per hectare.
- The ward with the smallest area is Tower Hamlets, covering 89 hectares, which represents 0.3% of the total area of the District. It is the most densely populated ward with 74.99 people per hectare.
- The ward with the largest population is Middle Deal and Sholden with 8,670 people - representing 7.4% of the total resident population of the District. The ward with the smallest population is Ringwoud with 2,040 people - representing 1.7% of the total resident population of the District.
- The Dover Urban Area covers an area of 4,830 hectares and has a population of 46,320 (population density 9.59). The Deal Urban Area has a population of 31,270 (population density 18.37). The Sandwich Rural Settlement covers an area of 3,519 hectares and has a population of 7,190 (population density 2.06).
- There are 54,514 residential properties in the District, the majority of which are owner-occupied or privately rented (87.2%). Over a quarter of properties were built before 1906. Long-term vacant homes (6+ months) equate to just under 1% of the estimated dwelling stock. Approximately 2.3% of residential properties in the District are second homes.

- House prices are historically lower in the Dover district than the county and regional averages. The average house price is £272,432, compared to Kent £339,660 and the Southeast £380,302. Since 1999, the average house price in the District has increased by +258.3%. The District also has the third-lowest average monthly private rental market rent in Kent.
- The 'average' council tax band in England is Council Tax Band D, and 13.4% of homes in the Dover District fall into this band. The majority of homes in the district fall into Band B (31.5%) and Band C (26.3%). Only 70 properties in the district are in the highest Tax Band H.
- The Dover District is ranked 113th (out of 317) local authorities in the English Indices of Deprivation 2019 (IoD2019) and is the 4th (out of 12) deprived area in Kent (using the 'Rank of Average Score' summary measure). The urban areas of Dover have the highest levels of deprivation in the District. Five (out of the 67) Lower-layer Super Output Areas (LSOAs) in the District are in the top 10% most deprived areas in England.

(Source: Dover District Summary – July 2020)

3.5 Demographic Profile

- 3.5.1 The demographic profile of the District has been reviewed to provide further context in terms of the catchment population and the key factors influencing facility needs.

Population

- The resident population of the District is 118,100, with just over half being female (50.6%), and 49.4% male.
- Over the past 15 years, the population of the District has grown slower than the county and national averages, growing by 10.6% between 2003 and 2018. The population is forecast to increase by 10.7% between 2018 and 2038, which would increase the population size to 129,400. This growth is slower than the average population growth for Kent (17.0%).
- The average age of the population is 43.7 years, which is higher than the county (41.2 years) and national (40.3 years) averages
- The Dover District has a lower proportion of young people aged under-15 years (17.5%) and of people aged 16 to 64 years (58.9%) than the south-east and national averages. Over a fifth, (23.5%) of the District's population is of retirement age (65+), compared to 18.5% for England.
- The Dover District has an ageing population. Between 2018 and 2038, the number of 65 plus-year-olds in the District is forecast to increase by +53.7% (to 41,600 people). This contrasts with an expected decrease in the 0-15 years age group (-3.5% or -700 young people) and 16-64 years age group (-1.7% or -1,200 working-age people).
- The population of the Dover District is predominantly white, with 96.7% of all residents are of white ethnic origin; this is higher than the averages for Kent (93.7%), Southeast (90.7%) and England (85.4%). The District has the lowest percentage of residents from a BME group in Kent (3.3%). The largest single BME group in the District is Asian / Asian British representing 1.8% of the total population.
- 64.1% of the District's residents describe themselves as Christian, while the largest non- Christian religious group is Hindu (0.6%). 26% of the population in the District does not have a religion.
- 58.9% (69,600 people) of the population in the District are of working age (aged 16 to 64 years), which is below the county, regional and national averages. 80.2% of the resident working-age population is economically active, which means that they are either in work or actively looking for a job. The remaining 19.8% (13,100 people) of the working-age population are economically inactive. These people are not in employment, nor are they looking to work. This includes those who are retired, looking after home and family, students or are permanently sick or unable to work.

- 73% of the working-age population in the Dover District are in employment: 61.4% employees and 9.8% self-employed.
- In 2019, 5.0% of working-age residents were unemployed, compared to 3.4% in 2018.
- COVID-19 has had a significant impact on the number of claimants in the Dover District. As at May 2020, 4,890 people (7.1%) in the Dover District were unemployed, which is above the county (6.4%) and the national averages (6.4%). This represents an increase of +96.4% (2,400 people) since May 2019.
- As at May 2020, youth unemployment (aged 18-24 years) in the District, at 12.5%, is also above the county average (9.5%) and the national average (8.7%).
- As at May 2020, the Dover Urban areas (Castle 12.1%; Tower Hamlets 11.8%; St. Radigunds 11.7%; Town & Pier 9.9%; Maxton, Elms Vale and Priory 8.8%; Buckland 8.2%) have the highest rates of unemployment.
- A third of the workforce (33.3%) in the Dover District is qualified to at least NVQ level 4. This is lower than the averages for Kent (36.6%), Southeast (43.4%) and nationally (40.3%). The percentage of those with no qualifications in the District, at 6.4%, is lower than the averages for Kent (7.8%) and nationally (7.7%) but higher than the Southeast (5.8%).

(Source: Dover District Summary – July 2020)

3.6 Health

- 3.6.1 Self-reported health in the Dover District is worse than the England average, with 78.8% of residents describing their health as either 'very good' or 'good' and 6.3% as either 'bad' or 'very bad'. This compares with national averages of 81.7% for 'very good' or 'good' and 5.3% for either 'bad' or 'very bad'.
- 3.6.2 20.8% of the District's population has an illness or condition which limits their day-to-day activities in some way; this compares with 17.6% nationally.
- 3.6.3 Life expectancy at birth for males (79.2 years) and females (82.5 years) in the Dover District is lower than the national averages (79.6 years for males and 83.1 years for females).
- 3.6.4 Life expectancy is 7.6 years lower for men and 3.1 years lower for women in the most deprived areas of Dover than in the least deprived areas.
- 3.6.5 The number of Dover District residents who are claiming disability benefits is 11,111 (9.5%) this is higher than Kent (7.7%), Southeast region (6.4%) and national figures (7.9%).

(Source: Dover District Summary – July 2020)

- 3.6.6 The percentage of adults (aged 18+) classified as overweight or obese in Dover District is 63.4% this is higher than the Southeast region (61.5%) and in line with the UK average of 63% of adults.

(Source: Office for Health Improvement and Disparities (OHID)

- 3.6.7 The percentage of children in Reception (age 4-5 years) classified as overweight in the Dover District is 25.4%, this is higher than the averages for the Southeast region and England. The district also has the 3rd highest prevalence of overweight children at Reception age in Kent.

(Source: State of the District: Health and Wellbeing – 2017)

- 3.6.8 The percentage of children in Year 6 (age 10-11 years) classified as overweight or obese (including severe obesity) in the Dover District is 19.1%, this is higher than the Southeast region (16.8%) and marginally lower than the England average (20.2%).

(Source: PHE: Local Authority Health Profile – 2019)

3.7 Sports Participation

- 3.7.1 The percentage of people in the District participating in physical activity at least 150 minutes a week in 2019 (pre-COVID) was 63.9%. This is the same as the Kent average and slightly higher than the England average. In terms of inactivity, i.e. less than 30 minutes a week, the percentage of inactive people in the district is 24.1% which is below the Kent and England averages.

Adult (16+) participation data

Nov-19	Active (150+ minutes a week)	Inactive (<30 minutes a week)
England	63.3%	24.6%
Kent	63.9%	24.6%
Dover	63.9%	24.1%

(Source: Sport England: Active Lives Survey)

4 AUDIT OF FACILITY SUPPLY

4.1 Introduction

4.1.1 The audit of facility supply includes an assessment of the following indoor facilities:

- Sports halls
- Other activity halls (flexible indoor space with space for at least one court, if used for sport)
- Indoor swimming pools
- Health & fitness suites
- Indoor bowls
- Dance/aerobic studios
- Indoor tennis courts
- Squash and racquetball courts
- Gymnastics
- Boxing and martial arts.

4.1.2 It included analysis of the quality, quantity and accessibility for each facility type.

Assessment of Supply

4.1.3 Due to COVID restrictions in place during the strategy development, it was agreed that the majority of research on the existing supply of facilities be completed using desk-based analysis. The supply analysis included facilities operated by a range of organisations and information was gathered on the following areas:

- Facility and scale
- Ownership, management and access arrangements (plus, where available, facility owner aspirations)
- Location, access and accessibility
- Condition, maintenance and existing improvement plans.

4.1.4 This enables identification of the potential of each facility and informs investment decisions at each site.

Assessment of Demand

4.1.5 When assessing facility provision against demand, key issues such as population and participation growth are taken into account. The resident population of the District is 118,100. The population is forecast to increase by 10.7% between 2018 and 2038, which would increase the population size to 129,400.

4.1.6 Demand has been assessed utilising available Sport England tools (i.e. Facilities Planning Model, Active Places, Sports Facility Calculator and Active Lives Survey) to help gauge strategic provision of community sports facilities. It helps to analyse sports facility provision and whether supply meets demand. It provides data that is used as part of the information base to inform the analysis of supply and demand.

4.1.7 Demand analysis is supplemented by data collected and stakeholder consultation. This enables key local issues to be taken into account, e.g. where local demand is particularly

high and additional provision is required. Consultation was conducted with a range of stakeholders to gain a comprehensive understanding of key issues.

4.2 Catchment Areas

4.2.1 Catchment areas for different types of facilities provide a tool for identifying areas currently not served by existing indoor sports facilities. It is recognised that catchment areas vary from person to person, day to day, hour to hour. Therefore, Sport England accept a catchment which is defined as the distance travelled by around 75-80% of users.

4.2.2 Sport England determines that differences in rural and urban catchments are reflected within an agreed walk or drive time catchment. The normal acceptable standard would be to apply a 20-minute walk time (1 mile radial catchment) for an urban area and a 20-minute drive time for a rural area. The District is described as being an urban area (65% of population) with significant rural hubs (35% of population), therefore when looking at catchments, a 20-minute walk time has been applied to swimming pools, sports halls, health and fitness suites and dance/aerobic studios. However, for indoor bowls, squash/racketball courts, indoor tennis and gymnastics, it is recognised that provision for these sports attract users from further away and therefore a 20-minute drive time has been applied for these facilities.

4.3 Supply and Demand Analysis

4.3.1 The supply and demand assessment is key in determining whether the District currently has sufficient provision to account for future changes in population. It also takes into account the spread of provision and enables identification of communities not served by an indoor facility.

4.3.2 It is necessary to assess the current capacity across the District and potential demand (based on population and participation trends). This helps determine whether current capacity is meeting current demand and whether there is a surplus or a shortfall. It also identifies the areas of over or undersupply relative to demand.

4.4 Comparators

4.4.1 The 'Nearest Neighbour' model was developed by the Chartered Institute of Public Finance and Accountancy (CIPFA) to aid local authorities in comparative and benchmarking exercises. It is widely used across both central and local government. The model uses a number of variables to calculate statistical similarity between local authorities. Examples of these variables include population, unemployment rates, tax base per head of population, council tax bands and mortality ratios.

4.4.2 The following table shows the number and type of facilities in the District compared to that of the 'Nearest Neighbour' authorities. This includes all facilities, including privately operated facilities which are not included in the study. The results demonstrate that there are varying levels of supply in these areas. Some key points are listed below:

- DDC is slightly lower than average in terms of 25 swimming lanes
- DDC is slightly lower than average in terms of sports hall courts
- DDC is significantly higher than average in terms of health and fitness stations
- DDC is slightly lower than average in terms of indoor bowls sites
- DDC is higher than average in terms of squash courts
- DDC is higher than average in terms of indoor tennis centre sites
- DDC is similar to the average in terms of studio numbers.

Total number of facilities compared with nearest neighbours (2022)

Facilities	Dover	Scarborough	Sedgemoor	Folkestone & Hythe	Swale	Average
Swimming Pools (25m lanes)	14	12	21	15	18	16.0
Sports Halls (courts)	36	52	40	45	50	44.6
Health & Fitness Suites (stations)	927	794	729	912	618	796.0
Indoor Bowls (sites)	1	1	3	1	2	1.6
Squash Courts (courts)	10	4	5	9	8	7.2
Indoor Tennis Centre (sites)	1	1	0	1	0	0.6
Dance/Aerobic Studios (number)	12	13	17	10	12	12.8

5 NEEDS ASSESSMENT, SURPLUSES AND SHORTFALLS IN FACILITY PROVISION

5.1 Introduction

5.1.1 This section contains a summary of the findings from the needs assessment work. Each facility type is reviewed in turn with information provided on various factors relating to supply and demand for facilities. The key findings are provided for each facility.

5.2 Indoor Swimming Pools

5.2.1 Defined as an “enclosed area of water, specifically maintained for all forms of water based sport and recreation, this covers indoor pools and specific diving tanks used for swimming, teaching, training and diving” (Sport England Active Places).

5.2.2 Since completion of the previous Indoor Sports Facility Strategy, the main change in provision has been the delivery of a new 8 lane 25m, county standard pool, at Dover District leisure Centre. The replaced the previous 6 lane 25m community pool at Dover Leisure Centre, adding 2 additional lanes of 25m swimming pool water.

5.3 Supply

Quantity

5.3.1 There are two sites in the District that have fully community accessible swimming pools; Dover Leisure Centre (8 lane 25m plus learner pool) and Tides Leisure Centre (leisure pool). Both sites are owned by DDC and operated via an external management contractor. Tides leisure pool has limited programming options, as the lack of deep water makes it impossible to schedule multiple programs at the same time. It is predominately a family leisure attraction to provide fun for families.

5.3.2 Duke Of York’s Royal Military School has a 6 lane 23m pool, which is available for limited private use only. Balance Spa and Health Club has a 22m leisure pool which accommodate some lane swimming, accompanied by a smaller (and warmer) exercise pool. Both pools are only accessible via membership but are not available for club use.

Supply information for swimming pools

Site Name	Facility Sub Type	Water Area m ²	Access Type	Ownership Type	Year Built
BALANCE SPA & HEALTH CLUB	Main/General & Leisure Pool	198 & 81	Registered Membership use	Commercial	1984
DOVER DISTRICT LEISURE CENTRE	Main/General & Learner Pool	425 & 128	Pay and Play	Local Authority	2019
DUKE OF YORK’S ROYAL MILITARY SCHOOL	Main/General	250	Private Use	Academies	1954
TIDES LEISURE CENTRE	Leisure Pool	313	Pay and Play	Local Authority	1988

Neighbouring Authority Facilities

5.3.3 Kingsmead Leisure Centre in Canterbury is owned by the local authority and operated by a trust. It is Canterbury City Council’s flagship centre with a 6 lane 33m main pool, leisure pool and learner pool, which has approximately 400,000 visits per year. It is located c.10 miles from the North-West boundary of the District and therefore it may

attract residents of the District. We understand that the Council has plans to refurbish the centre but that this will not change the scale of pool water provided.

- 5.3.4 Folkestone Sports Centre in Folkestone and Hythe has a 6 lane 25m main pool and a learner pool. The Sports Centre is located in the centre of Folkestone, a few miles from the South-West boundary of the District, which is easily accessible to residents via the A20. This centre is due to be replaced by the new Princes Parade Leisure Centre, which is currently under development. The new centre will include the same level of provision i.e. a 6 lane 25m pool and learner pool.
- 5.3.5 While not a neighbouring authority, Medway Council is progressing the development of new leisure centre to include a 4 lane, 25m training pool for lane swimming and lessons and a c.200m² children's fun pool with flume, wave ball pool and beach area. The replaces the larger leisure pool at Splashes in Rainham.

Planned Developments

- 5.3.6 A feasibility and options appraisal study for the potential improvement and replacement of the existing Tides Leisure Centre is being undertaken. The study is still progressing, however initial options include a 25m main pool, and replacement leisure water. This would add a 25m pool in place of the existing leisure water offer at the site, which does not provide adequately for lane swimming.
- 5.3.7 A new pool at Tides would also serve residents to the north of the district, including Sandwich, where some consultees have previously raised the need for accessible swimming facilities to serve the area. Sandwich is well within a 20-minute drive time catchment of Tides.

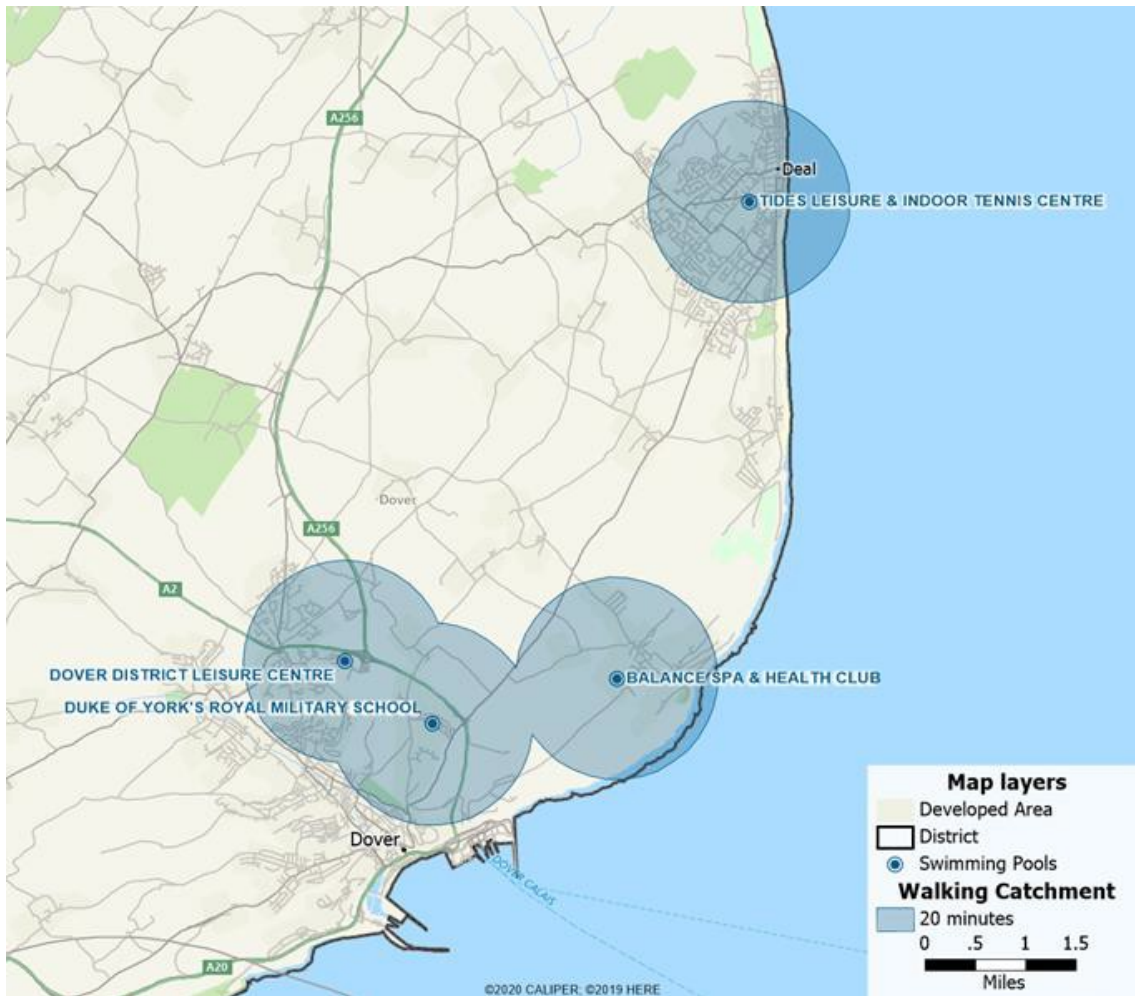
Quality

- 5.3.8 Dover District Leisure Centre, at Whitfield, is a high-quality community leisure centre built in 2019 and contains an 8 lane 25m, county standard pool and learner pool.
- 5.3.9 The other Council owned facility is Tides Leisure Centre, which was built in 1988. It is a leisure pool in a relatively poor condition and in need of refurbishment or replacement. DDC recognises the need for improvement of this pool and, as previously stated, is undertaking a feasibility and options appraisal study for the potential replacement of the existing swimming pool.

Accessibility

- 5.3.10 Appropriate walk time accessibility standards can be applied to swimming pools to determine deficiencies in provision. Catchment mapping, based on an amalgamated 20-minute walk time, has been adopted to analyse the adequacy of coverage of swimming pool provision across the District; it also helps to identify areas currently not served by existing swimming pools.

Community accessible swimming pools, 20-minutes' walk time catchment



5.3.11 The map shows that the most populated areas in the District (Dover and Deal) are within a 20-minute walk time of a community accessible swimming pool. However, in Sandwich (the third largest settlement in the District), there is a large gap in swimming pool provision. There are also gaps in provision in less populated rural areas of the District (including Aylesham), however it is more likely that residents in these areas will travel by car (up to a 20-minute drive) to access swimming pool provision.

5.4 Demand

5.4.1 Sport England's Facility Planning Model (FPM) provides an assessment on the provision for swimming for DDC. The purposes of the FPM assessment is to assess the extent to which the existing supply of swimming pools meets current and future levels of demand from the resident population. It helps to analyse sports facility provision and the extent to which supply meets demand. It provides data that is used as part of the information base to inform the analysis of supply and demand.

5.4.2 A bespoke run of the FPM model was commissioned by DDC to assess the extent to which the existing supply of swimming pools would meet future demand, taking into account the recent construction of Dover District Leisure Centre, population increases and major new housing developments in the District to 2040.

5.4.3 The FPM analysis suggests a need for more community accessible water space within the District to support a growing resident population to 2040 and to provide further

opportunities that could support an increase in the levels of participation within swimming and other aquatics activities.

- 5.4.4 Overall, the FPM study highlights the opportunity of providing a new 25 metre pool up to 6 lanes as part of the redevelopment of Tides Leisure Centre. This should complement the new 8 lane 25m county standard pool at Dover District Leisure Centre, as opposed to competing with it.

Consultation

- 5.4.5 Swim England has been consulted and has highlighted that population growth and housing developments will determine the exact amount, but it expects to see unmet demand emerge within the next 10 years. Most likely for a community size swimming pool, as the competition needs will be met by the current aquatic facility in Dover. Swim England recognises that the long-term sustainability of the swimming pool at Tides Leisure Centre should be assessed, as it would expect an aquatic facility of this age to be approaching an age where redevelopment is a better long-term option.
- 5.4.6 Dover Lifeguard Swimming Club has identified that it is operating at capacity and has a waiting list for membership, as a result. It is seeking further access to lane swimming for training and to expand its membership, particularly for junior and masters swimmers. This supports the need for additional lane swimming in the District and as part of the redevelopment of the swimming pool at Tides Leisure Centre.

5.5 Summary

- Sport England's FPM analysis and consultation with the Swim England suggests there is a deficit in water space in the District in 2022 equivalent to a 6 lane 25m pool. This is supported by consultation with Dover Lifeguards, which has 150 members and a waiting list for activities, despite the recent development of the new 8 lane 25m county standard pool at Dover District Leisure Centre.
- There are two sites in the District that have fully community accessible swimming pools; Dover District Leisure Centre and Tides. Both are owned by DDC and operated by an external management contractor. Tides leisure pool has limited programming options as it is a shallow-water family leisure water attraction.
- The 6 lane 23m pool at Duke of York's Royal Military School is currently available for 'Private Use' only. While access to this pool is limited, compared to other community swimming pools, it is an important facility in the District and provides additional capacity.
- DDC is currently investigating wet side improvements to Tides to enhance the quality of wet side provision and retain the focus of community and leisure pools at this centre, to complement the county standard pool at Dover District Leisure at Whitfield.
- The pools are in the most densely populated areas of the District (Dover and Deal) and therefore allow the majority of residents to access a pool within 20-minutes' walk.
- All residents have access to a swimming pool within a 20-minute drive time.

Implications for Strategy

- 5.5.1 The Council should continue to explore plans for new swimming pool provision, in order to address the deficit in swimming pool water space in the District up to 2040 equivalent to an additional 6 lane 25m pool.
- 5.5.2 A feasibility and options appraisal study for the potential improvement and replacement of the existing Tides Leisure Centre is being undertaken. The study is still progressing, however initial options include a 4 or 6 lane 25m main pool, and replacement leisure water. This would add a 25m pool in place of the existing leisure water only offer currently at the site, which does not provide adequately for lane swimming. The option of a 6 lane

25m pool, as part of a replacement pool at Tides would best meet the projected future needs, however any new provision must be affordable and sustainable.

5.6 Sports Halls

5.6.1 Indoor multi-sports halls are defined as areas where a range of sport and recreational activities are carried out and include specifically designed sports halls, such as leisure centres and school sports halls.

5.7 Main halls

5.7.1 This assessment considers sports hall facilities in the District that comprise at least one badminton court. However, a standard 3-court or more sports hall (known as 'main hall' in this assessment) provides greater flexibility in that it can accommodate major indoor team sports such as football (5-a-side and training), volleyball, basketball and netball. It also provides sufficient space to accommodate indoor cricket nets and to undertake indoor athletics. Many 3+ court sports halls also have a dividing net which enable them to be subdivided into separate areas for use, for example, for circuit training, table tennis or martial arts activities. As such, a 3+ court sports hall has greater sports development value and flexibility than smaller halls.

5.8 Activity halls

5.8.1 Activity halls are the smallest buildings that can accommodate a sports programme alongside the customary social and arts pursuits. There are a wide variety of types and sizes, often supplementing the main hall with a restricted range of use, including aerobics, keep fit classes, martial arts, boxing, and table tennis. Sport England recognises 1-2 badminton court activity halls that can accommodate a range of recreational and sporting activities. However, it is recognised that smaller halls lack the flexibility and capacity for large club activities.

5.9 Supply & Quantity

5.9.1 Since completion of the previous Indoor Sports Facility Strategy, the main change in provision has been the reduction in sports hall provision from 40 in 2015 to 36 in 2022. This is due to the reduction of the number of courts from 8 to 4 at the new Dover District leisure Centre.

5.9.2 There are nine sites in the District that have a 4-court sports hall. Two of these (Dover District Leisure Centre and Tides Leisure Centre) are DDC owned facilities. The remainder, with the exception of Baypoint Leisure, are located at education sites. While the schools have varying degrees of community use, all offer under 45 hours use per week and most focus mainly on club / block bookings, as opposed to casual use. This demonstrates the importance of the facilities owned by DDC for community access (over 95 hours per week) but also the need to work closely with education site owners to encourage access, for clubs and organisations, to their facilities outside school hours.

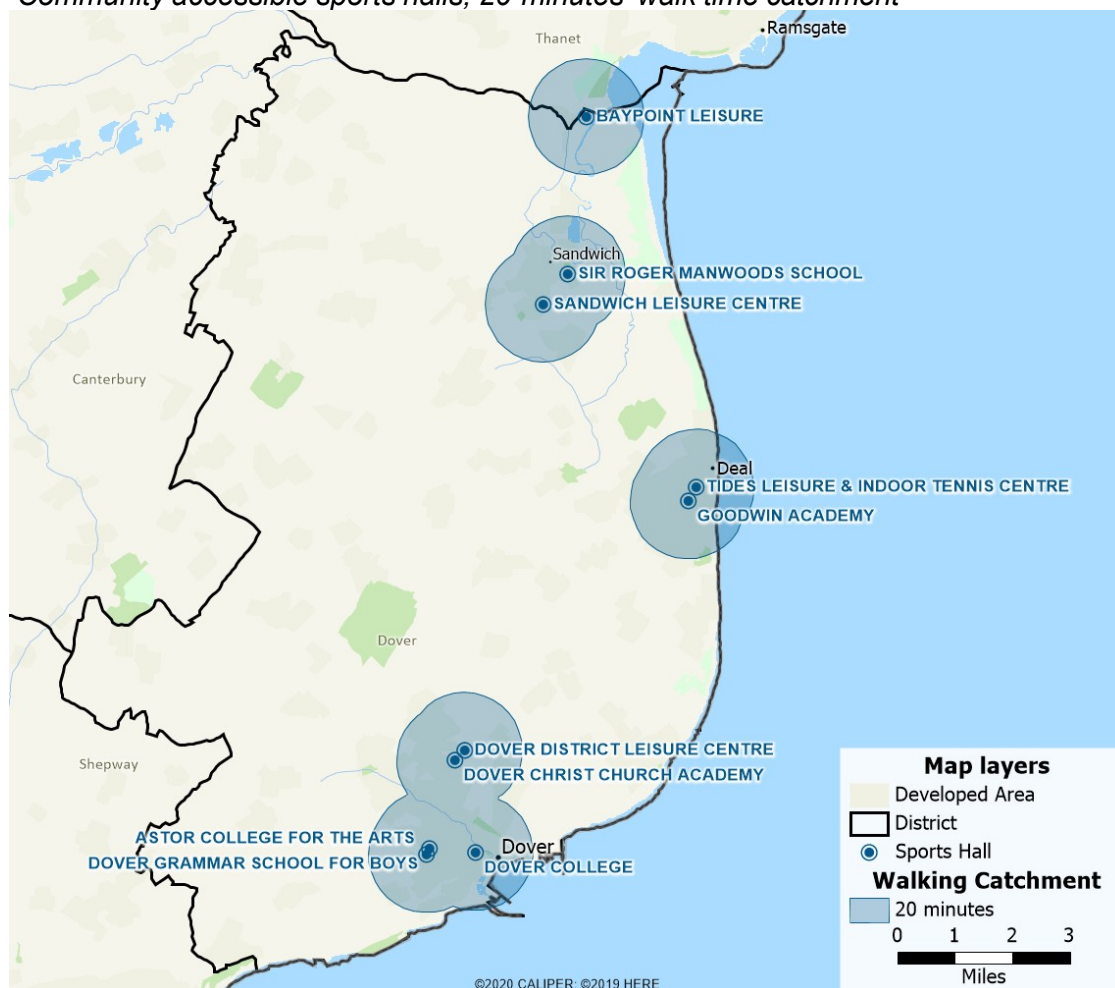
Supply information for sports halls

Site Name	Area m ²	Badminton courts	Access Type	Ownership Type	Year Built
ASTOR COLLEGE FOR THE ARTS	690	4	Sports Club / Community Association	Academies	1974
BAYPOINT LEISURE	594	4	Pay and Play	Commercial	1965
DOVER CHRIST CHURCH ACADEMY	594	4	Sports Club / Community Association	Academies	2003
DOVER COLLEGE	690	4	Sports Club / Community Association	Other Independent School	1978
DOVER DISTRICT LEISURE CENTRE	690	4	Pay and Play	Local Authority	2019
DOVER GRAMMAR SCHOOL FOR BOYS*	690	4	Sports Club / Community Association	Other Independent School	2022
GOODWIN ACADEMY	594	4	Sports Club / Community Association	Academies	1948
SANDWICH LEISURE CENTRE	594	4	Pay and Play	Academies	1991
SIR ROGER MANWOODS SCHOOL	627	4	Sports Club / Community Association	Academies	1999
TIDES LEISURE CENTRE	690	4	Pay and Play	Local Authority	2002

* It should be noted that the 4 court sports hall at Dover Grammar School for boys opened in 2022, during completion of this strategy, and has not been included in Sport England's Facility Planning model report. This site provides an opportunity to increase the supply of facilities in the district subject to availability to community clubs and user groups.

5.9.3 The location of the sports halls, with 20-minute walk catchments, are shown on the following map.

Community accessible sports halls, 20-minutes' walk time catchment



Supply and Demand Analysis

- 5.9.4 A Standard Run of the FPM model was commissioned by DDC to assess the extent to which the existing supply of Sports Halls meet demand. The key element to be taken from the FPM report is that demand for sports halls in the district of Dover exceeds the current available supply. Many of the sports hall sites are estimated to be full at peak times. However, in 2020, there is insufficient unmet demand to justify consideration of new additional sports hall provision.

The key findings from the supply, demand and access assessment are:

- All the main halls in the district are four-court halls which can provide a full range of hall sports at community level. Four of the main halls are 690 sqm, which can accommodate the additional run-off requirements for netball.
- The average age of all the sport halls is 33 years, with four of the educational sites being over 40 years old and therefore contributing to the high average age. Three of these older educational sites have been refurbished, but this was over 15 years ago and means that their attractiveness weighting is low.
- As would be expected, the sites are predominantly located in the main towns of Dover, Deal and Sandwich. Baypoint Leisure is the only site located away from these population centres in the north of the district and is the only hall close to a neighbouring district.
- Dover District Leisure Centre is located in an area of the district with the highest IMD rankings and therefore provides good access for residents nearby with the greatest deprivation.
- Tides Leisure Centre is also located in an area with a higher IMD ranking, and also serves communities with more deprivation than the rest of the district. Aylesham is the only area in the district with a higher IMD that does not have a sports hall nearby. In 2020, 91.5% of the total demand for sports halls from Dover residents is met.
- Of this satisfied demand, 88.6% is retained within the district. This reflects the findings on the locations of the sports halls and the fact that they are located in the most populated areas which are to the south and east of the district. The level of retained demand is lower than the rest of the study area due to demand in the more rural areas of the district in the north and west of the district being met by halls in neighbouring authorities.
- A wide variation in used capacity can be seen between the individual sites in the district. Dover District Leisure Centre, Dover College, and Tides Leisure Centre are operating at 100% used capacity. Conversely several of the sites are operating at a very low used capacity level; these include Baypoint Leisure at 6% and Sir Roger Manwood's School at 19%.

Conclusions

- Demand is broadly being met within the district of Dover but at the expense of several facilities operating above the maximum comfort level of 80% used capacity.
- The higher levels of unmet demand and lowest levels of local share are in the main towns of Dover and Deal despite these towns being the locations of most of the sports halls.
- There is currently only one sports hall in each of the main towns of Dover, Deal and Sandwich that is open for most of the peak and off-peak hours. Off-peak access can be an important offer, particularly for some under-represented and target groups.
- There are no larger halls in the district which could offer additional scope for more activities to take place consecutively, higher levels of competition and events hosting, and greater flexibility for teaching and coaching.
- Existing educational sites could provide additional access for community use to increase capacity as currently many do not open for the full weekly peak period hours.

- The relatively high average age of facilities (particularly the educational sites) and lack of recent refurbishment affects the attractiveness of these facilities and impacts on their utilisation.
- It should be noted that the 4 court sports hall at Dover Grammar School for boys opened in 2022, during completion of this strategy, and has not been included in Sport England’s Facility Planning model report. This site provides an opportunity to increase the supply of facilities in the district subject to availability to community clubs and user groups.

5.9.5 Dover District Council should consider investment in improving existing sports hall facilities to support residential developments, for example, through use of Section 106 funding. New provision should be a consideration if there are major housing developments proposed, particularly at Whitfield, Aylesham and Dover Town Centre.

Sport England Sports Facility Calculator (Sports Halls)

5.9.6 The FPM report is based on the current population data. To understand the likely impact of proposed housing development on the demand for sports halls, Sport England’s Sports Facility Calculator was used. The Sports Facility Calculator is a planning tool which helps to estimate the amount of demand for key community sports facilities that is likely to be created by a given population. It has been used in, this case, to give a simple estimate of the demand side of the facility provision equation. It helps to answer questions such as, ‘How much additional demand for sports halls will the population of a new development area generate?’.

5.9.7 The results of the Sport Facility Calculator are summarised in the following table. They suggest that the proposed additional housing growth set out in the emerging Local Plan (Regulation 18 plan) mainly in and around Whitfield, Aylesham and Dover Town will generate a need for additional sports hall space equivalent to 2.4 badminton courts.

Sports Facility Calculator results for Sports Halls

Sports Halls	
Housing numbers	3,640
Population	8,736
Badminton Courts	2.41

Activity Halls

5.9.8 There are thirteen activity halls in the District, the majority of which are located at educational establishments and are available for limited community use. The activity halls must generally be pre-booked and are only available to sports clubs and community associations outside of school hours.

Supply information for activity halls

ID	Site Name	Area m ²	Access Type	Ownership Type	Year Built
1	ASTOR COLLEGE FOR THE ARTS	180	Sports Club / Community Association	Academies	1998
2	AYLESHAM PRIMARY SCHOOL	180	Private Use	Community school	2017
3	DOVER CHRIST CHURCH ACADEMY	180	Sports Club / Community Association	Academies	1960
4	DOVER GRAMMAR SCHOOL FOR BOYS	180	Private Use	Foundation School	1931
5	DOVER GRAMMAR SCHOOL FOR GIRLS	180	Private Use	Community school	1902
6	NORTHBOURNE PARISH HALL	180	Sports Club / Community Association	Local Authority	1975
7	NORTHBOURNE PARK SCHOOL	324	Sports Club / Community Association	Other Independent School	1980

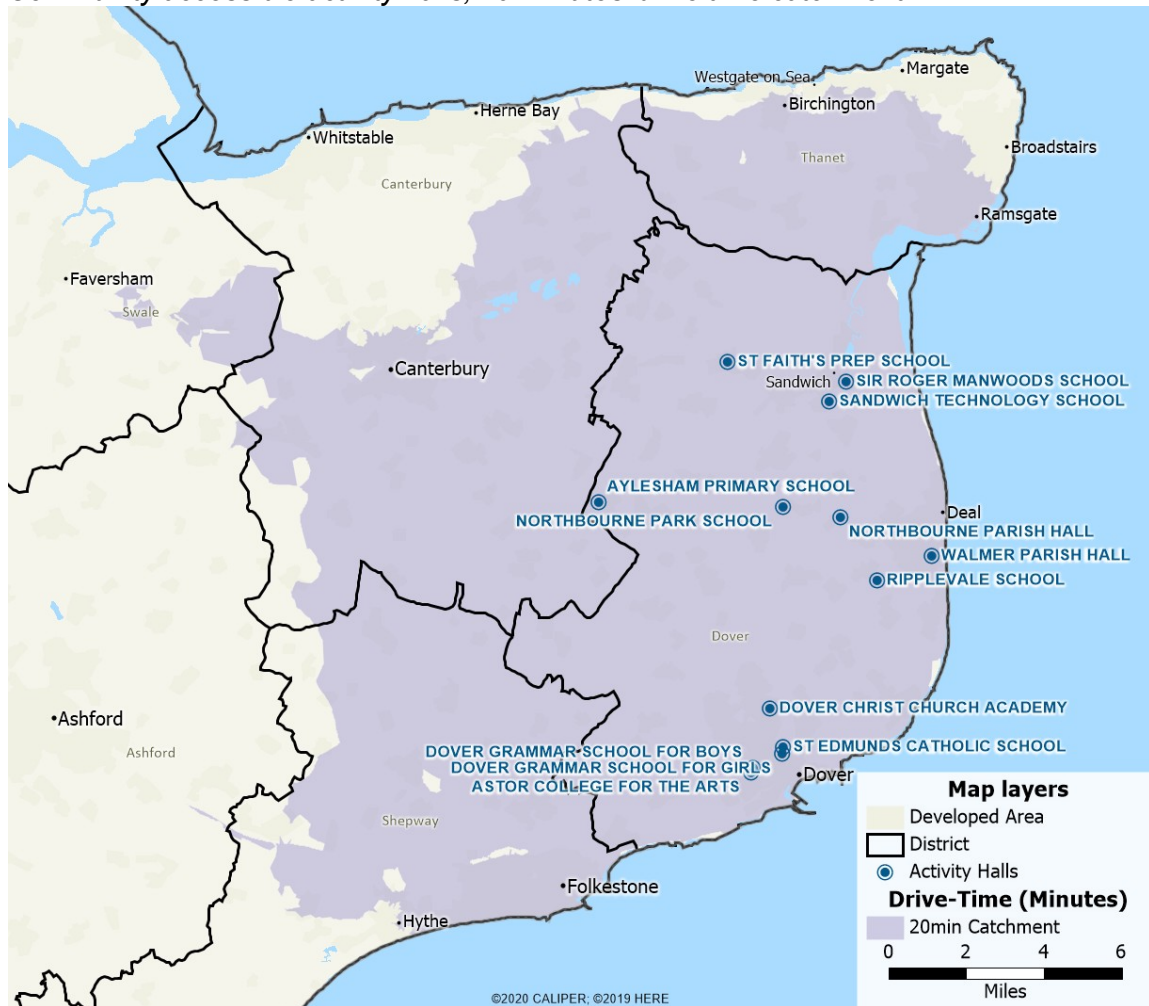
8	RIPPLEVALE SCHOOL	180	Private Use	Independent School approved for SEN Pupils	1967
9	SANDWICH TECHNOLOGY SCHOOL	180	Private Use	Foundation School	1935
10	SIR ROGER MANWOODS SCHOOL	180	Sports Club / Community Association	Academies	1951
11	ST EDMUNDS CATHOLIC SCHOOL	180	Sports Club / Community Association	Voluntary Aided School	1963
12	ST FAITH'S PREP SCHOOL	2x 180	Sports Club / Community Association	Other Independent School	1990
13	WALMER PARISH HALL	180	Sports Club / Community Association	Other	1900

It is understood that Portal House School (SEND School) has recently built a 3ct hall sports hall for private use. However, his facility doesn't appear on Sport England's active places database, so has not been referenced in the above table.

Accessibility

- 5.9.9 Appropriate drive time accessibility standards can be applied to sports hall provision to determine deficiencies in provision. A 20-minute drive time has been applied to community accessible main halls (3+ badminton courts) servicing Dover. This enables identification of areas not currently serviced by existing sports halls.

Community accessible activity halls, 20-minutes' drive time catchment



5.9.10 The map shows that the majority of the District's population live within 1 mile (20-minutes' walk time) of a community accessible 3+ court sports hall. The largest gaps in provision are in rural areas, including Aylesham. Residents in these areas are likely to be willing to travel by car (up to 20-minutes) to a main hall in an urban area.

Neighbouring Authority Facilities

5.9.11 Canterbury City Council has plans to refurbish Kingsmead Leisure Centre but this will not involve an increase in sports hall space. Folkestone and Hythe Council is also not planning to build any new sports halls.

Planned Developments

5.9.12 The existing development recently completed in Aylesham secured a large amount of developer contributions (£850k) which are required to fund provision of a new sports hall and facilities at Aylesham and District Welfare Club. There are emerging plans for expansion of Aylesham Welfare Leisure Centre, to build a new 2 or 4 badminton court hall, as an extension to the existing Leisure Centre. During 2021 an initial needs assessment was commissioned by DDC, which demonstrated that a 2 or 4 court multi-purpose activity hall could be sustainable in this location, subject to funding and affordability being demonstrated. However, a detailed project proposal for the spend of this developer obligation has not yet been finalised.

5.9.13 None of the schools that responded to the consultation have identified plans for the delivery of significant new indoor sports halls.

Consultation

- 5.9.14 Many of the NGBs consulted frequently use sports halls to carry out their respective activities. In addition, many of those also rely on the use of flexible activity halls. NGBs indicate that participation in their sport is growing, and numbers have recovered/are recovering well following the impact of the pandemic. In addition, all NGBs consider there to be significant growth potential across the Dover District in particular.
- 5.9.15 In general, the majority of NGBs feel there is an undersupply of facilities across the District to cater for their particular sports at the times when they are needed. This is due to pressure at peak times. A number of specific points are listed below:
- According to Kent Cricket, the undersupply of indoor cricket nets forces clubs/residents to travel to neighbouring Districts to access facilities. The majority of facility operators across the District do not currently provide facilities for indoor cricket.
 - Kent Badminton report limited availability for badminton bookings due to the multi-sport nature of sports halls resulting in high demand for spaces.
 - Kent County FA have development funding to deliver a Futsal Hub and walking football opportunities within the Dover District. Kent County FA have not identified a need for additional indoor facilities at this moment in time, however, would be interested to discuss any future possible developments.
 - Badminton England are eager to have conversations with schools across Dover regarding the possible hire of their indoor facilities outside of school hours.
 - No NGBs have reported involvement in any planned indoor facility developments within the Dover District.
- 5.9.16 All respondent NGBs indicate there will be a need for more facilities in the future as the population and growth of their respective sport increases across the District. In addition, respondents have highlighted the importance of maintaining / refurbishing existing facilities to a good standard for the future.
- 5.9.17 14 clubs responded to the consultation. These are listed below
- Dover lifeguard Swimming Club
 - Deal Victoria & Barns Close Cricket Club
 - Deal Tri Club
 - Walmer Lawn Tennis & Croquet Club
 - Dover Castle Archers
 - Shepherdswell Cricket Club
 - Dover Gymnastic Club Ltd
 - River Bowls Club
 - East Kent Acro Gymnastics Club
 - Deal Town Rangers FC
 - Dover pirates basketball club
 - Deal Gymnastics Club
 - Walmer Cricket Club
 - North Deal Community Company CIO
- 5.9.18 They provided a range of comments, which are summarised below:
- Sports clubs that responded are reliant on the use of sports halls across the District. The majority of clubs consider increased quantity of facilities / greater access to existing facilities as most important for them to meet their current and future needs. Many also commented that the quality of facilities needs to be improved.

- In general, most clubs consider the quality of the facilities they currently use to be of good/excellent condition.
- Half of the clubs consulted consider the amount of time and space needed by the club in the next five years to increase. They see club memberships increasing and a need for additional space to cater for future demand.
- The lack of indoor cricket facilities within the District was highlighted. Currently, there is limited provision in Dover. Goodwin Academy and Duke of York's Royal Military School offer indoor cricket facilities. Demand is also catered for in Canterbury, however, the facilities in Canterbury are in high demand and bookings at peak times are very difficult to attain.

5.10 Summary

- There are currently 36 badminton courts of sports hall space in 2022 located in nine main sports halls (3+ courts) and thirteen activity halls (1-2 courts) across the District. The majority of facilities are located at education sites.
- The DDC facilities at Dover District Leisure Centre and Tides Leisure Centre are key facilities in providing daytime access for community users, in addition to evenings and weekends.
- Aylesham Welfare Leisure Centre has aspirations of developing 2 or 4-court sports hall, which could add a further daytime access in the District.
- Some clubs and NGBs are reporting issues in accessing sports hall space at peak times and there is an unmet demand for indoor cricket net provision.
- There will be a need for more facilities in the future as the population and growth of their respective sport increases across the District. In addition, respondents have highlighted the importance of maintaining / refurbishing existing facilities to a good standard for the future.

Implications for Strategy

- 5.10.1 The FPM results show that currently demand is broadly being met within the district of Dover but at the expense of several facilities operating above the maximum comfort level of 80% used capacity. Therefore, where additional housing is being proposed it is likely to put further pressure on local sports halls and additional sports hall space may be required to meet that additional need.
- 5.10.2 On the basis of the results from the Sports Facility Calculator, additional sports hall capacity or greater access to existing education sites is likely to be required at Whitfield, Aylesham and Dover Town Centre. The opportunity to allocate Section 106 funding towards these developments should be investigated, as and when the opportunities arise. Existing educational sites could provide additional access for community use to increase capacity as currently many do not open for the full weekly peak period hours.
- 5.10.3 Dover District Council should consider investment in improving existing sports hall facilities to support residential developments, for example, through use of Section 106 funding. New provision should be a consideration if there are major housing developments proposed, particularly in the main towns.

5.11 Health and Fitness Suites

5.11.1 Health and fitness facilities of significance are normally defined as facilities with a minimum of 20 stations, which provides a better variety and availability of equipment.

5.12 Supply

Quantity

5.12.1 Since completion of the previous Indoor Sports Facility Strategy, there has been an increase from 544 stations of equipment at 11 sites in 2015 to 887 stations at 16 sites in 2022. This is a significant increase in provision across the district.

5.12.2 In Dover District, there are 16 health and fitness suites with 20 or more stations. These are located at a range of sites including commercial, education and local authority sites and are listed in the following table.

Supply information for health and fitness suites

ID	Site Name	Stations	Access Type	Ownership Type	Year Built
1	ANYTIME FITNESS (DOVER)	125	Registered Membership use	Commercial	2017
2	AYLESHAM WELFARE LEISURE CENTRE	26	Pay and Play	Commercial	2011
3	BALANCE SPA & HEALTH CLUB	23	Registered Membership use	Commercial	1984
4	BAYPOINT LEISURE	70	Pay and Play	Commercial	2003
5	DOVER CHRIST CHURCH ACADEMY	6	Sports Club / Community Association	Academies	2011
6	DOVER DISTRICT LEISURE CENTRE	120	Registered Membership use	Local Authority	2019
7	DOVER GRAMMAR SCHOOL FOR GIRLS	10	Private Use	Community school	1997
8	DOVER MARINA HOTEL & SPA	30	Registered Membership use	Commercial	2000
9	DUKE OF YORK'S ROYAL MILITARY SCHOOL	30	Private Use	Academies	1994
10	FITNESS CONNECTION (SANDWICH)	50	Registered Membership use	Commercial	1988
11	GENESIS GYM	12	Pay and Play	Commercial	2015
12	SANDWICH LEISURE CENTRE	70	Registered Membership use	Academies	1991
13	SNAP FITNESS (DOVER)	150	Registered Membership use	Commercial	2019
14	THE BODY WORKS GYM	65	Registered Membership use	Commercial	2000
15	THE WEIGHTS ROOM UK LTD	100	Pay and Play	Commercial	2011
16	TIDES LEISURE CENTRE	40	Pay and Play	Local Authority	2002

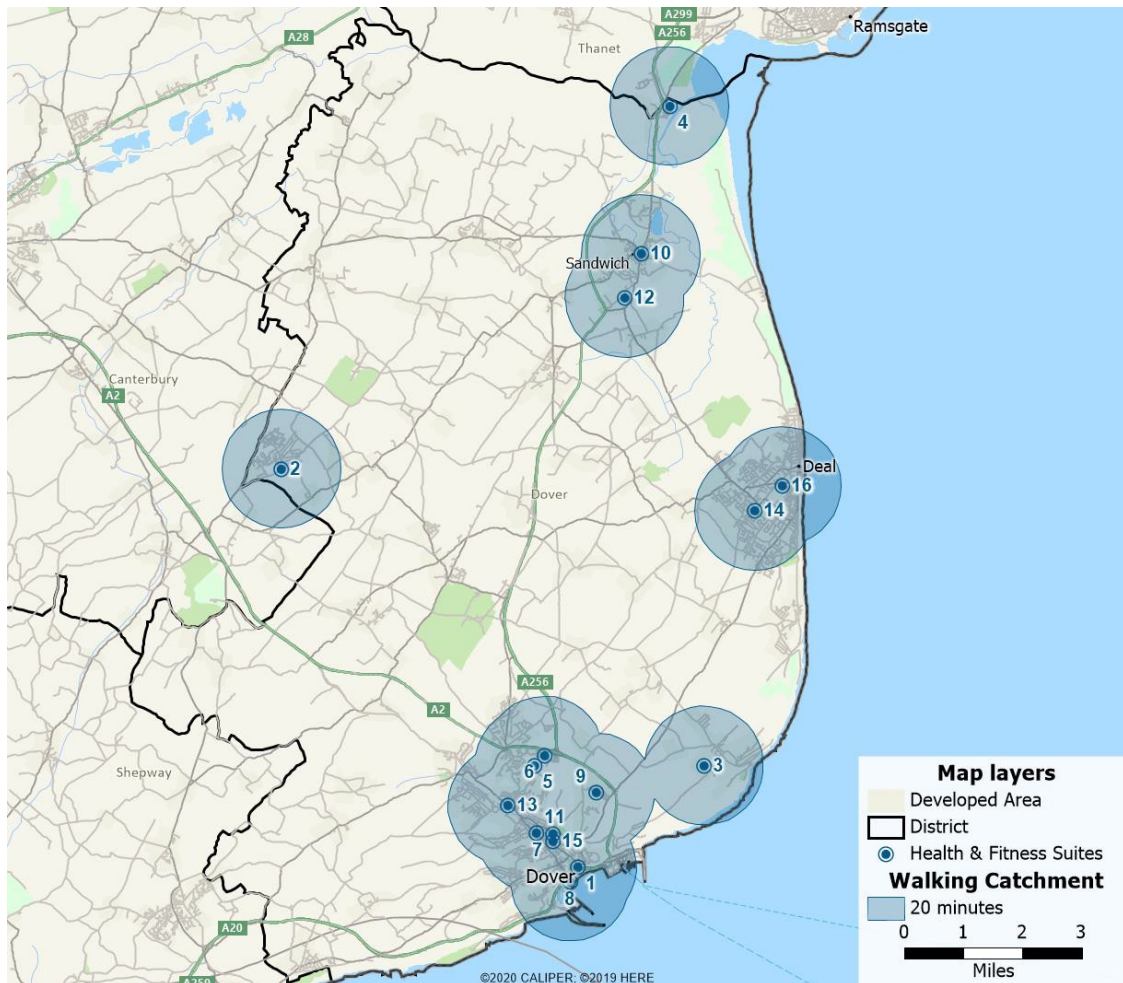
Planned Developments

5.12.3 Health and fitness suites tend to have high levels of usage, and are important revenue generating areas, therefore investment in updating user space and equipment is important. In terms of planned new facilities, DDC is considering options to extend the health and fitness offer at Tides Leisure Centre from circa 40-110 stations, at a replacement centre.

Accessibility

5.12.4 Appropriate walk time accessibility standards can be applied to health and fitness suites to determine deficiencies in provision. Catchment mapping, based on a 20-minute walk time, has been completed to analyse the adequacy of coverage of health and fitness provision across the District; it also helps to identify areas currently not served by existing health and fitness suites.

Community accessible health and fitness, 20-minutes' walk catchment



5.12.5 The mapping shows that most of the Dover, Deal, Sandwich and Aylesham's urban population live within 1 mile (20-minutes' walk time) of a health and fitness suite. The largest gaps in provision are in rural areas. Residents in these areas are likely to be willing to travel by car (up to 20-minutes) to a health and fitness suite in an urban area.

5.13 Demand

5.13.1 The growth in provision of health and fitness facilities in the district in recent years indicates a strong demand for memberships. This has been evidenced by the strong performance of the new Dover District Leisure Centre in Whitfield and recently completed demand modelling as part of the feasibility work on the new Tides Leisure Centre proposals, which indicate a significant unmet demand. The housing growth planned across the District is likely to increase the level of demand for health and fitness suites, particularly the Whitfield area and Dover town centre.

5.14 Implications for Strategy

5.14.1 Latent demand reports should be commissioned based on specific catchment areas if new health and fitness provision is planned linked to new community leisure centres, as these provide a site-specific consumer demographic analysis.

5.14.2 The Council should support the development of new community accessible health and fitness facilities, where these are viable and supported by site specific latent demand analysis. The findings of latent demand reports completed for Tides Leisure Centre show that a significant level of latent demand exists. This reflects the relatively low level of

provision and support the increase in health and fitness provision from 40 stations to 110 at the proposed new Tides Leisure Centre.

5.15 Indoor Bowls

5.15.1 An indoor bowls facility is defined as a purpose built bowls centre or dedicated bowls area within a sports facility. It does not include short mat bowls areas, which are temporarily laid out in multipurpose halls.

5.16 Supply

Quantity

5.16.1 There is one indoor bowls facility in the District, Betteshanger Indoor Bowls Club. The indoor bowls centre is situated in Deal and is part of the Betteshanger Social Welfare Scheme Sports Club. This facility has four indoor rinks. It is available for use by members and is owned and operated by the Betteshanger Social Welfare Scheme Sports Club.

Supply information for indoor bowls

Site Name	Rinks	Access Type	Ownership Type	Management Type	Year Built
BETTESHANGER SOCIAL AND WELFARE SPORTS CLUB	4	Registered Membership use	Sports Club	Sport Club	2000

Quality

5.16.2 Betteshanger indoor bowls centre was built in 2000 and subsequently refurbished in 2004. The changing facilities have not been refurbished since the facility was opened. The neighbouring facility at Folkestone was built in 1995 and refurbished in 2000.

Accessibility

5.16.3 This section considers the accessibility of facilities in relation to both the physical (i.e. built environment) and human (i.e. management of entry to facilities) elements.

5.16.4 Appropriate drive time accessibility standards can be applied to indoor sports provision to determine deficiencies in provision. The normal acceptable standard would be to apply a 20-minute drive time for indoor bowls facilities in urban and rural areas. The map below shows that Betteshanger indoor bowls centre is located in the middle of the District and is therefore accessible to the vast majority of Dover's residents within a 20-minute drive time. It should be noted that the nearest indoor bowls facility outside the district is located at Folkestone Indoor Bowls club, which has a 7 rinks centre. This is located within easy reach of Dover district residents to the south of the district. Also, Thanet Indoor Bowling Centre includes 8 rinks and meets the needs of some residents to the north of the district.

Community accessible indoor bowls, 20-minutes' drive time catchment



5.16.5 The planned housing growth across the District may well increase the demand for indoor bowls facilities. The District has a slightly higher percentage of 50-64 year olds (17.1%), compared with England (15.1%). This age demographic is approaching retirement age and, has a tendency to participate in bowls.

5.16.6 According to Active Places, Betteshanger indoor bowls centre is available for use by registered members only. It should be noted that the majority of bowls use tends to be via club bookings as opposed to pay and play.

5.17 Demand

5.17.1 Sport England's Active Lives Survey data, from November 2016 - November 2019 (pre-COVID), shows a decrease in the number of people regularly participating in bowls, with a fall of 38% over the three year period.

Consultation

5.17.2 The English Indoor Bowling Association was consulted and commented that, it is important that the Betteshanger facility continues to exist, as the nearest alternatives are over 30 minutes' drive-time from the facility. The NGBs main target is to assist Clubs with their endeavours to encourage Members to return after COVID lockdowns. With the

Older Population projected to increase by nearly 5,000 in the next 10 years, it feels that there is potential for the Club to increase its Membership.

Summary

- There is one indoor bowls facility in Dover, Betteshanger Indoor Bowls Club (4 rinks), which is part of the Betteshanger Social Welfare Scheme Sports Club. Folkestone Indoor Bowls Centre (7 rinks) is a larger but older facility that is easily accessible to residents in South-West of the District.
- Betteshanger indoor bowls centre was built in 2000 and last refurbished over ten years ago in 2004.
- There are no gaps in provision (within a 20-minute drive time) in the District.
- In summary, there is sufficient supply of indoor bowls facilities in Dover District. The English Indoor Bowling Association, commented that it is an important facility in for the District and that it has potential to attract more members with a growing ageing population.

Implications for Strategy

- 5.17.3 Current provision across the district is meeting existing need. There is no requirement for additional indoor bowls provision in the District. The District does however have a growing ageing population and this could improve future trends in participation. There is a need to support Betteshanger Indoor Bowls Club in maintaining current levels of participation.

5.18 Squash & Racketball Courts

- 5.18.1 Squash courts are either backed by a solid wall (classed as 'normal' in this assessment) or glass-backed, the latter of which allows for spectators and coaches to watch squash matches and training sessions and are therefore more popular than solid wall squash courts. Racketball is also played on squash courts, although they are two completely different sports, they require similar skill sets and the same environment for play.

5.19 Supply

Quantity

- 5.19.1 There are six sites in the District offering a total of 11 squash courts (two glass-backed, eight solid-backed). One site is local authority owned, one is commercially owned, and three are located at educational establishments. Squash courts at three of the five sites are available on a pay and play basis and one site (Duke of York's Royal Military School) is available for use by sports clubs and community associations only.
- 5.19.2 Duke of York's Royal Military School has four courts which, due to safeguarding protocol, are only available for limited community use during school holidays.

Supply information for squash & racketball

Site Name	Courts	Access Type	Ownership Type	Year Built
BAYPOINT LEISURE	2 (Normal)	Pay and Play	Commercial	1965
DEAL SQUASH CLUB	1 (Normal)	Private Membership Only	Club	1933
DOVER COLLEGE	1 (Normal)	Sports Club / Community Association	Other Independent School	1980
DOVER DISTRICT LEISURE CENTRE	2 (Glass-backed)	Pay and Play	Local Authority	2019
DUKE OF YORK'S ROYAL MILITARY SCHOOL	1 (Glass-backed) 3 (Normal)	Private Use	Academies	1994
SANDWICH LEISURE CENTRE	1 (Normal)	Pay and Play	Academies	1991

Accessibility

- 5.19.3 Appropriate drive time accessibility standards can be applied to indoor sports provision to determine deficiencies in provision.

Community accessible squash courts, 20-minutes' drive time catchment



- 5.19.4 The map shows that all District residents are able to access a squash court within a 20-minute drive time. There are no gaps in squash provision in the District.

5.20 Demand

- 5.20.1 Sport England's Active Lives Survey data, from November 2016 - November 2019 (pre-COVID), shows a decrease in the number of people regularly participating in squash, with a fall of 32% over the three year period.
- 5.20.2 Demand for squash is generally falling and operators may wish to use space for more popular/revenue generating activities such as for dance/aerobic classes or extension of health and fitness suite.

5.21 Consultation

- 5.21.1 Squash England comment that the recommended number of courts should meet its national requirement of 1 court per 10,000 people. They suggest there is a poor spread of facilities across the area, the geography of the area (urban population with rural surrounding areas) means that there needs to be a good geographical spread of courts to meet the needs of the local population. As such, it comments that it is imperative that

current sites are maintained and more sites added in the future with a growing population expected.

- 5.21.2 England Squash has invested into the local County Association, who in turn work closely with local clubs and leisure centres to deliver bespoke activity based around its participation programmes and campaigns. In comparison to other counties, the investment and impact of the County Association makes Dover an area of interest for future delivery and squash participation. The specific demographic of the population lends itself to squash participation. Kent is a highly proactive and well-respected county with a strong interest in the work of England Squash. As such they should be considered as priority in order to develop squash in the area

Summary

- There are six sites with squash court provision in the District, with 11 courts in total, which are provided by local authority, commercial and educational establishments.
- Courts at The Duke of York's Military School are not available on a pay and play basis. These courts are currently only available to private members and for limited use by sports clubs and community associations. The remaining courts are available on a pay and play basis.
- The demand for squash courts has been falling in recent years but England Squash believes the existing courts should be retained and that there is potential for growth in squash participation across the district.

Implications for Strategy

- 5.21.3 Dover District has approx. 11 courts across 5 squash venues. Squash England comment that the recommended number of courts should meet its national requirement of 1 court per 10,000 people. Currently the district provides 1 court per 10,200 people, so is meeting this standard. It should be noted more investment is required to maintain the standard of courts, ensure positive user experience. A growing population may generate a need for further courts in the future.
- 5.21.4 If court provision is reduced this would have a negative impact on squash and current users may find it difficult to secure bookings at alternative sites during peak times. Improved access to courts at Duke Of York's Military School may be a possible solution to increasing capacity in the district.

5.22 Indoor Tennis

- 5.22.1 Indoor tennis courts are completely covered by a roof. There are three main types of indoor court structure; air-supported structures, fabric frame structures and rigid frame buildings.

5.23 Supply

Quantity

- 5.23.1 Tides Leisure Centre (four courts) is the only facility in the District with indoor tennis courts. The courts are available on a pay and play basis and are owned by the Council and managed by a trust. There has been no change in provision since completion of the previous strategy in 2015.

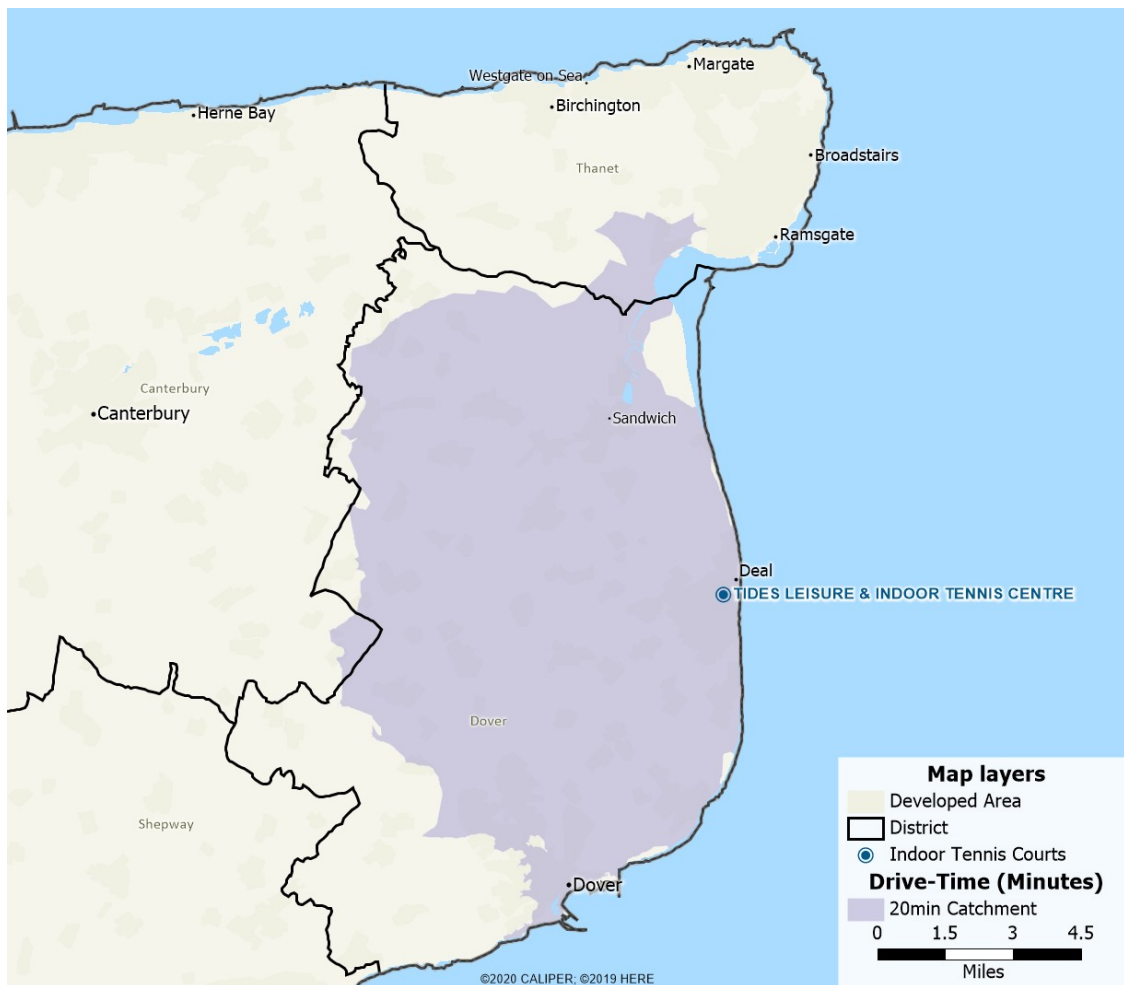
Supply information for indoor tennis

Site Name	Courts	Surface type	Access Type	Ownership Type	Year Built
TIDES LEISURE CENTRE	4	Acrylic	Pay and Play	Local Authority	2011

Accessibility

- 5.23.2 Tides offers a range of recreational sessions that are available to the general public, as well as club, coaching and development use.
- 5.23.3 Appropriate drive time accessibility standards can be applied to indoor sports provision to determine deficiencies in provision. The normal acceptable standard would be to apply a 20-minute drive time catchment for indoor tennis facilities within the District. The map shows that most residents can access an indoor tennis court in a 20-minute drive time.

Community accessible indoor tennis, 20-minutes' drive time catchment



- 5.23.4 The projected population increase in the district is likely to increase the level of demand for indoor tennis.

5.24 Demand

- 5.24.1 Sport England’s Active Lives Survey data, from November 2016 - November 2019 (pre-COVID), shows a decrease in the number of people regularly participating in tennis, with

a fall of 18% over the three year period. It should be noted that this is tennis as a whole and not specifically those playing tennis on indoor courts.

- 5.24.2 Despite this downward national trend, indoor tennis courts at Tides are extremely well used. The four courts are used extensively by recreational, club and elite players and has been identified by The LTA as having the potential for achieving LTA Performance Centre accreditation, which will attract more players to the centre due to improved facilities and the presence of the best coaches.

Consultation

- 5.24.3 A recent study undertaken by the LTA mapped the best locations for new indoor tennis facilities based upon existing provision of facilities. The nearest location to be identified as being a gap in the market was Thanet. Dover District was not initially recognised as an area of high priority due to the level of provision at existing facilities at Tides Leisure Centre and Canterbury Indoor Tennis Centre.

5.25 Summary

- Tides Leisure Centre (four courts) is the only facility in the District with indoor tennis courts. The courts are available on a pay and play basis and are owned by the Council and managed by an external operator.
- The four courts are used extensively by recreational, club and elite players. The District has not been recognised as an area of high priority for new development, by the LTA, due to existing facilities in Deal and nearby Canterbury. The indoor tennis courts at Tides Leisure Centre should be retained.

Implications for Strategy

- 5.25.1 Due to the existing facilities in Deal and nearby Canterbury, Dover District is not identified by the LTA as having a lack in provision. Indoor tennis courts at Tides Leisure Centre should be retained.

5.26 Dance/Aerobic Studios

- 5.26.1 Dance/aerobic studios are areas that provide a multi-purpose space, accommodating a wide range of activities for movement and exercise. Typically dance/aerobic studios are located at leisure centres and schools, to supplement Health and Fitness provision. However, general purpose spaces at village halls and community centres can also provide the community with (more restricted) spaces for sporting activities and exercise classes.

5.27 Supply

Quantity

- 5.27.1 There are 12 dance/aerobic studios (recognised by Sport England Active Places) available for community use (on a pay and play basis or via registered membership) in the District. These are located at sites owned by a mix of the local authority, education and commercial providers. In addition, there are 42 general purpose spaces at village halls and community centres throughout in the District.

Supply information for studios

Site Name	Area	Studios	Access Type	Ownership Type	Year Built
ASTOR COLLEGE FOR THE ARTS	144	1	Private Use	Academies	2004
AYLESHAM WELFARE LEISURE CENTRE	100	1	Pay and Play	Commercial	2010
BAYPOINT LEISURE	176	1	Pay and Play	Commercial	2003
DOVER DISTRICT LEISURE CENTRE	128	3	Pay and Play	Local Authority	2019
FITNESS CONNECTION (SANDWICH)	35	1	Registered Membership use	Commercial	1988
GOODWIN ACADEMY	105	1	Private Use	Academies	2001
SANDWICH LEISURE CENTRE	225, 120 & 100	3	Pay and Play	Academies	1991
THE WEIGHTS ROOM UK LTD	100	1	Pay and Play	Commercial	2013

Supply information for general purpose spaces at village halls and community centres

Facility/Parish Council	Examples of activities space is utilised for
Alkham Village Hall	Event Hire
Astor Yoga, Deal	Yoga
Ash Village Hall	Dance
Aycliffe Town Hall	Event Hire
Aylesham and District Community Workshop Trust	Event Hire
Bechange, Alyesham	Event Hire
Beddow Academy, Dover	Dance
Buckland Community Centre, Dover	Tai Chi, Yoga, Zumba and Event Hire
Capel-le-Ferne Village Hall	Dance, Drama, Club Meetings
Carol Jenkins Dance School, Dover	Dance
Clarendon and Westbury Halls	Event Hire
Curzon Hall Community Centre, Dover	Community Space
Deal Welfare Club and Social Institute Club	Live bands, bingo, snooker
Deal Adult Education Centre	Exercise Classes
Denton With Wootton Parish Hall	Event Hire
Dover Community Association	Event Hire
Eastry Village Hall	Event Hire
Eclipse Yoga Centre, Dover	Yoga
Elvington Community Centre	Event Hire
Goodnestone Village Hall	Event Hire
Great Mongeham Parish Hall	Event Hire
Guildhall Sandwich	Weddings
Hougham Without Village Hall	Event Hire
Kingsdown Village Hall	Event Hire
Kings Hall, Dover	Dance, Cheerleading
Landmark Centre, Deal	Event Hire
Langdon Village Hall	Event Hire

Facility/Parish Council	Examples of activities space is utilised for
Lydden Village Hall, Lydden Parish Council	Karate, parties
Nonnington Village Hall	Event Hire
Northbourne Parish Hall	Event Hire
Old Park Community Centre, Whitfield	Event Hire
Phoenix Centre, Sandwich	Karate, Yoga, Dance
Ringwould Village Hall	Weddings and birthday events
Ripple Parish Council Village Hall	Event Hire
River Village Hall, Dover	Event Hire
Shepherdswell Village Hall	Zumba, Tango Dancing, Bridge
Sholden Village Hall	Event Hire
St George's Hall, Deal	Event Venue
St John's Hall, Dover	Event Hire
St Margaret's Hall, St Margarets-at-Cliffe	Wedding Receptions, Conferences
St Richard's Church Centre, Dover	Event Venue
Staple Village Hall	Event Hire
Temple Ewell Village Hall	Drama
The Ark, Dover	Conference Space, Choir
The Buckland Community Centre, Dover	Event Hire
Tilmanstone Village Hall	Exercise Classes
Triangles Community Centre, Dover	Children's Community Centre
Walmer Parish Hall	Event Hire
Whitfield Parish Council	'Fitness is Fun' classes and junior football
Whitfield Village Hall	Dance, Event Hire
Wingham Village Hall	Dance, Event Hire
Woodnesborough Village Hall	Event Hire
Worth Parish Council, Deal	Event Hire

5.28 Planned Developments

- 5.28.1 Feasibility work is still progressing, however initial options for consideration by DDC include the provision of 1 or 2 aerobic/dance studios and a dedicated spin studio at a new Tides Leisure Centre.

5.29 Accessibility

- 5.29.1 Appropriate drive time accessibility standards can be applied to indoor sports provision to determine deficiencies in provision. The normal acceptable standard would be to apply a 20-minute drive time catchment for studio facilities. The following map shows that all residents in the District can access a dance/aerobic studio within a 20-minute drive time.

Community accessible studios, 20-minutes' drive time catchment



5.29.2 The expected population increase in the district is likely to increase the level of demand for studios, and supports the provision of new studio facilities at Tides Leisure Centre in Deal.

5.30 Demand

5.30.1 Sport England’s Active Lives Survey data, from November 2016 - November 2019 (pre-COVID), shows an increase in the number of people regularly participating in fitness classes up 5% and gym sessions by 11% over the three year period.

5.31 Consultation

5.31.1 All Town and Parish councils in the District were sent a survey. The majority of town and parish councils believe there is a need for more sports halls and flexible activity halls in their local area to meet the needs of the community.

5.31.2 There is increasing popularity in community, classed based activities in local areas, and a number of village halls and community centres are being utilised to accommodate the increased demand for classes.

5.32 Summary

- There are 12 dance/aerobic studios (recognised by Sport England Active Places) available for community use (on a pay and play basis or via registered membership) in the District. There are also 42 general purpose spaces at village halls and community centres in the District. These spaces are key in facilitating local delivery of class-based activities.

- The majority of town and parish councils believe there is a need for more sports halls and flexible activity halls in their local area to meet the needs of the community.
- Feasibility work is still progressing, however the findings from this strategy support initial options for consideration by DDC, which include the provision of 1 or 2 aerobic/dance studios and a dedicated spin studio at a new Tides Leisure Centre.

Implications for Strategy

5.32.1 There is a requirement to increase the level of provision of dedicated multi-purpose studio space within the District and maintain access to general purpose spaces at village halls and community centres. The Council should support development of new community accessible dance and activity studios, where these are viable and particularly where they complement a wider health and fitness offer. The findings from this strategy support initial options for consideration by DDC, which include the provision of 1 or 2 aerobic/dance studios and a dedicated spin studio at a new Tides Leisure Centre.

5.33 Gymnastics

5.33.1 Gymnastics requires a diverse range of specification of facility depending upon the disciplines/activities being run. A “dedicated gymnastics centre” can be defined as a facility for the sole use and purpose of gymnastics. Such facilities can be “free standing” single buildings, or part of a larger complex, such as a school or leisure centre. A dedicated facility is one that is purpose built and dedicated for gymnastics use with equipment permanently laid out.

5.33.2 A “non-dedicated gymnastics centre” is defined as a multi-use facility such as sports halls at a school or leisure centre. Gymnastics clubs generally require access to good standard sports halls that have provision for storage of equipment, particularly for trampoline and low level gymnastic equipment and matting.

5.34 Supply

Quantity

5.34.1 There are two dedicated gymnastics facilities and two non-dedicated facilities, located at Dover District Leisure Centre and Tides Leisure Centre.

5.34.2 Dover Gym Club is based at a converted warehouse in Poulton Close in Dover. Deal Gym Club has a dedicated permanent facility in the centre of Deal. Other clubs and organisations use Dover District Leisure Centre and Tides Leisure Centre.

Supply information for gymnastics facilities

Site Name	Access Type	Ownership Type
DOVER GYMNASTICS CLUB	Registered membership use	Sports Club
DOVER DISTRICT LEISURE CENTRE	Pay and Play	Local Authority
TIDES LEISURE CENTRE	Pay and Play	Local Authority
DEAL GYMNASTICS	Registered membership use	Sports Club

Accessibility

5.34.3 Appropriate drive time accessibility standards can be applied to indoor sports provision to determine deficiencies in provision. The normal acceptable standard is to apply a 20-minute drive time catchment for gymnastics facilities in the District. The following map

shows that all residents in the District can access gymnastics facilities within a 20-minute drive time.

Community accessible gymnastics centres, 20-minutes' drive time catchment



5.35 Demand

- 5.35.1 Sport England’s Active Lives Survey data, from November 2016 - November 2019 (pre-COVID), shows a decrease in the number of people regularly participating in gymnastics, with a fall of 21% over the three year period.
- 5.35.2 The clubs affiliated to British Gymnastics currently operating in the District are Dover Gym Club, East Kent Acro Gym Club and Deal Gym Club. Aire Trampoline Club and DC Diamonds use leisure centres, community halls and school facilities. The expected population increase Dover District is likely to increase the level of demand for gymnastics facilities.

5.36 Consultation

- 5.36.1 The clubs that responded to consultation, highlighted the need to retain access to existing facilities and to secure long term dedicated facilities in some instances. All clubs see the demand remaining at similar or rising in the future, supporting the need for more access to facilities to meet demand.
- 5.36.2 British Gymnastics is keen to see more access to sports halls becoming available for clubs, or for existing centres to be improved to increase the capacity of existing clubs. Following on from this, British Gymnastics is aiming to increase the provision of

dedicated gymnastic spaces, providing facilities that allow permanent gym equipment to be set up. It has new funding initiative in place to assist clubs with this.

- 5.36.3 There is a trend for gymnastics clubs to move into their own dedicated facilities. British Gymnastics expect this trend to continue, with an increased amount of clubs moving their activities to dedicated spaces/facilities. Currently, hiring a facility presents a problem for clubs if they do not have a long-term arrangement. Facilities being hired from schools or colleges mean that usage is subject to the facilities not being used for other things or being inaccessible during academic holidays for example. It is therefore important that gymnastics clubs develop long term plans that enable them to develop.

5.37 Summary

- There are five gymnastics clubs in the District. These are Dover Gym Club, East Kent Acro Gym Club and Deal Gym Club. Aire Trampoline Club and DC Diamonds use leisure centres, community halls and school facilities for their activities. The expected population increase Dover District is likely to increase the level of demand for gymnastics facilities.
- The clubs that responded to consultation, highlighted the need to retain access to existing facilities and to secure long term dedicated facilities in some instances. All clubs see the demand remaining at similar or rising in the future, supporting the need for more access to facilities to meet demand. This is supported by comments from British Gymnastics.

Implications for Strategy

- 5.37.1 There is a requirement to investigate options for the development of a new dedicated gymnastics facilities in the District. There is understood to be unmet demand for membership of the clubs in the district. However, it should be noted that these facilities can be developed as financially viable organisations. Therefore, gymnastics should continue to be supported by access to community and educational sports halls while clubs looking for dedicated facilities are supported in doing so.

5.38 Boxing and Martial Arts

- 5.38.1 Boxing and martial arts require a range of facility spaces, depending upon the disciplines being run. A “dedicated boxing or martial arts centre” can be defined as a facility for the sole use and purpose of hosting boxing or martial arts. Buildings used by the clubs in the district range from standalone commercial buildings, schools, community centres and leisure centres.

5.39 Supply

Quantity

- 5.39.1 There are two dedicated boxing and martial arts facilities, both located in commercial facilities in Deal. Other clubs are reliant on use of education, community and leisure centre sites. A summary of the clubs and the type of spaces they use are contained in the following table.

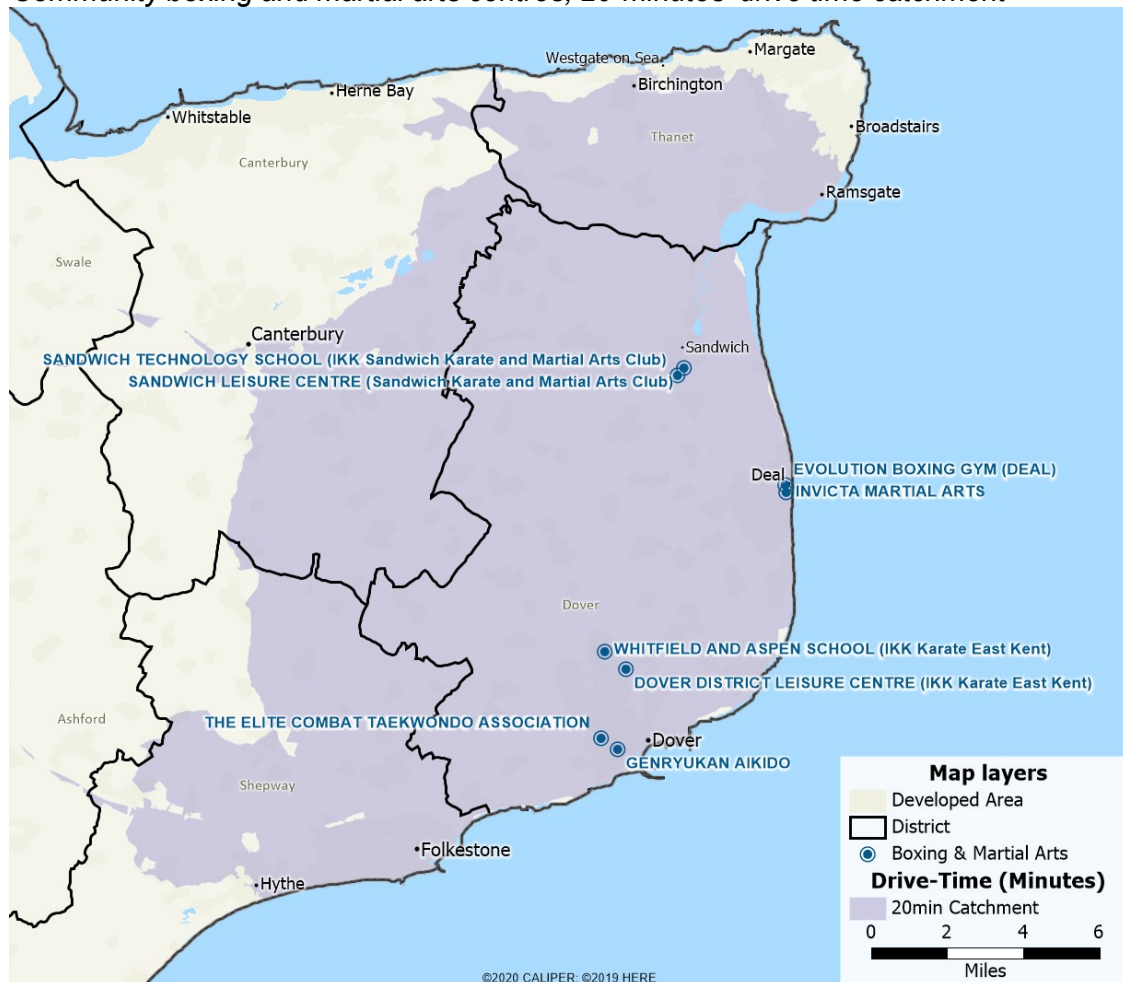
Supply information for boxing and martial arts

Site Name	Facility Type
GENRYUKAN AIKIDO	Clarendon & Westbury Community Centre
EVOLUTION BOXING GYM (DEAL Welfare Club)	Commercial Gym
THE ELITE COMBAT TAEKWONDO ASSOCIATION	Astor College for the Arts
DOVER DISTRICT LEISURE CENTRE (IKK Karate East Kent)	Local Authority Leisure Centre
WHITFIELD AND ASPEN SCHOOL (IKK Karate East Kent)	Whitfield and Aspen School
SANDWICH LEISURE CENTRE (Sandwich Karate and Martial Arts Club)	Sandwich Leisure Centre
SANDWICH TECHNOLOGY SCHOOL (IKK Sandwich Karate and Martial Arts Club)	Sandwich Technology School
BUSTERS GYM DOVER	Commercial Gym
INVICTA MARTIAL ARTS	Commercial Gym

Accessibility

5.39.2 Appropriate drive time accessibility standards can be applied to indoor sports provision to determine deficiencies in provision. The normal acceptable standard is to apply a 20-minute drive time catchment for gymnastics facilities in the District. The map below shows that all residents in the District can access boxing and martial arts facilities within a 20-minute drive time.

Community boxing and martial arts centres, 20-minutes' drive time catchment



5.40 Demand

- 5.40.1 Sport England's Active Lives Survey data, from November 2016 - November 2019 (pre-COVID), shows an increase in the number of people regularly participating in boxing, with an increase of 13% over the three year period. Martial arts have increased 19%.
- 5.40.2 The expected population increase Dover District is likely to increase the level of demand for boxing and martial arts facilities.

5.41 Consultation

- 5.41.1 No consultation responses were received from boxing and martial arts clubs in the district. However England Boxing responded and commented that facility supply is insufficient at present and that demand for boxing & related facilities outstrips supply by a large amount. It suggests that 2 or 3 dedicated facilities are required, as well as access to multipurpose hall/studio spaces. They highlighted that Deal Amateur Boxing Club is in need of a venue, as they currently train at Evolution Gym in Deal. England Boxing also suggested that it has seen growth of 10% per annum in recent years and it expects that to continue.

5.42 Summary

- There are a number of clubs in the district using a variety community leisure facilities and standalone facilities. The location of these clubs provides a good geographic spread across the district, giving good accessibility to residents.
- Demand is expected to continue to grow in the future and generating a need for potentially more facilities for clubs to use.

Implications for Strategy

- 5.42.1 There is a requirement to investigate options for the development of new dedicated boxing and martial arts facilities in the District. There is understood to be unmet demand in the district, with strong growth in membership in recent years. Boxing and martial arts clubs looking for dedicated facilities should be supported in doing so, as well as being provided access to suitable community halls and studios to support their activities.

6 INDOOR SPORTS FACILITY STRATEGY

6.1 Introduction

- 6.1.1 The purpose of this strategy and action plan is to provide an indoor sports facility strategy document and a prioritised and timeline action plan for the District, which incorporates the key findings from the needs assessment. It includes a long-term view to 2040, and makes recommendations to inform decisions on future facility investment. It contains substantial proposals for new leisure and recreation facilities.
- 6.1.2 The strategy will form part of the evidence base for providing indoor sports facilities, to support DDC's Local Plan and Infrastructure Delivery Plan, and will be referenced as a basis for securing external investment, either from development contributions, government grants or other sources. It will also ensure that as and when funding is available, investment decisions affecting the local sports infrastructure of the District are co-ordinated and planned by DDC and its partners, with reference to strategic need and the needs assessment work included in this document.
- 6.1.3 DDC cannot guarantee that facility improvements contained in this strategy will be provided, the aim of the strategy is to prioritise the project to direct future investment and so that money that is available can be used to best benefit.

6.2 Developing the strategy

- 6.2.1 This strategy is based on a considerable amount of background research work regarding the future needs for sport and recreation provision. It has been developed using a number of recognised sports facility planning tools and a wide ranging consultation with relevant stakeholders.
- 6.2.2 A project steering group was formed comprising representatives from DDC. This steering group was responsible for establishing the brief and for the check and challenge of the strategy during its development.
- 6.2.3 Recommended facility planning tools were applied, including Sport England's Active Places and Active Lives. The strategy is also informed by analysis of the results of Sport England Facility Planning Model for Sports Halls and Swimming Pools. These reports were commissioned specifically for this purpose.
- 6.2.4 Consultation was conducted with over 60 individuals and organisations, including facility users, clubs, facility operators, council officers and National Governing Bodies of Sport.
- 6.2.5 A comprehensive audit of provision in the District was completed. The audit provides a snapshot of the situation at that time and sites were reviewed on a like for like basis on their ability to provide for any increase in participation. A range of elements including accessibility, service provision, catchment (travel time) and affordability were assessed. Facilities were also graded dependant on their catchment and composition as strategic facilities, District wide facilities or local facilities.
- 6.2.6 Consultation and research is fundamental to the validity of the strategy and key stakeholders and partners were consulted during the drafting stages (as set out in Appendix 1) in addition to a comprehensive audit of facilities. Further targeted and public consultation was held between 18th July and 30th September 2022. The consultation was advertised in local newspapers, via social media and alerts were sent to everyone who had registered an interest in leisure projects through the Council's 'Keep Me Posted' initiative. In addition, a total of around 1,500 consultees were directly invited to comment, including members of parish and town councils, local community groups and schools, leisure providers and sports clubs, and also all consultees registered to the Local Plan

consultation portal. The draft document was available to view on the Council's website throughout the consultation period.

6.2.7 **Action Plan**

6.2.8 This strategy and action plan has been commissioned, by DDC, on behalf of all leisure stakeholders in the District but it is recognised that the recommendations and actions cannot be delivered by the Council alone. DDC is only one stakeholder in the District and has limited resources, in terms of officer support and funding. All partners involved in indoor sports provision, whether public, private or voluntary will need to work together to take the strategy through to implementation. The relevant stakeholders have been identified in the Action Plan, and include:

- Dover District Council
- Kent County Council
- schools and colleges
- sports clubs
- facility operators
- National Governing Bodies of Sport (NGBs)
- other commercial providers.

6.2.9 The following action plan has been developed to address a number of strategic priorities, identified during the study, and the needs identified for each facility type reviewed. The actions are set out under the following headings:

- Sports halls
- Other activity halls (flexible indoor space with space for at least one court, if used for sport)
- Indoor swimming pools
- Health & fitness suites
- Indoor bowls
- Dance/aerobic studios
- Indoor tennis courts
- Squash and racquetball courts
- Gymnastics
- Boxing and martial arts.

6.2.10 The actions have been identified in the Action Plan, as well as target timescales for completion. The timescales allocated are short (1 to 2 years) medium (3 to 5 years) and long term (5 to 10 years) priorities.

6.2.11 An equality impact assessment of this strategy shows that delivery of strategic priorities could have a significant impact on groups with protected characteristics, as defined in the 2010 Equality Act. Consultation with representatives of protected groups should be undertaken when developing projects such as a proposed replacement for Tides Leisure Centre in order to identify whether needs of people with protected characteristics are being met and whether specific actions are required to encourage people with protected characteristics to participate in activities where their participation is disproportionately low.

6.3 General Strategic Priorities

6.3.1 The following table contains a list of the general strategic priorities identified through completion of this study. The actions required to deliver them, the objectives that each would contribute towards, the implementing partners and the timescales (short, medium, long term and ongoing).

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
1	Avoid, where possible, the loss of strategically valuable sports facilities that are available for community use or could contribute to meeting future community needs, unless replaced by equivalent or better provision, in terms of quantity and quality, in a suitable location.	<ul style="list-style-type: none"> Continue to review plans for developments involving strategically valuable sports facilities. Ensure any loss in provision is replaced by equivalent or better provision, in line with the relevant Local Plan Policy. 	DDC	Ongoing
2	Utilise strategically valuable sites and investigate options to maximise revenue generation from facilities.	<ul style="list-style-type: none"> DDC will require additional officer resource to provide oversight to work with stakeholders Work with leisure stakeholders to better understand the operation of strategically valuable facilities, in order to investigate options to maximise revenue generation from existing facilities. 	DDC Facility operators Sports clubs	Short
3	Progress with proposals to investigate options for the replacement of Tides Leisure Centre.	<ul style="list-style-type: none"> Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new leisure centre, which should include a swimming offer to complement that of Dover District Leisure Centre, as opposed to competing with it. 	DDC NGBs	Short / Medium
4	Investigate opportunities to reduce carbon consumption at leisure facilities, in line with DDC's 2030 Net Zero Carbon targets.	<ul style="list-style-type: none"> Investigate and implement opportunities to reduce carbon consumption at leisure facilities owned by DDC and provide advice and support to encourage other facility operators to explore opportunities for carbon reduction at their sites. 	DDC Facility operators Sports clubs	Short / Medium
5	Ensure that accessibility of new facilities is considered	<ul style="list-style-type: none"> Accessibility should be fully considered when locating and designing new community sports facilities, including accessibility via public transport and fully inclusive and accessible design standards. 	DDC Facility operators Sports clubs	Short / Medium

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
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6	Protect and enhance community use of sports facilities on educational sites, where required.	<ul style="list-style-type: none"> Promote partnership working between schools, Council and other facility operators in the district to develop community use and maximise utilisation of existing facilities. DDC will require additional officer resource to work with stakeholders 	DDC Schools and colleges	Short
7	Ensure that sports facility charges are reasonable in terms of affordability to residents and are comparable with similar facilities elsewhere.	<ul style="list-style-type: none"> Keep community accessible sports facility charges under review and benchmark against nearest neighbour authorities. DDC will require additional officer resource to work with stakeholders 	Facility operators Schools, colleges and academies	Short
8	Encourage stakeholders to work together to try and increase the levels of community access to sites. Stakeholders should include Council departments, health agencies, facility operators, education providers, NGBs, and local sports clubs to expand the range of affordable and accessible facilities for both residents and visitors to Dover.	<ul style="list-style-type: none"> Council to continue an open dialogue with stakeholders and partners to support them, where possible, in maintaining and improving the range of affordable and accessible facilities in the district. DDC will require additional officer resource to work with stakeholders 	DDC Key Stakeholders	Short and ongoing
9	Support where possible stakeholders developing new indoor facilities.	<ul style="list-style-type: none"> Advise on needs analysis and project sustainability DDC will require additional officer resource to work with stakeholders 	DDC KCC NGBs	
10	Ensure, as far as possible, that any new sports facilities, provided as part of future educational provision in Dover, are designed for curricular, extra-curricular, community and sports development use and that opportunities for community use out of school hours is secured.	<ul style="list-style-type: none"> Encourage any proposals for school sports facilities in the District to have appropriate facilities to enable community use e.g. external lighting, car parking and changing. 	DDC Schools, colleges and academies	Ongoing

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
11	Ensure that new developments (e.g. residential, commercial and retail) contribute towards the development and enhancement of sports facilities to meet identified needs, priority being given to projects identified in this Strategy.	<ul style="list-style-type: none"> Develop costed facility priorities and incorporate these into the District's Infrastructure Delivery Plan. These are likely to be proposals that come forward from site owners/operators that are seeking to develop facilities. DDC will require additional officer resource to cost proposals and prioritise. 	DDC Stakeholders	Ongoing
12	Explore opportunities for collaborative working between neighbouring authorities to maximise cross-boundary usage.	<ul style="list-style-type: none"> Maintain and develop good relationships with officers at Canterbury City Council (CCC), Thanet District Council (TDC) and Folkestone & Hythe District Council (SDC) to ensure that cross boundary issues and opportunities are considered for the benefit of all neighbouring authorities and their communities. 	CCC TDC FHDC	Ongoing
13	Contribute towards addressing specific issues relating to the district's demographic profile.	<ul style="list-style-type: none"> To ensure that planned facilities are designed in such a way that they can assist stakeholders in addressing the district's high rate of obesity levels in children, ensure appropriate provision for the ageing population and can contribute to improving levels of sports participation. 	DDC Stakeholders	Ongoing
14	Use indoor sport and leisure facilities to improve levels of physical activity in the whole population and reduce the gap in health inequalities by promoting access and engagement with at risk groups.	<ul style="list-style-type: none"> Focus on programming and pricing to proactively engage people experiencing health and social inequality, including people on low incomes, income support, in social housing and with higher levels of benefit need. 	DDC Stakeholders Facility operators	Ongoing

6.4 Strategic Priorities by Facility Type

6.4.1 The strategic priorities by facility type are listed in the following tables. These priorities are linked to the outcome of the needs assessment work, summarised in the previous sections of this strategy. Reference is also made to the findings from the new leisure centre options appraisal and feasibility study for the development of a replacement Tides Leisure Centre. This is contained in a separate report, which was completed in parallel with this strategy.

6.5 Swimming Pool Priorities

6.5.1 Dover District currently provides 10m² water space per 1,000 population. This compares to a southeast average of 13m² and a national average of 12m². The Council should continue to support and investigate proposals for new swimming pool provision, in order to address the deficit in swimming pool water space in the District up to 2040 equivalent to an additional 6 lane 25m pool.

6.5.2 A feasibility and options appraisal study for the potential improvement and replacement of the existing Tides Leisure Centre is being undertaken. The study is still progressing, however initial options include a 4 or 6 lane 25m main pool and replacement leisure water. This would add a 25m pool in place of the existing leisure water only offer currently at the site, which does not currently provide adequately for lane swimming. The option of a 6 lane 25m pool, as part of a replacement pool at Tides, would best meet the projected future needs of the district, however any new provision must be affordable and sustainable.

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
15	Progress proposals for the development of a new swimming pool and health and fitness offer at Tides Leisure Centre to address unmet demand for swimming facilities across the district. This will replace the existing leisure pool at Tides Leisure Centre.	<ul style="list-style-type: none"> The following new swimming facilities have been recommended in the options appraisal and feasibility study for the development of leisure centres across the district: <ul style="list-style-type: none"> A 4 or 6 lane 25m main pool Leisure water Commission detailed feasibility and site investigation studies required to further develop the preferred option for the replacement of Tides Leisure Centre. Subject to the findings of the detailed feasibility study, and dependant on the project being affordable and financially viable, proceed with the development of a new leisure centre. 	DDC	Short / Medium
16	Work with operators of swimming pools where community access is currently limited.	<ul style="list-style-type: none"> Continue to work with Duke of York's Royal Military School to further increase community use of its swimming pool during school holidays. 	DDC Schools Sports clubs	Short / Medium

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
		<ul style="list-style-type: none"> Investigate whether Balance Spa and Health Club would offer access on a 'pay and play' basis and/or allow club bookings, to increase community usage. The amount of additional community access will need to be investigated further following more detailed discussions with operators. It is likely that the greatest benefit for the community will be if access can be agreed for peak times (evenings and weekends) when there is most pressure on pool space within the district. 		
17	Work with local swimming clubs and operators to ensure they have sufficient time and space to aid development of their club.	<ul style="list-style-type: none"> Support Dover Lifeguards, which require additional water space to meet the current/future needs of the club. These needs could be addressed by increased provision at the new Tides Leisure Centre and by increasing access to Duke of York's Royal Military School. 	DDC Facility operators Dover Life Guards NGBs	Short / Medium
18	Seek developer contributions to meet pool water deficiencies across the district.	<ul style="list-style-type: none"> DDC to work with developers to secure contributions to meet pool water deficiencies across the district, subject to feasibility, demonstrating need and financial viability, in the future. 	DDC Developers	Short / Medium

6.6 Sports Hall Priorities

- 6.6.1 Dover District currently provides 3.7 badminton courts per 10,000 population. This compares to a southeast average of 4.5 and a national average of 4.2. Demand is broadly being met within the district of Dover but at the expense of several facilities operating above the maximum comfort level of 80% used capacity. Therefore, where additional housing is being proposed it is likely to put further pressure on local sports halls and additional sports hall space may be required to meet that additional need.
- 6.6.2 On the basis of the results from the Sports Facility Calculator, additional sports hall capacity, or greater access to existing education sites, is likely to be required at Whitfield, Aylesham and Dover Town Centre. These planned developments will generate a combined need for additional sports hall space equivalent to 2.4 badminton courts. As a result these areas should be a focus for future sports hall provision subject to funding and affordability.
- 6.6.3 The opportunity to allocate Section 106 funding towards these developments should be investigated as and when the opportunities arise. Existing educational sites could provide additional access for community use to increase capacity, as currently many do not open for the full weekly peak period hours.

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
19	Consider measures to utilise spare capacity at specific sports hall sites, especially school sites at peak times.	<ul style="list-style-type: none"> Engage with Duke of York's Royal Military School to offer more sports hall space during school holidays. Work with Dover College and Sir Roger Manwood's School to help achieve their aspirations of opening community access of sports hall space. Continue dialogue and explore with schools to help address additional needs arising from housing demand and in particular for indoor cricket league matches and pre-season indoor cricket training (Easter holiday) Utilise Sport England's 'Use Our School' toolkit and explore potential opportunities for external operators of school facilities. Inform schools of the different clubs that need space and are potential customers, making connections and links to give the schools confidence that there is a large market and high demand for their space. Sharing of information on agreements with clubs, likely costs for hire, maintenance and how they can promote themselves. 	DDC School identified Sports clubs identified NGBs	Short / Medium

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
20	Support and encourage, where possible, the development of new provision at Aylesham.	<ul style="list-style-type: none"> • Support initial plans for a 2 or 4 court mutli-purpose activity hall, subject to viability being demonstrated. • Assist in delivery of already secured developer contributions for new sports hall and facilities. 	DDC Aylesham Welfare Leisure Centre / Facility Operator KCC	Short / Medium

6.7 Health and Fitness Suite Priorities

6.7.1 The Council should support the development of new community accessible health and fitness facilities, where these are viable and supported by site specific latent demand analysis. The findings of latent demand reports completed for Tides Leisure Centre show that a significant level of latent demand exists for that site. Other potential areas for improved health and fitness facilities are Aylesham and Sandwich.

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
21	Progress with proposals to develop an expanded health and fitness suite at the Tides Leisure Centre.	<ul style="list-style-type: none"> Current proposals include the development of a 110 station health and fitness suite, plus a 12 station toning suite 	DDC	Short / Medium
22	Support organisations planning the development or refurbishment of health and fitness suites.	<ul style="list-style-type: none"> Current proposals include redevelopment health and fitness provision at Tides Leisure and Indoor Tennis Centre. Encourage the development of new or extended health and fitness facilities where these complement to the range of sustainable facilities across the district. Organisations planning such developments should be encouraged to demonstrate that demand exists, to ensure new developments are sustainable and don't have an unnecessarily negative impact on existing providers. 	DDC Facility operators	Short / Medium

6.8 Indoor Bowls Priorities

6.8.1 Current provision across the district is meeting existing need. There is no requirement for additional indoor bowls provision in the District. The District does however have a growing ageing population and this could improve future trends in participation. There is a need to support Betteshanger Indoor Bowls Club in maintaining current levels of participation.

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
23	Maintain existing indoor bowls facilities at Betteshanger Indoor Bowls Club	<ul style="list-style-type: none"> Support Betteshanger Indoor Bowls Club to continue to deliver indoor bowls. Bowls, in particular, provides a good activity for older members of the community or those with limited mobility. Support should focus on assisting the club in marketing their facilities to potential user groups, through existing channels, to help maintain and increase membership numbers. 	DDC Betteshanger Indoor Bowls Club NGB KCC	Ongoing

6.9 Squash & Racketball Court Priorities

- 6.9.1 Dover District has approx. 11 courts across 5 squash venues. Squash England comment that the recommended number of courts should meet its national requirement of 1 court per 10,000 people. Currently the district provides 1 court per 10,200 people, so is meeting this standard. It should be noted more investment is required to maintain the standard of courts, ensure positive user experience. A growing population may generate a need for further courts in the future.
- 6.9.2 If court provision is reduced this would have a negative impact on squash and current users may find it difficult to secure bookings at alternative sites during peak times. Improved access to courts at Duke Of York's Military School may be a possible solution to increasing capacity in the district.

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
24	Protect current levels of squash court provision in the district.	<ul style="list-style-type: none"> DDC should encourage existing providers of squash & racketball courts to maintain provision to meet current and potential future demand for access to squash courts. 	DDC	Short / Medium
25	Redirect users of any lost squash courts to other nearby facilities and work with facility operators to support potential club use.	<ul style="list-style-type: none"> Continue to engage with Duke of York's Military School to work towards achieving extended accessibility arrangements for Dover Squash and Racketball Club, factoring in the safeguarding of children attending the school. 	DDC England Squash and Racketball Operators and users identified KCC	Medium/ long

6.10 Indoor Tennis Priorities

6.10.1 Due to the existing facilities in Deal and nearby Canterbury, Dover District is not identified by the LTA as having a lack in provision. Indoor tennis courts at Tides Leisure Centre should be retained.

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
26	Support operators of Tides Leisure Centre to maintain quality of courts and maximise usage.	<ul style="list-style-type: none"> Work with operators to ensure effective programming, collaborative withing with clubs and appropriate pricing in order to continue extensive club, community and elite player usage. 	DDC LTA Operators and users identified	Ongoing

6.11 Aerobic/Dance Studio Priorities

6.11.1 There is a requirement to increase the level of provision of dedicated multi-purpose studio space within the District and maintain access to general purpose spaces at village halls and community centres. This is linked to the potential latent demand for health and fitness facilities, which also support the need for increased studio space for group exercise. The Council should support development of new community accessible dance and activity studios, where these are viable and particularly where they complement a wider health and fitness offer. The findings from this strategy support initial options for consideration by DDC, which include the provision of 1 or 2 aerobic/dance studios and a dedicated spin studio at a new Tides Leisure Centre, to complement the expanded health and fitness offer.

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
27	Support organisations planning to provide new studio space that complements existing provision.	<ul style="list-style-type: none"> Support plans at Aylesham Welfare Leisure Centre, which include new studios within future development proposals. Feasibility work is still progressing, however initial options for consideration by DDC include the provision of 1-2 aerobic/dance studios and a dedicated spin studio at Tides Leisure and Indoor Tennis Centre. 	DDC Facility Owners Identified	Medium

6.12 Gymnastics Priorities

6.12.1 There is a requirement to investigate options for the development of a new dedicated gymnastics facilities in the District. There is unmet demand for membership of the clubs in the district due to existing waiting lists. However, it should be noted that these types of facilities can be developed as commercially viable businesses. Therefore, gymnastics should continue to be supported by access to community and educational sports halls, including DDC facilities at Dover District Leisure Centre and Tides Leisure Centre, while clubs looking for dedicated facilities are supported in doing so.

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
28	Support clubs to investigate options to provide new gymnastics facility in Dover.	<ul style="list-style-type: none"> Work with Dover Gym Club and Deal Gym Club to identify new facilities to accommodate latent demand. This could include (depending on storage availability) utilising spare hall space at sports hall sites, including education sites. 	DDC British Gymnastics Dover Gym Club Deal Gym Club Facility Operators	Medium/ long

6.13 Boxing and Martial Arts Priorities

6.13.1 There is a requirement to investigate options for the development of new dedicated boxing and martial arts facilities in the District. There unmet demand in the district, with strong growth in club membership in recent years. Boxing and martial arts clubs looking for dedicated facilities should be supported in doing so, as well as being provided access to suitable community halls and studio spaces to support their activities.

ID	Strategic Priorities	Action Required	Implementing partners	Timescale
29	Support clubs to investigate options to provide new boxing and martial arts facilities in Dover.	<ul style="list-style-type: none"> Work with Clubs to identify new facilities to accommodate latent demand. This could include (depending on storage availability) utilising spare sports hall and studios space at leisure centres, community centres and education sites. 	DDC England Boxing Clubs Facility Operators	Medium/ long

7 OUTCOMES

7.1 Anticipated Outcomes

7.1.1 Delivery of the objectives contained in this strategy will result in the following outcomes being achieved:

- The loss of strategically valuable sports facilities, that are available for community use or could contribute to meeting future community needs, will be minimised. Any that are lost will be replaced by equivalent or better provision, in terms of quantity and quality, in a suitable location.
- Strategically valuable sites will be better utilised and options to maximise revenue generation from facilities will be investigated, to improve revenue generation and participation.
- Proposals for the improvement of facilities at Tides Leisure Centre will be progressed, leading to recommendations for improvements to the centre.
- Additional sports hall capacity, or greater access to existing education sites, will be investigated to support future housing development at Whitfield, Aylesham and Dover Town Centre, subject to funding and affordability.
- Opportunities for DDC to reduce carbon consumption and emissions from its centres will be investigated, in line with the Councils Climate Change Strategy.
- Community use of sports facilities on educational sites will be protected and enhanced where required.
- Sports facility charges should remain reasonable, in terms of affordability to residents, and be comparable with similar facilities elsewhere.
- Stakeholders will work together to increase the levels of community access to sites and to reduce inequalities. Stakeholders should include Council departments, health agencies, facility operators, education providers, NGBs, and local sports clubs to expand the range of affordable and accessible facilities for both residents and visitors to Dover.
- Stakeholders will be supported, where possible, in developing new indoor facilities.
- New sports facilities, provided as part of future educational provision in Dover, will be designed for curricular, extra-curricular, community and sports development use to ensure that opportunities for community use out of school hours is secured.
- New developments (e.g. residential, commercial and retail) will contribute towards the development and enhancement of sports facilities to meet identified needs with priority being given to projects identified in this Strategy.
- There will be collaborative working between neighbouring authorities to maximise cross-boundary usage.
- Specific issues relating to the district's demographic profile will be addressed. This will include using indoor sport and leisure facilities to improve levels of physical activity in the whole population and reduce the gap in health inequalities by promoting access and engagement with at risk groups.
- There will be increased engagement with representatives of protected and target groups when developing projects that provide new indoor sports facilities.

8 DELIVERY OF THE STRATEGY

8.1 Introduction

8.1.1 The delivery of this strategy is dependent upon the formation of close working partnerships to collectively enhance the operation and provision of indoor sports facilities in the District.

8.2 Funding

8.2.1 It is clear that the development of a new leisure centre in Deal will help to improve the quality of facilities in order to meet both current and future demand. Any leisure facility infrastructure improvements in the District will be reliant on securing funding. The current financial climate has placed pressure on the finances of all facility operators including local authorities.

8.2.2 The council will seek to work with others to use the indoor leisure assets in the District innovatively and a multi-agency approach is required to address the facility requirements in the strategy. The main funding delivery mechanisms for DDC and others in delivering the strategy are:

- **Council funding:** capital funding allocated to deliver facilities within DDC's ownership, and potentially the use of capital receipts from the sale of existing assets.
- **Capital Grant funding:** national agencies such as Sport England and Public Sector Decarbonisation Scheme
- **Third party funding:** Financing capital through the forecast operational surplus and finance packages as part of the leisure management procurement process or construction contracts.
- **Commercial sector funding:** limited potential for investment from commercial leisure operators such as those who provide health and fitness centres.
- **Planning Obligations:** Section 106 development contributions, CIL or any replacement.

8.3 Planning Obligations

8.3.1 Planning obligations are legal obligations entered into as part of a planning application to mitigate the impacts of a development proposal. Planning obligations are also commonly referred to as 'section 106', 's106', as well as 'developer contributions' or 'Community Infrastructure Levy' (CIL).

8.3.2 Section 106 agreements are legal agreements between developers and the local council linked to planning permissions, and this is the system that DDC currently uses to secure contributions. Section 106 agreements are needed when a development will have impacts on the local area that cannot be moderated by means of conditions attached to a planning

decision. For example, a new residential development can place extra pressure on the social, physical and/or economic infrastructure which already exists in a certain area.

- 8.3.3 A planning obligation will aim to balance the pressure created by the new development with improvements to the surrounding area ensuring that, where possible, the development would make a positive contribution to the local area and community.

8.4 Monitoring and Review

- 8.4.1 This strategy has been produced to enable the development of indoor sports facilities within the District to be provided for in a planned and co-ordinated way that meets the needs of the local population and addresses areas that could have the greatest future demand.

- 8.4.2 The strategy is based on the current known and planned facilities, but it will need to be reviewed periodically, particularly when there are significant changes in facility provision. The progress against the plan should be reviewed on an annual basis and the strategy and action plan should be updated, every 5 years, if there are any significant changes in order to ensure that the strategy requirements keep pace with changes in facility provision and the amount of growth planned for the District.

APPENDIX 1: LIST OF KEY STAKEHOLDERS

List of Key Stakeholders

Type of Organisation	Organisation Name
Facility Operators	Balance Spa & Health Club
Facility Operators	Baypoint Sports Club
Facility Operators	Dover Christ Church Academy
Facility Operators	Dover College
Facility Operators	Dover Grammar School for Boys
Facility Operators	Dover Grammar School for Girls
Facility Operators	Duke of York's Royal Military School
Facility Operators	Freedom Leisure Ltd
Facility Operators	Places for People Leisure
Facility Operators	Ripplevale School
Facility Operators	Sandwich Sport and Leisure Centre
Facility Operators	Sandwich Technology School Sports Centre
Facility Operators	Sir Roger Manwood's School
Facility Operators	Your Leisure Ltd
Facility Operators	Astor College for The Arts
Facility Operators	Betteshanger bowls
Facility Operators	Goodwins Academy
Facility Operators	Kingsdown Holiday Park
Facility Operators	Northbourne Park
Facility Operators	St Edmunds Catholic School
Facility Operators (no longer an operator)	Sandwich Sports & Leisure Trust/Club Sandwich
Facility Operators	Aylesham & Snowdown Social Welfare Scheme
National Governing Body	Badminton England
National Governing Body	British Gymnastics
National Governing Body	England Boxing
National Governing Body	England Netball
National Governing Body	English Indoor Bowling Association
National Governing Body	Good Day Programme
National Governing Body	Kent Badminton
National Governing Body	Kent County Cricket
National Governing Body	Kent Football Association
National Governing Body	Kent School Games
National Governing Body	Lawn Tennis Association
National Governing Body	Street Games
National Governing Body	Swim England
National Governing Body	The British Mountaineering Council
National Governing Body	Volleyball England/Invicta Volleyball
National Governing Body	Basketball England
National Governing Body	Boccia England
National Governing Body	British Judo
National Governing Body	British Taekwondo
National Governing Body	British Wheelchair Basketball
National Governing Body	Dover & District Boccia Sports Association
National Governing Body	Dover District School Games
National Governing Body	England Cricket Board

National Governing Body	England Fencing
National Governing Body	Exercise Movement & Dance Partnership (now EMD UK)
National Governing Body	Fencing
National Governing Body	Good Day Programme
National Governing Body	Kent County Volleyball Association
National Governing Body	Kent Squash and Racketball
National Governing Body	Table Tennis England
National Governing Body	Triathlon England
Neighbouring Authority	Canterbury
Neighbouring Authority	Thanet
Sports Clubs	Deal Gymnastics Club
Sports Clubs	Deal Town Rangers Youth Football Club
Sports Clubs	Deal Tri Swim Club
Sports Clubs	Deal Victoria & Barns Close Cricket Club
Sports Clubs	Dover Caste Archers
Sports Clubs	Dover Gymnastics Club
Sports Clubs	Dover Lifeguard Club
Sports Clubs	Dover Pirates Basketball Club
Sports Clubs	East Kent Acro Gymnastics Club
Sports Clubs	North Deal Community Company
Sports Clubs	River Bowls Club
Sports Clubs	Shepherdswell Cricket Club
Sports Clubs	Vista Twisters
Sports Clubs	Walmer Cricket Club
Sports Clubs	Walmer Lawn Tennis Club
Sports Clubs	Deal Squash Rackets Club
Sports Clubs	Deal, Walmer and Kingsdown Amateur Rowing Club
Sports Clubs	Dover Boxing Club
Sports Clubs	Dover Scorpions Badminton Club
Sports Clubs	Dover Squash & Racketball Club
Sports Clubs	Eastry Cricket Club
Sports Clubs	John Reeve Netball Club
Sports Clubs	Seido Karate Dover
Sports Clubs	South East Gulls Disability FC
Sports Clubs	Wingham Lawn Tennis Club
Sports Clubs	Bright Moon Tai Chi
Town and Parish Councils	Ash Parish Council
Town and Parish Councils	Aylesham Parish Council
Town and Parish Councils	Capel-Le-Ferne Parish Council
Town and Parish Councils	Deal Town Council
Town and Parish Councils	Dover Town Council
Town and Parish Councils	Eythorne Parish Council
Town and Parish Councils	Great Mongeham Parish Council
Town and Parish Councils	Ripple Parish Council
Town and Parish Councils	Sandwich Town Council
Town and Parish Councils	Sholden Parish Council
Town and Parish Councils	St Margaret's-At-Cliffe Parish Council
Town and Parish Councils	Walmer Parish Council
Town and Parish Councils	Whitfield Parish Council

Town and Parish Councils	Alkham Parish Council
Town and Parish Councils	Eastry Parish Council
Town and Parish Councils	Goodnestone Parish Council
Town and Parish Councils	Guston Parish Council
Town and Parish Councils	Hougham Without Parish Council
Town and Parish Councils	Langdon Parish Council
Town and Parish Councils	Lydden Parish Council
Town and Parish Councils	Nonington Parish Council
Town and Parish Councils	Northbourne Parish Council
Town and Parish Councils	Preston Parish Council
Town and Parish Councils	Ringwould with Kingsdown Parish Council
Town and Parish Councils	River Parish Council
Town and Parish Councils	Sheperdswell with Coldred Parish Council
Town and Parish Councils	Staple Parish Council
Town and Parish Councils	Stourmouth Parish Council
Town and Parish Councils	Sutton-By-Dover Parish Council
Town and Parish Councils	Temple Ewell Parish Council
Town and Parish Councils	Tilmanstone Parish Council
Town and Parish Councils	Wingham Parish Council
Town and Parish Councils	Woodnesborough Parish Council
Town and Parish Councils	Worth Parish Council
Town and Parish Councils	Denton With Wooten Parish Council

Those organisations that did not respond to consultation are in bold type.

Subject:	APPROVAL OF AIR QUALITY ACTION PLAN FOR CONSULTATION
Meeting and Date:	Cabinet – 3 April 2023
Report of:	Louise May, Strategic Director (Corporate and Regulatory)
Portfolio Holder:	Councillor Martin Bates, Portfolio Holder for Transport, Licensing and Regulatory Services
Decision Type:	Key Decision
Classification:	Unrestricted

Purpose of the report:	To approve the draft Air Quality Action Plan for the purposes of public consultation.
-------------------------------	---

Recommendation:	That Cabinet approves the Draft Air Quality Action Plan for the purposes of public consultation, and authorises the Environmental Protection and Crime Manager to undertake public consultation on the draft plan.
------------------------	--

1. Summary

- 1.1 Dover District Council (DDC) has two Air Quality Management Areas (AQMA's) and therefore continues to have a statutory duty to keep updated an Air Quality Action Plan (AQAP). The purpose of the AQAP is to outline the actions the Council will take to reduce concentrations of the pollutant of concern in the AQMA's to enable eventual revocation.
- 1.2 The Council's last AQAP was published in October 2007. The Environment Act 1995 requires that Action Plans be periodically reviewed. Although no time limit is set by the Department of Environment, Food and Rural Affairs (DEFRA), their guidance documents suggest a review should occur no later than every five years. Although this review falls outside of this guidance there have been considerable developments such changes to road layout in AQMAs, Covid-19 and Brexit.
- 1.3 The Council is required to consult with relevant stakeholders and the public on the measures proposed by an AQAP. It is intended that a consultation will take place over a 6-week period between June and July 2023 on our draft AQAP. Members are now asked to approve the draft plan for consultation.
- 1.4 The outcome of and comments made during this consultation will be collated and used to shape the final draft AQAP. The approval of a final AQAP is a matter for full Council and so will be brought back later in 2023.

2. Introduction and Background

- 2.1 Air pollution is the single biggest environmental health risk faced and has a disproportionate impact on the vulnerable groups most impacted by poor air quality. These groups include older people, pregnant women, children, those with cardiovascular disease (CVD) or respiratory diseases, and communities with poorer air quality.

- 2.2 The Council has a statutory duty under Part IV of the Environment Act 1995 to:
- Monitor air quality within its boundary,
 - Declare an Air Quality Management Area (AQMA) where air quality exceeds the relevant standards laid down in law,
 - Where an AQMA is declared, prepare an Air Quality Action Plan (AQAP) to demonstrate how it intends to reduce the pollutant causing the exceedance, and;
 - Review AQMAs and AQAPs in response to ongoing monitoring
- 2.3 The AQAP is a technical document which brings together the scientific evidence and air quality monitoring data collected by the Council to justify the appropriate measures to improve air quality. Working with consultants Bureau Veritas actions have been identified which are proposed to take up until 2028 to tackle Nitrogen Dioxide, primarily within our two AQMA's, but also across the district as a whole. Table 5.1 of the draft AQAP in Appendix one outlines several measures which could be implemented to improve air quality within the Council's AQMA. These measures have been identified following internal consultation with the portfolio holder, officers, stakeholders and our consultants and are each believed to be achievable and realistic.
- 2.4 As detailed in Appendix one there have been no recordable exceedances of Nitrogen Dioxide at our AQMA monitoring sites for 3 years which is a positive trend. However, to revoke an AQMA government guidance advises that several years data should be used to evidence a sustained reduction in air pollution levels. Meteorological conditions, local factors such as impact on port traffic because of Brexit and changes in road traffic as due to the Covid 19 lockdowns can affect trends in monitoring data.
- 2.5 Some of the improvements in air quality recorded over the last three years are likely to be because of the Council's last AQAP which was introduced in 2007 and the projects associated with this. These included:
- Improved traffic management through junction improvements along the A20 Townwall Street to reduce stop/start movements of HGVs heading for the Port. Including the removal of traffic lights and the introduction of strategic barriers;
 - Improvements to Eastern Docks layout via the Traffic Management Improvement (TMI) project;
 - New Dover Eastern Docks Exit Road to A20 Townwall Street.
- 2.6 The proposed actions within the draft AQAP (Appendix one) can be considered under five broad topics;
- **Priority 1: Transport** - Technical data is showing that the main source of air pollution causing the declaration of AQMAs across the District is associated with road transport emissions. Therefore reducing transport emissions through measures contained within the Action Plan are a key priority.
 - **Priority 2: Public Health** - as highlighted in Section 3.1 of draft plan, the impact of air pollution on public health is known to be highly detrimental. Transport is a key pollutant, and aside from restricting vehicle usage through the introduction of clean air/low emission zones, the most effective way to achieve a reduction in vehicle numbers is to change the attitudes/behaviour of the population towards travel.

- **Priority 3: Strategies and Policy Guidance** - As outlined in Section 3.2 of the draft plan, there are a number of existing and emerging policy/strategy documents which are a key mechanism for reducing emissions across the District not least the Climate Change Strategy. For effective reductions to be realised, in addition to the measures outlined within the Air Quality Action Plan, all other actions within the referenced documents should be implemented.
- **Priority 4: Planning and Infrastructure** - The new Local Plan has been published in draft format and is anticipated to be adopted in 2023. This will set out the considerations to be applied when considering development proposals. Promotion of electric charging points to be integrated into the development plans in the early stages will help to support the drive towards low emission vehicles ensuring suitable planning and infrastructure is in place is a key priority.
- **Priority 5: Air Quality Monitoring** - Currently Nitrogen Dioxide is monitored through a network of 25 passive diffusions tubes. A Particulate monitor is also operating in Townwall Street in Dover. Monitoring is the best way to continually assess the extent of pollution within Dover District, as well as quantifying improvements that have been achieved through the AQAP, and acting as an evidence base for AQMAs to be amended/revoked. Monitoring will continue in its current extent, with opportunities to move tubes to new areas of concern considered at the start of each year.

2.7 All comments received during the period of public consultation will be carefully considered and the wording and contents of the AQAP adjusted accordingly as necessary. Whatever actions that are detailed in the final plan do not prevent new actions being introduced during the life of the AQAP.

3. Resource Implications

3.1 Air Quality monitoring has an annual budget of £5,000. There is no budget set aside for the implementation of the Action Plan.

3.2 Each action proposed in Table 5.1 of the draft plan was put forward on the basis of a basic cost benefit analysis and the remaining actions were felt to be able to create a meaningful difference to levels of Nitrogen Dioxide both in the AQMA's cited and across the district as a whole whilst not costing the Council significant sums to set up/run.

3.3 There are regular opportunities to bid for funding from Air Quality projects from different sources including DEFRA and DDC as a member of the Kent & Medway Air Quality Partnership have been successful in securing funding for county wide projects.

4. Climate Change and Environmental Implications

4.1 Air quality and climate are interconnected because the chemical species that lead to a degradation in air quality are normally co-emitted with greenhouse gases. Thus, changes in one inevitably cause changes in the other.

5. Corporate Implications

5.1 Comment from the Strategic Director (Corporate Resources-Finance and Housing):
 "Accountancy has been consulted on the report and have no further comments to add."
 (WP)

- 5.2 Comment from the Solicitor to the Council: “The Solicitor to the Council has been consulted in the preparation of this report and has no further comments to make”.
- 5.3 Comment from the Equalities Officer: “This report requesting the approval of the Air Quality Action Plan for consultation does not specifically highlight any equality implications, however in discharging their duties members are required to comply with the public sector equality duty as set out in Section 149 of the Equality Act 2010 <http://www.legislation.gov.uk/ukpga/2010/15/section/149>”
- 5.4 Comment from Climate Change Officer: No additional comments to make.

6. Appendices

Appendix 1 - Draft Air Quality Action Plan 2023-2028

Appendix 2 - AQMA A20 main trunk route into Dover

Appendix 3 - AQMA High Street/ Ladywell, Dover

Appendix 4 - Air Quality Action Plan Input Report

Appendix 5 - 2022 Air Quality Annual Status Report

Appendix 6 - National Air Quality objectives

7. Background Papers

Contact Officer: Andrzej Kluczynski, Environmental Protection and Crime Manager

Brian Gibson, Senior Environmental Protection Officer



*Dover District Council
Air Quality Action Plan*

March 2023

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Document Control Sheet

Identification	
Client	Dover District Council
Document Title	Air Quality Action Plan Inputs for Dover District Council
Bureau Veritas Ref No.	AIR9026533

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Configuration				
Version	Date	Author	Reason for Issue/Summary of Changes	Status
1.0	24/03/2022	J Cai	Draft for comment	Draft
2.0	28/02/2023	DDC	Draft for Full Council	Final Draft

	Name	Job Title	Signature
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Approved By	H Smith	Senior Consultant	

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Dover District Council Air Quality Action Plan

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

2023

Local Authority Officer	Brian Gibson
Department	Environmental Protection
Address	Dover District Council, Council Offices, White Cliffs Business Park, Whitfield, Dover CT16 3PJ
Telephone	01304 872428
E-mail	Brian.Gibson@dover.gov.uk
Report Reference number	Dover District Council AQAP
Date	March 2023

Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we will take to improve air quality in Dover District Council between 2023 - 2028.

This action plan replaces the previous action plan which ran from 2007. Projects delivered through the past action plan include:

- Improved traffic management through junction improvements along the A20 Townwall Street to reduce stop/start movements of HGVs heading for the Port. Including the removal of traffic lights and the introduction of strategic barriers;
- Improvements to Eastern Docks layout via the Traffic Management Improvement (TMI) project;
- New Dover Eastern Docks Exit Road to A20 Townwall Street; and
- Supplementary Air Quality Planning Guidance published as part of Kent & Medway Air Quality Partnership

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas^{1,2}.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion³. Dover District Council is committed to reducing the exposure of people in Dover to poor air quality in order to improve health.

This Action Plan aims to tackle the main causes of poor air quality within Dover District, namely emissions from road traffic, particularly cars, LGVs and buses. We have developed actions that can be considered under 22 broad topics including:-

- Alternatives to private vehicle use
- Environmental permits

¹ Environmental equity, air quality, socioeconomic status and respiratory health, 2010

² Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

³ Defra. Abatement cost guidance for valuing changes in air quality, May 2013

- Freight and delivery management on trunk routes into Dover
- Policy guidance and development control
- Promoting low emission transport
- Promoting travel alternatives
- Public information
- Transport planning and infrastructure
- Traffic management
- Vehicle fleet efficiency

Our priorities are based on identifying measures that can lead to improvement in air pollution levels, raising the profile of air pollution issues within the district and working with partners and stakeholders to identify further measures.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control. However, we recognise that there are a large number of air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond Dover District Council's direct influence.

Responsibilities and Commitment

This AQAP was prepared by Bureau Veritas and the Environmental Protection Team of Dover District Council with the support and involvement of the departments:

- Environmental Protection
- Climate Change and Energy Conservation
- Community Services & Development
- Community Safety, CCTV and Emergency Planning
- Licensing
- Parking Services
- Property Services and Grounds Maintenance
- Waste Services
- Building Control
- Procurement
- Planning and Development Control

- Press & Media
- Dover Harbour Authority
- Kent County Council Highways

In preparing the draft of this AQAP, consultation has been carried out with:

- Louise May- Strategic Director (Corporate & Regulatory)
- Councillor Martin Bates- Portfolio Holder for Transport, Licensing and Regulatory Services

This AQAP will be subject to an annual review, appraisal of progress and reporting to Management Team Progress each year will also be reported in the Annual Status Reports (ASRs) produced by Dover District Council, as part of our statutory Local Air Quality Management duties.

If you have any comments on this AQAP please send them to Senior Environmental Protection Officer Brian Gibson at:

Address: The Environmental Protection Team, Dover District Council, White Cliffs Business Park, Honeywood Close, Whitfield, Kent, CT16 3PJ

Telephone: 01304 872428

Email: envprotection@dover.gov.uk

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1 Introduction

This report outlines the actions that Dover District Council (DDC) will deliver between 2023 – 2028 in order to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the district.

It has been developed in recognition of the legal requirement on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

This Plan will be reviewed every five years at the latest and progress on measures set out within this Plan will be reported on annually within Dover's air quality ASR.

This action plan focuses on actions to improve air quality across the entire district, with a specific focus on the two areas currently designated as Air Quality Management Areas (AQMAs), both of which are declared for exceedances of the NO₂ annual mean Air Quality Strategy (AQS) objective:

- A20 AQMA – An area following the A20 from just west of the Limekiln Roundabout at the western end to a point c.140m from the Eastern Docks in Dover. The AQMA was declared in 2004 and amended in 2007 and 2009; and
- High St / Ladywell AQMA – An area encompassing roads and properties between the junction of Effingham Crescent/High Street, and Priory Hill/High Street. The AQMA was declared in 2007.

The Port of Dover town is a major hub of transport-related activity, and is strategically important for the UK. Large volumes of road traffic utilise the A2 and A20 entering and leaving the town, which predominantly represents the main source of air pollution in the area. DDC has limited control over the emission standards of vehicles entering the Port from Continental fleet operators, and this should be recognised as a major limitation of the actions that DDC can directly take on some of the contributing vehicles. As such, DDC will continue to lobby and work with Central Government and Highways England on this issue. This Plan therefore focusses on actions more directly under the control of DDC, and the local partnerships that are in place, or need to be strengthened.

2 Summary of Current Air Quality in Dover District Council

Please refer to the latest ASR from Dover District Council for a thorough review of the status of air quality across the district.

Dover is “the gateway to England” and its location at the narrowest crossing point in the Channel has always given it great significance for both trade and military activities.

The main sources of pollutant emissions within Dover are linked with road transport sources entering and leaving the Port of Dover; regular cross-channel ships and large volumes of road traffic arising as a result of associated transport of goods along the A2 and A20 entering and leaving the town.

There were no exceedances of the annual mean NO₂ objective in 2020. All sites, excluding site DV30, recorded annual mean concentrations below 36 µg/m³ (i.e. not within 10% of the AQS objective). Site DV30 is adjacent to 19B High Street Dover, slightly to the north of the High Street/ Ladywell AQMA boundary. Exceedances of the annual mean NO₂ AQS objective have been recorded at DV30 since its installation in 2017, and 2020 is the first year the site hasn't exceeded the AQS objective. It should be noted that the NO₂ concentration in 2020 was largely impacted by the Covid 19 pandemic. During lockdown, an evident decrease of NO₂ can be widely observed across the country. To better understand the current air quality in Dover, the monitoring results in 2019 is also an essential reference. DV30 is the only site that had an exceedance of the annual mean NO₂ objective in 2019. Excluding DV30 and DV06/DV07/DV08, all other sites recorded annual mean concentrations below 36 µg/m³. Site DV06 / DV07/DV08 is located in Town Hall, Dover, within the High Street / Ladywell AQMA.

There have been no exceedances of the PM₁₀ AQS objective within the past five years at the single PM₁₀ monitoring location on Townwall Street (Dover Centre). There is currently no monitoring undertaken for PM_{2.5} within the District. However, the annual mean PM_{2.5} concentrations at Dover Centre in 2019 and 2020 were estimated in accordance with the methodology presented in LAQM.TG(16) to be 15.4 µg/m³ and 15.9 µg/m³ respectively, both below the PM_{2.5} obligatory standard of 25 µg/m³.

Assessment of air quality has also been undertaken through the use of dispersion modelling. Dispersion modelling provides a means by which predictions on the levels of NO₂ and PM₁₀ can be made and then verified against the monitored levels to provide an assessment of uncertainty in predictions. A model of Dover was constructed through parameterisation of the volume of traffic and its composition (e.g. cars, lorries, light duty vehicles, motorbikes, buses etc.) and speed. Processing of the dispersion of the emission arising from the traffic is undertaken using representative weather data for the area taking account of various influencing factors such as buildings and gradients.

Both monitoring and modelling techniques have been used to assess air pollution levels within the two AQMAs declared for exceedances of the annual mean NO₂ objective.

2.1 A20 AQMA

The A20 AQMA was declared in 2004 due to exceedances of the NO₂ annual mean AQS Objective, and was subsequently amended in 2007 and 2009. It encompasses an area following the A20 from just west of the Limekiln Roundabout at the western end to approximately 120m from the Eastern Docks roundabout in Dover. The Amendments in 2007 and 2009 amended the boundary to no longer include the properties in Marine Parade and East Cliff to the east due to improvements in NO₂ concentrations as a result of the measures implemented within the 2007 AQAP.

National Highways is the relevant transport authority for the A20/M20 corridor, encompassing the roads within the A20 AQMA. Kent County Council (KCC) is the relevant highway and transport authority for roads on the local network (e.g. Woolcomber Street, which joins the A20 Townwall Street in the AQMA). Both organisations are key stakeholders in the success of this Plan and DDC will continue to work closely with them.

There are eight diffusion tube sites within this AQMA, including two triplicate sites. There is one continuous monitor with the AQMA, which is co-located with the diffusion tube DV10. Annual mean NO₂ concentrations from these sites are presented in Table 2.1. Exceedances were reported in 2016 at DV10 and in 2017 at

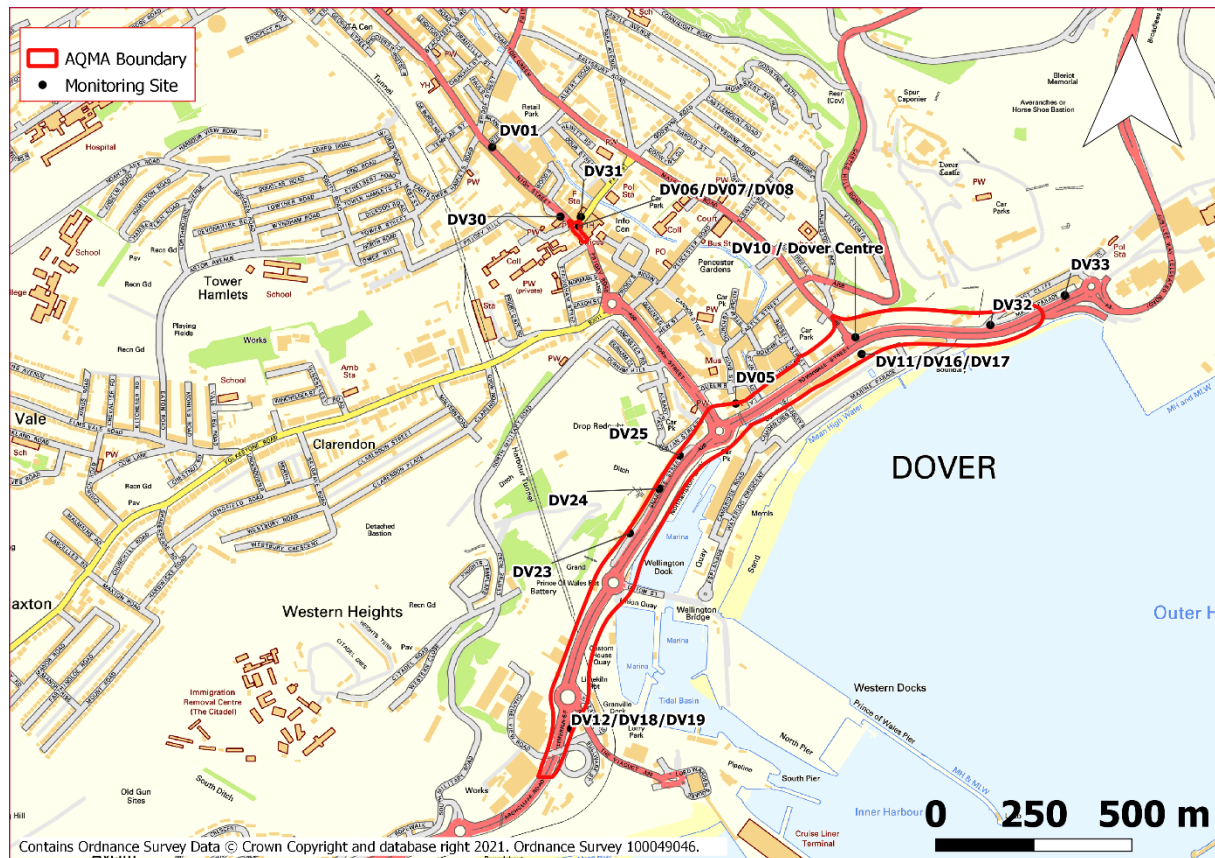
DV10, DV24 and DV32. The locations of these monitoring sites are illustrated in Figure 2.1.

Table 2.1 - A20 AQMA Annual Mean NO₂ Concentrations

Site ID	X OS Grid Ref.	Y OS Grid Ref.	Site Type	Annual mean NO ₂ concentration (µg/m ³)				
				2016	2017	2018	2019	2020
Dover Centre (continuous monitor)	632302	141465	Roadside	26.0	27.0	26.0	22.0	22.7
DV05	631997	141296	Urban Centre	34.1	33.6	28.8	24.4	20.3
DV10	632302	141465	Roadside	41.4	45.4	38.3	35.9	26.4
DV11, DV16, DV17	632318	141422	Roadside	31.6	33.2	29.9	28.1	23.1
DV12, DV18, DV19	631577	140468	Roadside	36.3	36.6	34.5	31.5	26.5
DV23	631727	140966	Roadside	36.1	38.0	34.3	31.2	25.3
DV24	631802	141079	Roadside	38.4	42.8	39.0	33.7	26.1
DV25	631854	141164	Roadside	35.1	35.4	32.6	29.3	28.9
DV32	632646	141496	Roadside	-	40.1	35.4	31.7	26.7

Note:
Exceedances of the NO₂ annual mean AQS objective are in **bold**

Figure 2.1 - Location of Monitoring Sites within A20 AQMA



Detailed dispersion modelling of the air quality within the A20 AQMA area reflected the monitoring results and highlighted one sensitive receptor location where the NO₂ concentration was predicted to be within 10% of the AQS Objective within the AQMA. Source apportionment (analysis of the contributing emissions sources to the overall pollutant burden at a location) was also undertaken showing the contribution of specific vehicle classes and background levels of pollution make towards overall NO_x concentrations.

The necessary NO_x reductions required to meet the UK annual mean NO₂ objective of 40µg/m³ were calculated for 2019 as it represented the baseline year at the time of assessment. It should be noted that the impact of Covid 19 has resulted in the unusual monitoring data since 2020, as the Covid restrictions greatly reduced traffic flows, thus leading to a decrease in pollutant concentration. In this case, it is more appropriate to set 2019 as the baseline. Section 3.3 details the findings of the source apportionment assessment.

2.2 High Street / Ladywell AQMA

In 2007 DDC declared an AQMA for an area encompassing roads and properties between the junction of Effingham Crescent/High Street and Priory Hill/High Street. The AQMA was declared due to congestion at the junction as a result of a high number of vehicle movements travelling through a relatively narrow area consisting of closely packed buildings creating a canyon effect along the High Street.

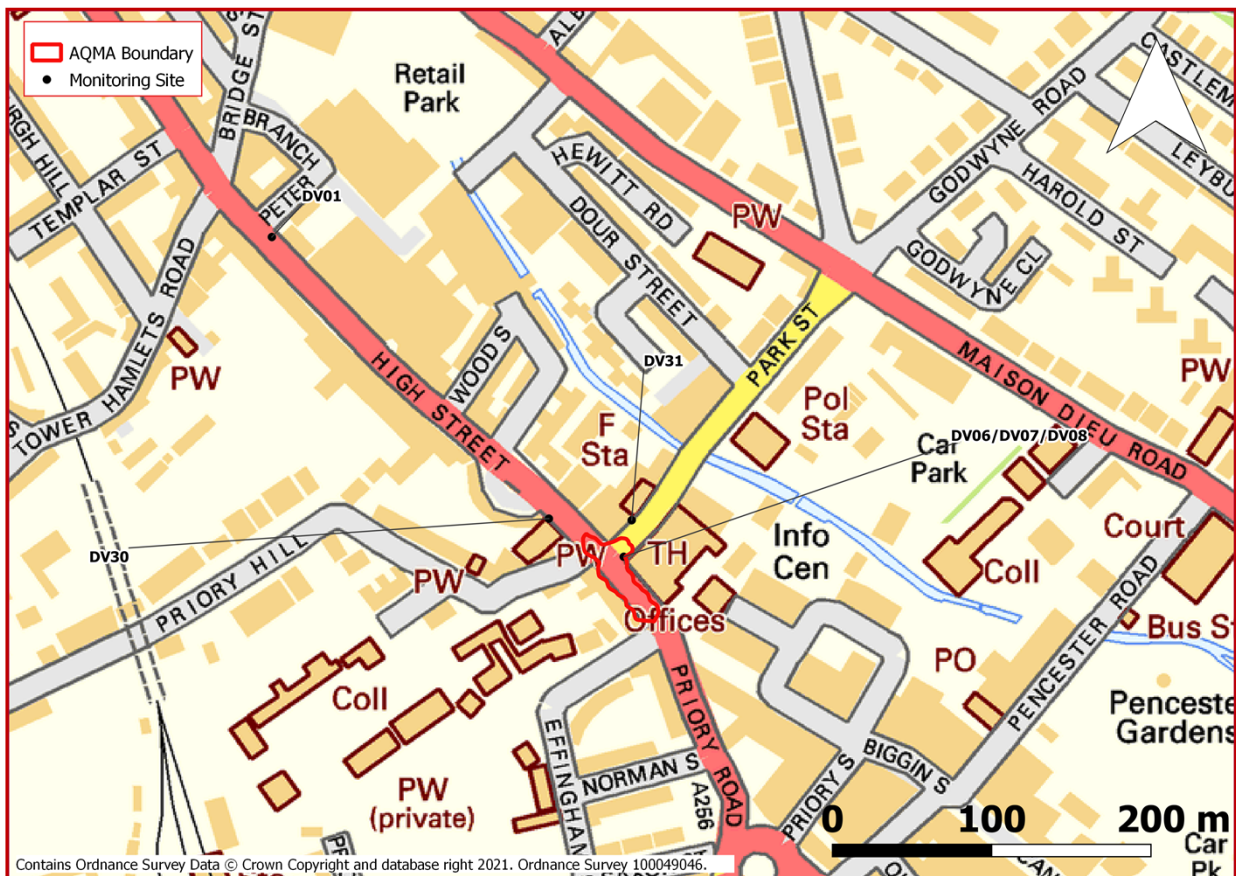
There is one triplicate diffusion tube site within this AQMA (DV06/ DV07 / DV08), and a further two diffusion tubes sites located close to the AQMA boundary (DV30 and DV31). Annual mean NO₂ concentrations from these sites are presented in Table 2.2. Exceedances were reported in 2016, 2017 and 2018 at DV06/DV07/DV08 and in 2017, 2018 and 2019 at DV30, which is outside the AQMA boundary. Diffusion tube DV30 is sited in a location where there has been some construction activity which led to low data capture in 2019 and 2020 and inconsistency with the height of the tube throughout the year. The locations of these monitoring sites are illustrated in Figure 2.2.

Table 2.2 – High Street / Ladywell AQMA Annual Mean NO₂ Concentrations

Site ID	X OS Grid Ref.	Y OS Grid Ref.	Site Type	Annual mean NO ₂ concentration (µg/m ³)				
				2016	2017	2018	2019	2020
DV06 / DV07 / DV08	631597	141748	Roadside	44.5	45.4	40.4	39.8	33.7
DV30	631550	141772	Kerbside	-	40.9	40.5	40.4	35.7
DV31	631602	141771	Kerbside	-	36.7	31.2	31.5	23.5

Note:
Exceedances of the NO₂ annual mean AQS objective are in **bold**

Figure 2.2 - Location of Monitoring Sites within High St / Ladywell AQMA



3 Dover District Council's Air Quality Priorities

3.1 Public Health Context

Mounting scientific evidence shows the scale of the impact of poor ambient air quality on health. Research shows that the most common air pollutants of concern, NO₂, PM₁₀ and PM_{2.5} (particulate matter in the fractions of less than 10 microns and 2.5 microns in diameter), are linked to various health complications, impacting the cardiovascular and respiratory systems. Exposure to these pollutants can bring about symptoms such as nose and throat irritation, followed by bronchoconstriction and dyspnoea, alongside increasing reactivity to natural allergens, increasing the risk of respiratory infections through the pollutants interaction with the immune system⁴, and may lead to reduced lung function.

Alongside this, there is increasing interest and pressure from members of public for Local Authorities to actively tackle and reduce air pollution in their areas. Previously, there had been no deaths officially linked to air pollution, however in 2020 the first person in the UK had 'air pollution' listed as a cause of death. Although currently there are no legislative outcomes as a result of this, this further increases the pressure and duty of care that Local Authorities have in order to protect their residents. Poor air quality is considered to be a significant contributory factor to the loss of life, shortening lives by an average of 5 months. In 2010, the Department of Health's Committee on the Medical Effects of Air Pollutants (COMEAP) reported that long-term exposure to outdoor air pollution contributes to the equivalent of 29,000 deaths in 2008 in the UK, and an associated loss to the population of 340,000 life-years. A further report by the Royal College of Physicians reported in 2016 that it contributed to the equivalent of 40,000 deaths in 2015.

Local authorities have a range of powers which can effectively help to improve air quality. However, the involvement of public health officials is crucial in playing a role to assess the public health impacts and providing advice and guidance on taking appropriate action to reduce exposure and improve the health of everyone within Dover District Council.

⁴ Marilena Kampa and Elias Castanas, Human Health Effects of Air Pollution, June 2007

The Air Quality Indicator in the Public Health Outcomes Framework (England) provides further impetus to join up action between the various local authority departments which impact on the delivery of air quality improvements. The “Air Quality – A Briefing for Directions of Public Health” document published in March 2017 provides a one-stop guide to the latest evidence on air pollution, guiding local authorities to use existing tools to appraise the scale of the air pollution issue in its area. It also advises local authorities how to appropriately prioritise air quality alongside other public health priorities to ensure it is on the local agenda.

The document comprises the following key guides:

- Getting to grips with air pollution – the latest evidence and techniques;
- Understanding air pollution in your area;
- Engaging local decision-makers about air pollution;
- Communicating with the public during air pollution episodes;
- Communicating with the public on the long term impacts of air pollution; and
- Air Pollution: an emerging public health issue: Briefing for elected members.

Besides NO₂, there is an increasing focus on fine particulate matter. PM_{2.5} is a pollutant of concern meaning particulate matter which is 2.5 microns or less in diameter. Neither AQMA has been declared for PM_{2.5} and the modelling as part of the detailed assessment has shown predicted levels below the annual mean objective of 25µg/m³.

The Public Health Outcomes Framework data tool⁵ compiled by Public Health England quantifies the mortality burden of PM_{2.5} within England on a county and local authority scale. The 2019 fraction of mortality attributable to PM_{2.5} pollution in Dover is 4.9%, which is below South East region’s average of 5.2% and the national average of 5.1%.

It should be noted that this figure only accounts for one pollutant (PM_{2.5}) for which stronger scientific evidence on links with mortality exist, and not NO₂, for which the AQMA’s are declared, so the true figure is possibly even higher. Furthermore, following on from a review of research into the death burden associated with the air

⁵ Public Health Outcomes Framework, Public Health England. data tool available online at <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/0/gid/1000043/pat/6/par/E12000008/ati/202/are/E06000036/cid/4/page-options/ovw-do-0>

pollution mixture rather than single pollutants acting independently, COMEAP are currently reviewing the ability to link deaths to one specific pollutant.

It is expected that some of the measures implemented within this action plan for the achievement of reductions in NO₂ will have co-benefits in additionally reducing concentrations of PM₁₀ and PM_{2.5}.

3.2 Planning and Policy Context

There are a number of related policies and strategies at the local and regional level that can be tied in directly with the aims of the AQAP. The majority of these policies and strategies are focused on transportation issues and are therefore likely to help contribute to overall improvements in air quality across the DDC area. The review of these strategies and policies also assists in preventing duplication of work within the AQAP but can instead work in concordance for mutual benefit whilst also focusing on direct measures outside those considered within the already developed strategies and policies. This section outlines the strategies and policies that have the most significant potential to impact on pollutant concentrations within DDC.

The most relevant policies and strategic documents are detailed below.

3.2.1 Clean Air Strategy 2019

The Clean Air Strategy⁶ has been published to set out the case for action at a national level, identifying a number of sources of air pollution within the UK including road transportation (relevant in terms of the AQMAs currently present within Dover) and sets out the actions required to reduce the impact upon air quality from these sources. It has been developed in conjunction with three other UK Government Strategies; the Industrial Strategy, the Clean Growth Strategy, and the 25 Year Environment Plan.

Key actions that are detailed within the strategy aimed at reducing emissions from transportation sources include the following:

- The publication of the Road to Zero strategy, which sets out plans to end the sale of new conventional petrol and diesel cars and vans by 2040;
- New legislation to compel vehicle manufacturers to recall vehicles and non-

⁶ Department for Environment, Food and Rural Affairs (2019), Clean Air Strategy

road mobile machinery for any failures in emission control systems, and to take effective action against tampering with vehicle emissions control systems;

- Develop new standards for tyres and brakes to reduce toxic non-exhaust particulate emissions from vehicles. This action would not necessarily target reduction in NO₂ for which both AQMAs within Dover has been declared;
- The encouragement of the cleanest modes of transport for freight and passengers; and
- Permitting approaches for the reduction of emissions from non-road mobile machinery, especially in urban areas.

3.2.2 UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations

Published in July 2017, the UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (Detailed Plan)⁷ is the UK governments plan for bringing concentrations of NO₂ within statutory limits within the shortest possible time. It is identified that the most immediate air quality challenge within the UK is tackling the issue of NO₂ concentrations close to roads, especially within towns and cities. The plan identifies a number of local authorities that were required to complete feasibility studies to define NO₂ concentrations on road links identified by the national Pollutant Climate Mapping (PCM) model as being in exceedance of the NO₂ annual mean AQS objective.

Dover District Council were not one of the authorities identified, regardless, the UK Plan provides a high level of detail on possible solutions, and their implementation, to reduce NO_x emissions from vehicles, and therefore lower NO₂ concentrations. The actions detailed within the UK Plan include the following:

- Implementation of Clean Air Zones (CAZs);
- New real-world driving emissions requirements for light passenger and commercial vehicles;
- Additional funding to accelerate the uptake of low emissions buses and also for the retrofitting of older buses;

⁷ Department for Environment, Food and Rural Affairs, Department for Transport (2017), UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations (Detailed Plan)

- Additional funding to accelerate the uptake of hydrogen vehicles and associated infrastructure;
- New mandatory emissions standards for non-road mobile machinery; and
- Local cycling and walking investment plans.

3.2.3 Dover District Corporate Plan (2020 – 2024)

The Corporate Plan outlines a four-year programme which sets out the key priorities and focus for all activities and services carried out by DDC. The plan is designed to give context for all other strategies and plans that are produced. It is therefore an important document to consider when developing the AQAP. The Corporate Plan is designed to “*encourage, facilitate and deliver a stronger local economy, with opportunities for everyone to reach their ambitions.*” This philosophy is implemented through four priority themes. With regards to air quality the following priority is relevant:

Priority Theme Three: CLIMATE CHANGE, ENVIRONMENT & ASSETS

Of which one of the focuses is on raising awareness, reducing emissions from our own activities and developing plans to reduce emissions across the District. This priority theme will be achieved through, amongst other things:

- Developing electric vehicle charging points
- Developing cycling and walking infrastructure and promoting cycling and walking routes
- Continuing with our Kearsney and Parks projects and encouraging/supporting development of ‘great places’
- Continuing to reduce the incidence and effects of environmental crimes and pollution to air, land and water, through enforcement and educational activities
- Improve and protect the health, safety and welfare of people working in, living in and visiting the District through our environmental health and licensing activities
- Developing a strategy, within the Local Plan, Air Quality Review and Air Quality Action Plan, for improving air quality, through cleaner greener transport, more trees planted for carbon emissions and potential new wooded areas

3.2.4 The Core Strategy (2010 - 2026)

The Dover Core Strategy is the District’s key plan in the local development framework up to 2026. It identifies the issues facing the District, the aims and objectives and considers the options for addressing the issues. The core policies within the plan specifically address air quality are as follows:

- **Policy CP7** – Green Infrastructure Network – protecting and enhancing the existing network of green infrastructure. Proposals that would introduce additional pressure on the existing and proposed green infrastructure network are only permitted if they incorporate quantitative and qualitative measures, as appropriate, sufficient to address that pressure. Air quality monitoring will be used to help assess the need for mitigation measures and, if required, establish the nature of those measures.
- **Policy CP8** – Dover Waterfront – Planning permission only granted along the waterfront provided the proposals incorporate avoidance and mitigation measures to address impact on air quality issues associated with the A20 trunk road and the Port operations.

3.2.5 Dover District Local Plan – Draft

Dover District Council’s existing Local Plan consists of the Core Strategy 2010, the Land Allocations Plan 2015, and saved policies from the 2002 Local Plan. The new [Dover District Local Plan](#) has been published in draft form, which will replace the previous plan. It is anticipated that the Local Plan will be adopted in 2023, following the appropriate consultations and approvals. The Development Management Policy relating to air quality is DM Policy 41:

“All development should be designed to encourage an increase in the use of sustainable modes of transport. In addition, major development proposals will be required to demonstrate a shift to the use of sustainable low emission transport in order to minimise the impact of vehicle emissions on air quality.

Development proposals that might lead to a significant deterioration in air quality or national air quality objectives being exceeded, either alone, or in combination with other committed development, will be required to submit an Air Quality Assessment, carried out in accordance with the relevant guidance, to be agreed with the Local

Planning Authority as part of planning applications. Such an Assessment should address:

- a) The cumulative effect of further emissions arising from the proposals; and*
- b) The proposed mitigation measures, including appropriate design and offsetting measures, which would prevent National Air Quality Objectives being exceeded or would reduce the extent of any air quality deterioration.*

Proposals which will result in National Air Quality Objectives being exceeded will not be permitted.”

Regulation 18 within the draft local plan include changes to Building Regulations requiring provision of electric vehicle recharging points.

3.2.6 Other Policies of Relevance

In a broader sense, there are a number of Kent focussed policies that have been developed by KCC which are of relevance to Dover. For example, the [Kent Environment Strategy \(2016\)](#) sets out the following target in relation to air quality in the County:

- Decrease the number of days of moderate or higher air pollution and the concentration of pollutants to align with the Kent and Medway Air Quality Partnership and national monitoring standards.

[The Kent Freight Action Plan](#) also includes some direction which will help support the freight focussed measures that are to be implemented as a result of the AQAP. The Freight Action Plan emphasises the need for a collaborative approach to manage the freight network which impacts all local authorities within Kent. In particular the focus is on actions to:

- Tackle overnight lorry parking
- Find a long-term solution to Operation Stack
- Effectively manage the routing of HGV traffic
- Take steps to address freight traffic problems associated with communities

- Ensure KCC make effective use of planning and development control powers to reduce the impact of freight traffic

These measures will likely have a knock-on effect on local air quality in Dover and will act as a base to build on with more localised freight controlling measures.

KCC also published the Kent & Medway Energy and Low Emissions Strategy in June 2020. The strategy is designed to develop a multi-agency approach to improving air quality, reducing carbon emissions and creating a more sustainable energy infrastructure across Kent and Medway. In recognition of the UK environment and climate emergency, all 14 local authorities in Kent and Medway have committed to ambitious targets to reduce greenhouse gas emissions to net-zero by 2050 at the latest. The document focusses on emissions in the wider sense and addresses the estimated growth across the region. It has been estimated that by 2031 there will be 178,000 additional homes (24% growth) and 396,300 additional people (23% growth). It is likely that this will create a higher demand for energy, and domestic gas and electricity sales will rise by 23% and 19% respectively from 2014/15 to 2030/31.

Therefore, although the main source of pollution within the two declared AQMAs is associated with road vehicle emissions, it is important to have an understanding and appreciation of other potential sources which could become more prevalent in the coming years. Therefore, measures proposed in the AQAP will need to also address air quality as a whole within DDC rather than to specifically focus on road vehicle emissions.

3.3 Source Apportionment

The AQAP measures presented in this report are intended to be targeted towards the predominant sources of emissions within the AQMAs. Where road transport is identified as the principal source of emissions, the relative contributions from different vehicle types (e.g. cars, Heavy Good Vehicles (HGVs), Light Goods Vehicles (LGVs), and buses) can be determined to identify which vehicle type represents the most significant source of pollution.

A source apportionment exercise was carried out using an air dispersion model to assess the overall emissions profile of vehicles moving through the AQMAs. Source apportionment was carried out for each AQMA separately.

Emission sources of NO₂ are dominated by a combination of direct NO₂ (f-NO₂) and oxides of nitrogen (NO_x), the latter of which is chemically unstable and rapidly oxidised upon release to form NO₂. Reducing levels of NO_x emissions therefore reduces levels of NO₂. As a consequence, the source apportionment study has considered the emissions of NO_x which are assumed to be representative of the main sources of NO₂.

The methodology to achieve this involves dispersion modelling of road traffic emissions. Traffic data inputs were supplied by the appointed transport consultants and supplemented by DfT road traffic statistics. The Emissions Factors Toolkit (EFT) version 10.1 developed by Defra⁸ was used, selecting the “Detailed Option 1” that allowed the percentage fleet input by: Car; Taxi; LGV; HGV; Bus and Coach; and Motorcycle. Road-NO_x contributions for each source type at receptor locations were then modelled using Cambridge Environmental Research Consultants ADMS-Roads™ dispersion model (version 5.0).

Background pollutant concentrations, as derived for the area from UK-Air, have been added to the ADMS-Roads modelled road source output to calculate predicted total annual mean concentrations of NO_x and NO₂. For each location the total NO_x from all vehicle classes as well as the percentage attributable to background sources has been predicted.

Error! Reference source not found. illustrates the general breakdown of NO_x concentrations averaged across all modelled locations, providing information regarding:

- The regional background, which the Council is unable to influence;
- The local background, which the Council should have some influence over; and
- Other local sources (explicitly modelled), which the Council should be able to directly influence with policy intervention.

⁸ Defra, Emission Factors Toolkit (2020). <http://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.html>

Figure 2.3 - Average NO_x Contribution Across All Modelled Receptors – General Breakdown

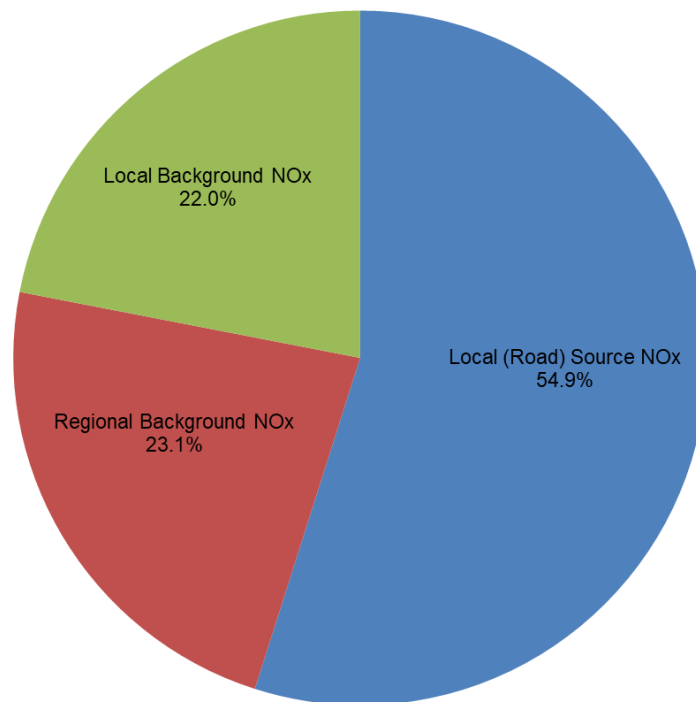


Figure 2.4, Figure 2.5 and Figure 2.6 provide detailed breakdowns of the local source contributions to NO_x concentrations, based on:

- The average across all modelled receptors. This provides useful information when considering possible action measures to test and adopt. It will however understate road NO_x concentrations in problem areas;
- The receptor where the maximum road NO_x concentration has been. This is likely to be in the area of most concern and so a good place to test and adopt action plan measures. This location is within the High St / Ladywell AQMA. Any gains predicted by action plan measures are likely to be greatest at this location but would not represent gains across the whole modelled area.
- The receptor where the second highest road NO_x concentration has been predicted which represents the maximum concentration within the A20 AQMA. This is a good place to assess the main sources of concern in the worst-case receptor location within the A20 AQMA, as the sources differ from the model-wide worst-case receptor location that is located in the High Street / Ladywell AQMA.

Figure 2.4 - Source Apportionment of NOx Averaged Across All Modelled Receptors

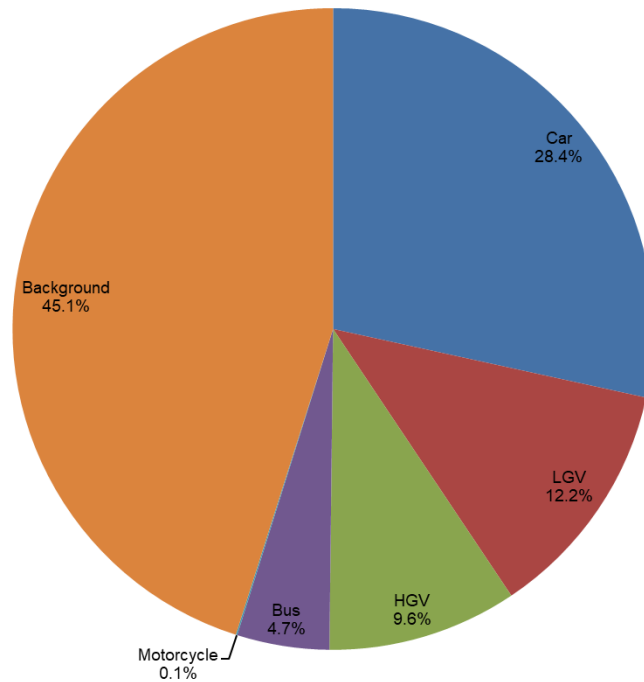


Figure 2.5 - Source Apportionment of NOx at Receptor with the Maximum Road NOx Concentration (R58) within the High St / Ladywell AQMA

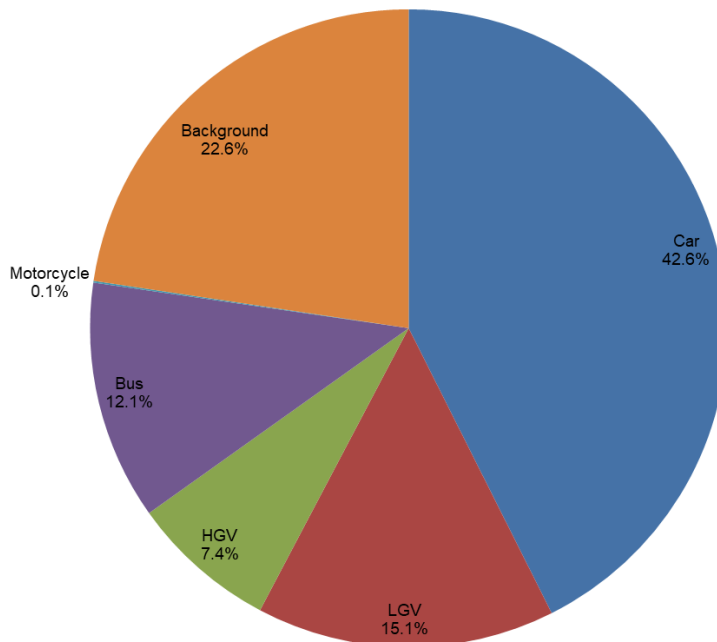
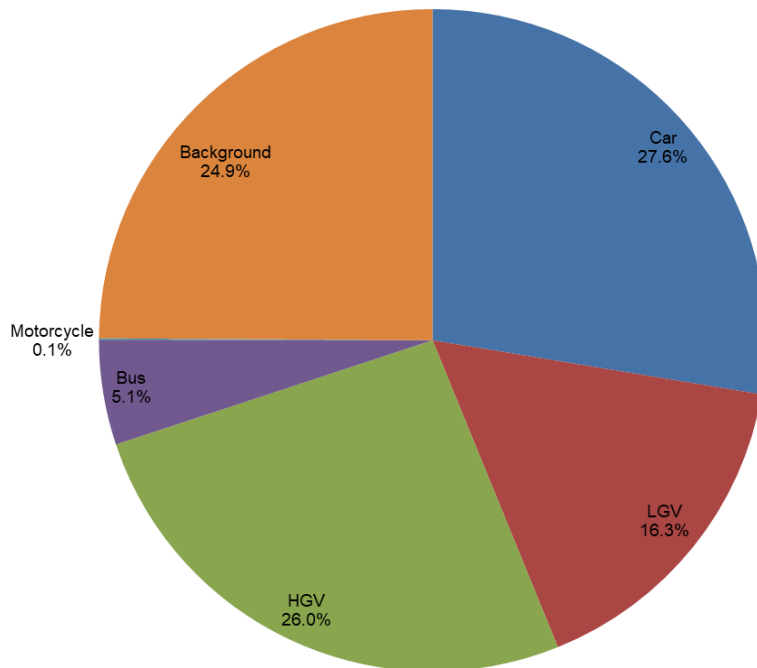


Figure 2.6 - Source Apportionment of NO_x at Receptor with the Maximum Road NO_x Concentration (R54) within the A20 AQMA



Error! Reference source not found. provides a more detailed breakdown of source apportionment in relation to NO_x concentrations for the following criteria:

- Contributions based on average NO_x levels across all modelled locations;
- Contributions based on NO_x levels at the highest NO₂ concentration in the High St / Ladywell AQMA; and
- Contributions based on NO_x levels at the highest NO₂ concentration in the A20 AQMA.

Table 2.3 - Source Apportionment of NO_x

Results	All Vehicles	Car	LGV	HGV	Bus	Moto	Background
Average across all modelled receptors							
NO_x Concentration (µg/m³)	19.0	9.8	4.2	3.3	1.6	0.0	15.6
Percentage of Total NO_x	54.9%	28.4%	12.2%	9.6%	4.7%	0.1%	45.1%
Percentage Road Contribution	100.0%	51.8%	22.2%	17.4%	8.5%	0.1%	-
Receptor R58 within High St / Ladywell AQMA – exceeding the AQS Objective and reporting the maximum road NO_x Concentration							
NO_x Concentration (µg/m³)	57.5	31.6	11.2	5.5	9.0	0.1	16.8

Results	All Vehicles	Car	LGV	HGV	Bus	Moto	Background
Percentage of Total NO _x	77.4%	42.6%	15.1%	7.4%	12.1%	0.1%	22.6%
Percentage Road Contribution	100.0%	55.0%	19.6%	9.6%	15.7%	0.1%	-
Receptor R54 within A20 AQMA – reporting within 10% of AQS Objective							
NO _x Concentration (µg/m ³)	50.7	18.6	11.0	17.6	3.5	0.0	16.8
Percentage of Total NO _x	75.1%	27.6%	16.3%	26.0%	5.1%	0.1%	24.9%
Percentage Road Contribution	100.0%	36.8%	21.6%	34.7%	6.8%	0.1%	-

Of the contributors to total NO_x concentrations, local (road) sources are the largest at 54.9%, followed by regional background at 23.1%, then local background at 22.0%. This means that the Council should be able to influence 76.9% of total NO_x concentrations with intervention policies.

When considering the average breakdown of NO_x concentration across all modelled receptors in more detail, road traffic accounts for 19µg/m³ (54.9%) of total NO_x (34.6µg/m³). Of this total average NO_x, Cars account for the most (28.4%) of any of the vehicle types on average, followed by LGVs (12.2%).

At the receptor where the maximum road NO_x concentration has been predicted in the High St / Ladywell AQMA (57.5µg/m³, predicted at receptor R58), road traffic accounts for 77.4% of the overall NO_x. Of this total NO_x, Cars account for the most (42.6%) of any of the vehicle types, followed by LGVs (15.1%) and Buses (12.1%). This indicates that **Cars, Buses and LGVs are largely responsible for the exceedances in the High St / Ladywell AQMA.**

However, the receptor where the highest road NO_x concentration was predicted within the A20 AQMA, shows that different localised effects are influencing the NO_x concentrations. At R54, although Cars are the highest contributors to road NO_x (27.6%), this is closely followed by HGVs (26.0%) and then LGVs (16.3%). This confirms that this is a common route for HGVs to take in order to access the port, and indicates that **Cars, HGVs and LGVs are largely responsible for the worst air quality within the A20 AQMA.** Understanding the key routes into the town and

towards the port, including how different vehicle types are using the surrounding roads will help focus measures.

3.4 Required Reduction in Emissions

In line with the methodology presented in Box 7.9 of LAQM.TG(16), the necessary reduction in Road NO_x emissions required to bring the High Street / Ladywell AQMA into compliance is calculated below. This is done at the worst-case exposure location for the declared AQMA. When considering the A20 AQMA, no exceedances were modelled, the required reduction has therefore not been calculated. There are uncertainties about future traffic flows, particularly relating to HGVs across Dover in the port area, which is associated with the A20 AQMA.

Table 2.4 provides the details on the calculations of the NO_x emission reduction at the worst-case exposure location, R58 in the High Street / Ladywell AQMA. The reduction in NO_x required to achieve compliance with the annual mean NO₂ objective of 40µg/m³ at the worst-case location of R58 is **2.0%**. This reduction would achieve the compliance needed at the worst-case location, within the High Street / Ladywell AQMA.

Table 2.4 - Required NO_x emission reduction at the worst-case receptor location: High Street / Ladywell AQMA

Metric	Value (Concentrations as µg/m ³)
Worst-Case Relevant Exposure NO₂ Concentration	40.4
Equivalent NO_x Concentration	74.3
Background NO_x	16.8
Background NO₂	12.4
Road NO_x – Current	57.5
Road NO_x - Required (to achieve NO₂ concentration of 39.9µg/m³)	56.3
Required Road NO_x Reduction	1.2
Required % Reduction	2.0%

3.5 Key Priorities

Based on the above information, the AQAP measures should be divided into five targeted categories, although there is often some overlap between some of the categories:

- **Priority 1: Transport** – Provision of additional transport infrastructure; changes to road layout or operation; formulation of traffic plans with the aim being to encourage the use of greener modes of transport, and/or reduce congestion and associated vehicle emissions
- **Priority 2 – Public Health** – Encouragement of wider behavioural changes in local population with respect to their travel choices, raise awareness and educate members of the public on the impact of air pollution
- **Priority 3 - Strategies and Policy Guidance** – Working with partners and stakeholders to direct the use of legislation and targeted enforcement to control air pollution
- **Priority 4 – Planning and Infrastructure** – Mitigate potential air quality impacts effectively by being involved in decision making early on for future developments required to support the growth of DDC.
- **Priority 5 – Air Quality Monitoring (Evidence for Improvement)** – Ensure satisfactory air quality monitoring data is available to track outcomes of the implemented AQAP measures.

3.5.1 Priority 1: Transport

The main source of air pollution within DDC is associated with road transport emissions. Therefore, reducing transport emissions through the measures contained within the action plan is a key priority. The approach focusses on areas where the Council has direct control (e.g. planning and procurement of outsourced functions), or areas where measures can be implemented via a partnership e.g. with National Highways and/or Kent County Council.

The annual forecast for growth at the Port of Dover was between 2% and 4% based on Dover Transport Study Forecasting Report 2007. However, the port has reported a continuous decrease in traffic since 2015 (except for 2018, where a marginal increase of 0.08% was reported). Since 2020, the impact of Covid 19 further reduced

the annual traffic towards the port. Since the restrictions associated with Covid 19 have now been lifted, it can be predicted that the traffic will return to normal levels in the following years. Among all traffic to and from the port, road haulage vehicles accounted for approximately 53% of all vehicles from 2016 to 2019. The number of road haulage vehicles reached a peak in 2017 of 2,601,162 and then began to decrease year on year to 2,149,595 in 2021. However, road haulage vehicles still accounted for 86% of all traffic to the port due to the decrease in tourist cars and coaches as a consequence of the Covid 19 travel restrictions.

The primary route for HGV traffic to and from the port is the M20/A20. The proposed redevelopment of the Western Docks, to help alleviate the capacity requirements, will increase pressure on the A20 route. The A20 is partially covered by the declared AQMA as a result of reported exceedances of the annual mean NO₂ objective. Therefore, measures within this AQMA need to focus on freight management and transport improvements. The Port of Dover have issued a [Port Air Quality Strategy](#), as part of this, they have issued a [Statement of Intent](#) which shows their commitment to delivering a sustainable port operation in order to help improve local air quality. It is therefore important that the Port of Dover are involved in the development and implementation of measures associated with managing port traffic.

There are indications from recent monitoring data that the removal of roundabouts on the A20 approach road through Dover has had a beneficial effect on local air quality. The introduction of 'A20 Dover TAP' provides for port traffic to be held on the left lane of A20 outside Dover and then 'trickled' through the AQMA area of the A20 to the port. This has resulted in some significant improvements to nitrogen dioxide levels around Snargate Street:

<https://www.doverport.co.uk/administrator/tinyMCE/source/Environment/Port%20of%20Dover%20Air%20Quality%20Strategy.pdf>

The High Street/Ladywell AQMA has also been declared as a result of road transport emissions. However, unlike the A20 AQMA, the congestion is not associated with the port traffic. The one-way nature of the road system around Dover has created inefficiencies regarding the flow of traffic through the town centre. The Transport Strategy has considered improving the bus routes to counteract the issues associated with the one-way system. With regards to air quality, measures are

required to ensure that the buses using this route are sustainable, low emission buses and that overall traffic flows are being managed to reduce congestion at the junction. The overarching objective to increase employment within the town centre will inevitably encourage an increase in traffic into the centre of Dover. Promoting sustainable modes of transport will be of great importance to ensure traffic flows do not continue to increase. Modal shift away from private vehicle use, a move to tighter emissions standards of buses, and the promotion and enhancement of cycling and walking as healthy alternatives to car journeys form important aspects of this Plan. Moreover, densification of electric vehicle charging infrastructure and employer and school travel plans further aid the aspiration to reduce emissions from vehicles within the AQMAs.

3.5.2 Priority 2: Public Health

As discussed in further detail in Section 3.1, the impact of air pollution on public health is a major driver for improving air quality. Within Dover a key priority is to ensure the health and wellbeing of the community is maintained. It is accepted that the most effective way to achieve this is to change the attitudes towards travel behaviour overall. The Council is responsible for encouraging and facilitating these changes through education and awareness as well as through schemes which incentivise change. Improving air pollution for the benefit of public requires a wide reaching perspective and will therefore not be specific to the AQMAs but instead be aimed at the whole of the district.

3.5.3 Priority 3: Strategies and Policy Guidance

DDC is part of the Kent and Medway Air Quality Partnership (KMAQP). Continued involvement within this partnership is crucial to allow for successful working with partners and stakeholders to embed air quality in all associated strategies and policies. The KMAQP allows for collaboration between neighbouring authorities to create consistency with regards to how air quality is managed across Kent. Of relevance to reducing the regional background contributions of pollution to overall pollutant concentrations in the AQMAs are the Kent Freight Action Plan (targeting HGVs to ensure an efficient use of the road network in the goods distribution sector) and the Kent Low Emissions and Energy Strategy. This Strategy will seek to target a more efficient use of energy and an overall strategic direction for energy demands

across Kent, whilst additionally seeking to promote access to low emissions alternatives (for both energy and transport sectors).

3.5.4 Priority 4: Planning and Infrastructure

The Core Strategy identified the overall economic, social and environmental objectives for the district and evaluated the amount, type and broad location of development that is required to fulfil the objectives. The Land Allocation Plan (2016 – 2026) identified the specific sites within the district that are suitable for development .

The New District Local Plan has also been published in draft format and is anticipated to be adopted in 2023, covering the period up to 2040. The Local Plan will shape the future development of the district's towns and villages and builds upon the already published Land Allocation Plan. A number of new sites were identified for housing development during the plan period up to 2040, these are outlined within the [Local Plan](#) Site Allocations Policy 1 Non Strategic Housing Allocations.

In terms of air quality, promotion of electric charging points to be integrated into the development plans in the early stages will help to support the drive towards low emission vehicles. Encouraging public transport routes to and from the allocated development sites will also help facilitate a move towards modal shift, away from cars towards active travel and use of public transport. This will specifically be beneficial for the Ladywell/High Street AQMA whilst also likely to give rise to benefits in the A20 AQMA.

3.5.5 Priority 5: Air Quality Monitoring (Evidence for Air Quality Improvement)

Air quality monitoring is a useful way to fully appreciate the extent of the air pollution problem in Dover. It can also assist in quantifying the improvements that have materialised as a consequence of implementing measures to reduce emissions. Currently, DDC monitor NO₂ extensively within Dover town centre using passive diffusion tubes. However, there are no continuous monitoring stations reporting NO₂ concentrations in the district. The inclusion of continuous monitoring stations in the air quality monitoring programme will help to provide greater confidence in the existing concentrations, show hourly pollution trends to understand, for example, how the movement of HGV Port traffic impacts air quality over the course of a day, month

or year and can be used to locally verify the diffusion tube data to allow greater accuracy in the overall measurements. Furthermore, as regional background is expected to decline in the coming years, the installation of a background monitoring station will be beneficial in realising these improvements and understanding the contribution of other sources specific to Dover. DDC will be considering the viability of installing a continuous monitoring station in a suitable location to provide real time NO₂ concentrations.

4 Development and Implementation of Dover District Council's AQAP

4.1 Consultation and Stakeholder Engagement

In developing this AQAP, we have consulted with internal and external stakeholders. We intend to conduct a public consultation including contacting other local authorities, agencies, businesses for their views and comments on this action plan. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 4.1.:

The response to our Internal and external stakeholder engagement to assist in compiling the list of proposed measures is given in Appendix A.

Table 4.1 – Proposed Consultation

Consultee
the Secretary of State
the Environment Agency
the highways authority
all neighbouring local authorities
other public authorities as appropriate, such as Public Health officials
bodies representing local business interests and other organisations as appropriate

4.2 Steering Group

A steering group was established at the start of the update process to drive forward the development of the new AQAP. The core aim of the steering group was to identify measures for inclusion within the AQAP that would be effective both in terms of reducing NO₂ concentrations and also feasible in terms of implementation and delivery.

AQAP consultation meetings were held between 27th June – 9th August 2022.

Measures identified in Table 5.1 (AQAP Measures) were discussed and examined.

See Appendix A for abridged meeting notes.

5 AQAP Measures

Table 5.1 shows the Dover District Council AQAP measures. It contains:

- a list of the actions that form part of the plan
- the responsible individual and departments/organisations who will deliver this action
- estimated cost of implementing each action (overall cost and cost to the local authority)
- expected benefit in terms of pollutant emission and/or concentration reduction
- the timescale for implementation
- how progress will be monitored

NB: Please see future ASRs for regular annual updates on implementation of these measures

Table 5.1 – Air Quality Action Plan Measures

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
1	Encourage Council Travel Plan opportunities and seek to facilitate uptake of sustainable modes of transport;	Promoting Travel Alternatives	Workplace Travel Planning	DDC	Ongoing	2023 onwards	% increase in amount of usage in schemes identified in comments column	Below annual mean AQS objectives	Ongoing	2025-2027	<ul style="list-style-type: none"> • cycle to work scheme • Electric Staff Vehicle Pool Car trial • Electric Vehicle Staff Salary scheme • Flexible and remote working
2	Work together with KCC to encourage the uptake of Employer and School Travel Plans within the District; including School start time variations and walking to school incentives/encouragement	Promoting Travel Alternatives	School Travel Plans	DDC/KCC	Ongoing	2022	No. of travel plans in place Reduction in school vehicle drop-offs / pick-ups	Below annual mean AQS objectives	On-going	tbc	Approximately 73% of primary and 89% of secondary schools in Dover District have approved school travel plans

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
3	Work with KCC to improve the facilities for cycling and walking within Dover district; promote cycle-to-work scheme and bike rental scheme	Promoting Travel Alternatives	Promotion of cycling	DDC/KCC	Ongoing	Ongoing	%modal shift to cycling/walking, No. miles new cycle lanes/routes Number of bikes available and rentals	Below annual mean AQS objectives	On-going	2025-2027	Includes Dover District Cycling Plan. 2019 Updated DDC website published local cycle routes and introduced Betteshanger cycle tracks. DDC introduced Cycling to Work scheme in Oct 2021. Introduction of: <ul style="list-style-type: none"> E cycle training scheme Kent Connected App Clearing of NCN paths Explore Kent website
4	Work together with developers to improve sustainable transport links serving new developments.	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	DDC	Ongoing	2022 onwards	No. planning applications where improvements secured	Below annual mean AQS objectives	Planning conditions included in all major developments to install ELV charging points	2025-2027	Change in building regulations requiring some new developments to have electric vehicle charging infrastructure.

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
5	Work with KCC to improve public transport services and encourage the use of more sustainable transport modes	Transport Planning and Infrastructure	Public transport improvements- interchanges stations and services	DDC/KCC	Ongoing	2022 onwards	% modal shift to public transport	Below annual mean AQS objectives	On-going	2035	New Fast Track Bus Service (ELV) from Whitfield to Dover Town underway. Stagecoach commitment to invest in low emission technology and have a zero emission fleet by 2035. KCC offering travel plans for new developments
6	Local air quality monitoring within the District to ensure a high standard of data is achieved	Public Information	Other	DDC	Ongoing	1995 onwards	Recorded Concentration	Below annual mean AQS objectives	Completed Annually, renewed in 2018. Two automatic sites decommissioned, but more diffusion tubes added to compensate	ongoing	General trend of reduction in concentrations monitored (LAQMTG16)
7	Make details of the Action Plan measures and annual progress reports available on the Website	Public Information	Via the Internet	DDC	Ongoing	Annually	Availability of recently published reports on the Website	Below annual mean AQS objectives	On-going	Annually	ASR documents freely available. Part of general and continual efforts of DDC Environmental Protection..

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
8	Work with KMAQP on promotional activities to raise the profile of air quality in Dover	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	DDC/KMAQP	Ongoing	2022 onwards	% improvement in energy efficiency, SAP rating	Below annual mean AQS objectives	On-going	Ongoing	Dover DC as member of K&MAQP worked with KCC on Kent and Medway Energy and Low Emissions Strategy (ELES)
9	Local Plan policy and guidance	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	DDC/KCC	2022	Ongoing	Implementation of policy	Below annual mean AQS objectives	Local Plan timetable: Regulation 18 draft since November 2021; Local Plan dated to 2040	2024	The DDC draft local plan already includes sustainable travel initiatives. AQ Assessments for all planning applications where AQ is an issue. Developers are advised to make reference to K&MAQP Guidance for AQ and IAQM/EPUK Guidance
10	District wide promotion of active travel	Promoting Travel Alternatives	Intensive active travel campaign & infrastructure	DDC/KCC	Ongoing	Ongoing	Number of promotion events	NO2 Measure to increase public awareness	National campaigns promoted on social media platforms	2025-2027	DDC webpages can link to active travel - KCC looking to update Local Transport Plan -. DDC run Wellbeing at Work initiatives.

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
11	Behaviour change campaigns to reduce single occupancy car trips	Public Information	Other	DDC	2022	Ongoing	Number of campaigns	NO2 Measure to increase public awareness	Electric pool cars available and DDC staff mileage scheme reviewed	2025-2027	Officers are encouraged to car share where site visits permit. Social media posts to encourage the public to follow DDCs example.
12	Flexible working and home working encouraged	Promoting Travel Alternatives	Encourage / Facilitate home-working	DDC	2022	2023	Number of campaigns	NO2 Measure to increase public awareness	New Flexible working policy being viewed at DDC	2025-2027	Flexible working and home working policy has already been in place.
13	Educational campaigns for schools	Public Information	Other	DDC	Ongoing	2022	Number of school sign ups to pollution patrol	NO2 Measure to increase public awareness	Reviewed in early 2023 to evaluate school participation	2025-2027	As part of a 'Schools Group' DDC partner in a successful Defra bid for a 'Digital Schools Resource' led by Canterbury CC called "Pollution Patrol"
14	District wide Clean Air Days	Public Information	Other	DDC/KCC	2022	2023	Number of campaigns	NO2 Measure to increase public awareness	part of Kent initiative 2022	2023-2027	DDC to promote national clean air days.
15	Taxi/Private Hire Vehicle Policy license fees	Promoting Low Emission Transport	Taxi Licensing conditions	DDC	2022	2022	Implementation of policy	NO2 Measure to increase public awareness	Part of DDC Licensing Policy	2023	DDC new Licensing Policy. 4.3.3: Vehicle Specifications enable Electric, Hybrid or LPG converted vehicles to be licensed. This Authority offers a reduction in the licence fee for any vehicle that is electric, hybrid or LPG converted of 25%.

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
16	Engage with bus operators to introduce ultra-low emission vehicles into the fleets	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	DDC	2022	2022	Fleet composition	NO2 To be confirmed if considered for further assessment. NOx emission reduction will be able to be calculated annually depending on the change in fleet composition	Part of Construction of Dover Fastrack 2022	2022	Dover Fastrack which will become a zero-emission bus service with a fleet of electric buses – has a new route under construction . In addition Stagecoach have a net zero target for their fleet of 2035
17	Procuring low emission vehicles for the LGV and HGV fleet, council-owned fleets and refuse fleet	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	DDC	2022	Ongoing	Fleet composition	NO2 To be confirmed if considered for further assessment. NOx emission reduction will be able to be calculated annually depending on the change in fleet composition	4 Electric Vehicles current utilised by DDC.	2029	DDC Environmental Crime team currently runs three ELVs. DDC Grounds Maintenance exploring use of ELVs for supervisors DDC Parking Services and Community Safety Unit looking at move to ELVs upon contract renewal

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
18	Alternative fuel (EV) infrastructure development	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	DDC	Ongoing	2022	Number of EV charging points	NO2 Small impact upon NO2 concentrations from measure individually, estimated to be less than 1µg/m3 based upon a low to medium uptake.	29 public electric vehicle charging posts installed across the district	2023	DDC succeed in OLEV funding bid for 19 sites, 42 units to be completed 2022. Additional 7 ELV chargers have been installed at Council office car park and there are plans to increase numbers for public use.
19	On and off-street parking charges linked to vehicle emissions standards	Promoting Low Emission Transport	Priority parking for LEV's	DDC	2022	2022	Number of discounted permits	NO2 Small impact upon NO2 concentrations from measure individually, estimated to be less than 1µg/m3 based upon a low to medium uptake.	Parking permits discounted for low emission vehicles	2022	On and off street parking charges for low emission vehicles explored.

Measure No.	Measure	EU Category	EU Classification	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
20	Port of Dover improvements	Freight and Delivery Management	Other	Port of Dover	Ongoing	2022	Reduction in NO2 concentrations	NO2 Small impact upon NO2 concentrations from measure individually, estimated to be less than 1µg/m3 based upon a low to medium uptake.	Port of Dover have published an Air Quality Action Plan	2025-2027	<ul style="list-style-type: none"> P&O have 2 new hybrid vessels that use electric power when in port to reduce emissions. POD exploring use of further anti-idling signage along port "buffer zone" Feasibility Study undertaken regarding use of electric vehicles
21	Provision of high quality, bespoke and accessible information on sustainable travel	Public Information	Other	DDC/KCC	Ongoing	2022 onwards	Number of campaigns	NO2 Measure to increase public awareness	DDC officers input in to KCC Low Emission Strategy.	2022	DDC officers input in to KCC Low Emission Strategy.
22	Work with Kent Energy Centre to promote and implement energy efficiency measures in Dover	Promoting Low Emission Plant	Shift to installations using low emission fuels for stationary and mobile sources	DDC/Kent Energy Centre	Ongoing	2019	% improvement in energy efficiency, SAP rating	Below annual mean AQS objectives	On-going	2022	Dover DC as member of K&MAQP worked with KCC on Kent and Medway Energy and Low Emissions Strategy (ELES)

Appendix A: Response to Consultation

Table A.1 – Summary of Responses to Consultation and Stakeholder Engagement on the AQAP

Air Quality Action Plan Consultation Meetings Summary

The Environmental Protection Team conducted meetings/corresponded with relevant stakeholders between the 27/06/2022 and the 09/08/2022 to help form its air quality action plan.

The below tables detail key points from this consultation:

Internal stakeholders (Dover District Council)	
Department/Team	Measures identified to reduce air pollution
Grounds Maintenance	<ul style="list-style-type: none"> • GM team have explored market for electric alternatives to current fleet (11 vehicles) however not currently deemed viable due to cost. Will check the market again upon contract renewal • Exploring the two supervisors’ vehicles becoming electric and together with wider use of electric hand tools
Waste Services	<ul style="list-style-type: none"> • DDC refuse and recycling waste collection vehicles are all diesel and tied into contract until 2029 will consider electric vehicles following contract expiry • Collection route optimisation • Contractor (Veolia) have issued electric vehicles to their supervisors in our district.

Procurement	<ul style="list-style-type: none"> • Procurement Team to suggest to all project managers that a social value question be added to all new contract tender questionnaires.
Community Safety & Development	<ul style="list-style-type: none"> • Community development team offered to promote air quality at local events their team attends. • Explore promotion of educational online resource “Pollution Patrol” at Youth conference(s) • Will consider electric vehicles upon vehicle contract renewals
Press office/communications	<ul style="list-style-type: none"> • Continue to post air pollution messages on social media, e.g., anti-idling campaigns and clean air day • Link messaging to infrastructure projects such as Dover FAST TRACK • Work with Environmental Protection Team to promote online resource “Pollution Patrol”
Planning	<ul style="list-style-type: none"> • Building regulations recently changed requiring provision of electric vehicle charging points for applications relating to single dwelling(s) upwards. • Commercial developments steer to seek up to 10% be electric charging facilities with new applications
Licencing	<ul style="list-style-type: none"> • Reduction in licencing fees for taxi’s which are electric/hybrid
Planning Policy	<ul style="list-style-type: none"> • Copy of current local plan shared with Environmental Protection to consider adoption of the Kent & Medway Air Quality guidance document
Climate Change	<ul style="list-style-type: none"> • Hybrid working has seen reduction in staff travel • Climate Change Strategy
Parking Services	<ul style="list-style-type: none"> • Exploring idea of cycle parking in new car parks • Exploring replacing three diesel vehicles with electric ones • Parking permits currently linked to emissions
Human Resources	<ul style="list-style-type: none"> • Cycle to work scheme • New business milage policy • Exploring electric staff pool car scheme (for work duties) • Promotion of active travel

	<ul style="list-style-type: none"> • Electric vehicle car salary scheme • Flexible working policy
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External Stakeholders	
Stakeholder	Measures identified to reduce air pollution
Kent Highways	<ul style="list-style-type: none"> • Introduction of Dover FAST TRACK (Electric bus) • Improvements to EV charge point network in Kent including rural areas • Travel plans for new developments • Refurbishment works conducted at ladywell lights in Dover in 2021 • Active travel plans offered to all schools • Support for active travel schemes e.g.: <ul style="list-style-type: none"> ○ E cycle training scheme, ○ town cycle audits, ○ Kent connected app ○ Clearing NCN paths ○ “Explore Kent” • National bus strategy formed • Promotion and support of campaigns e.g., road safety week, national walking month, walk to school or work initiatives, etc via website, social media, and other methods
Stagecoach	<ul style="list-style-type: none"> • Commitment to investing in low emission technology, zero emission bus fleet target by 2035. • Reconnect scheme through KCC providing free bus travel • New Euro 6 Engine vehicles have automatic engine switch off when stationary • Advertising campaigns to promote using public transport planned following reduction in passenger numbers post Covid

Port of Dover	<ul style="list-style-type: none">• POD have air quality action plan• Exploring improvement of no idling signage along “buffer zone”• Two new P&O vessels will be hybrid meaning that vessels would be electric powered when entering and leaving ports.• Feasibility study being undertaken regarding electric vehicles with partners• POD requested additional investment in to increase amount of electricity coming into the port via the power network to enable reduction in use of fuels that create air pollution on site.
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Appendix B: Reasons for Not Pursuing Action Plan Measures

Table B.1 – Action Plan Measures Not Pursued and the Reasons for that Decision

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
	Cycle-to-work schemes	Detailed in other action plan measures.
	Reducing vehicle idling	Resource to provide enforcement not available. AQMAs are located in areas with high flows of traffic where idling is not a major issue. Any type of enforcement in these areas is likely to cause traffic delays.
	Retrofitting or upgrade of private hire vehicles / taxis to LPG/retrofitting subsidies for local cab owners	No appetite following consultation with licensing team

<Appendix C: Add Additional Appendices as Required>

INSTRUCTIONS

The Council should add additional supporting appendices as required.

For example, where the selection of AQAP measures has been supported by further studies, e.g. quantitative appraisal of action plan measures through dispersion modelling, or other feasibility studies, this work should be included here.

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQS	Air Quality Strategy
ASR	Air quality Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DDC	Dover District Council
EU	European Union
KMAQP	Kent and Medway Air Quality Partnership
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less

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[https://www.dover.gov.uk/Environment/Environmental-Protection/Air-Quality/Dover-Air-Quality-Action-Plan-\(No-2-A20\).pdf](https://www.dover.gov.uk/Environment/Environmental-Protection/Air-Quality/Dover-Air-Quality-Action-Plan-(No-2-A20).pdf)

DOVER DISTRICT COUNCIL

THE DOVER DISTRICT COUNCIL AIR QUALITY
MANAGEMENT AREA ORDER 2004
(AMENDMENT 2009) A20 TRUNK ROAD, DOVER

SECTION 83(2) ENVIRONMENT ACT 1995

ORDER DESIGNATING AN AIR QUALITY MANAGEMENT AREA AMENDMENT
FURTHER ASSESSMENT REPORT (APRIL 2009)

Whereas the Dover District Council ("the Council") is satisfied that as a result of its Local Air Quality Management Further Assessment 2009 – the air quality objectives for nitrogen dioxide (annual mean) in the area of the A20 Trunk Road, Dover are not likely to be achieved by the relevant dates prescribed by the Air Quality (England) Regulations 2000 being 31 December 2005 in the area described below and, furthermore, modelled contour results indicate boundary changes to other parts of the A20 AQMA:

The Council, in exercise of its power conferred on it by Section 83(1) of the Environment Act 1995 HEREBY ORDERS THAT:-

1. The area described in the Schedule below shall be designated as an Air Quality Management Area to be known as the Dover District Council Air Quality Management Area 2004 (Amendment 2009) A20 Trunk Road, Dover.
2. The Air Quality Management Area will be an air quality management area in relation to nitrogen dioxide only, and amends the existing Air Quality Management Area 2004 (Amendment 2007) A20 Trunk Road, Dover.
3. The Order may be cited as the Dover District Air Quality Management Area Order 2004 (Amendment 2009) A20 Trunk Road, Dover.
4. The Order shall come into force on 30th November 2009 and shall remain in force until varied or revoked by a subsequent Order.

The Schedule

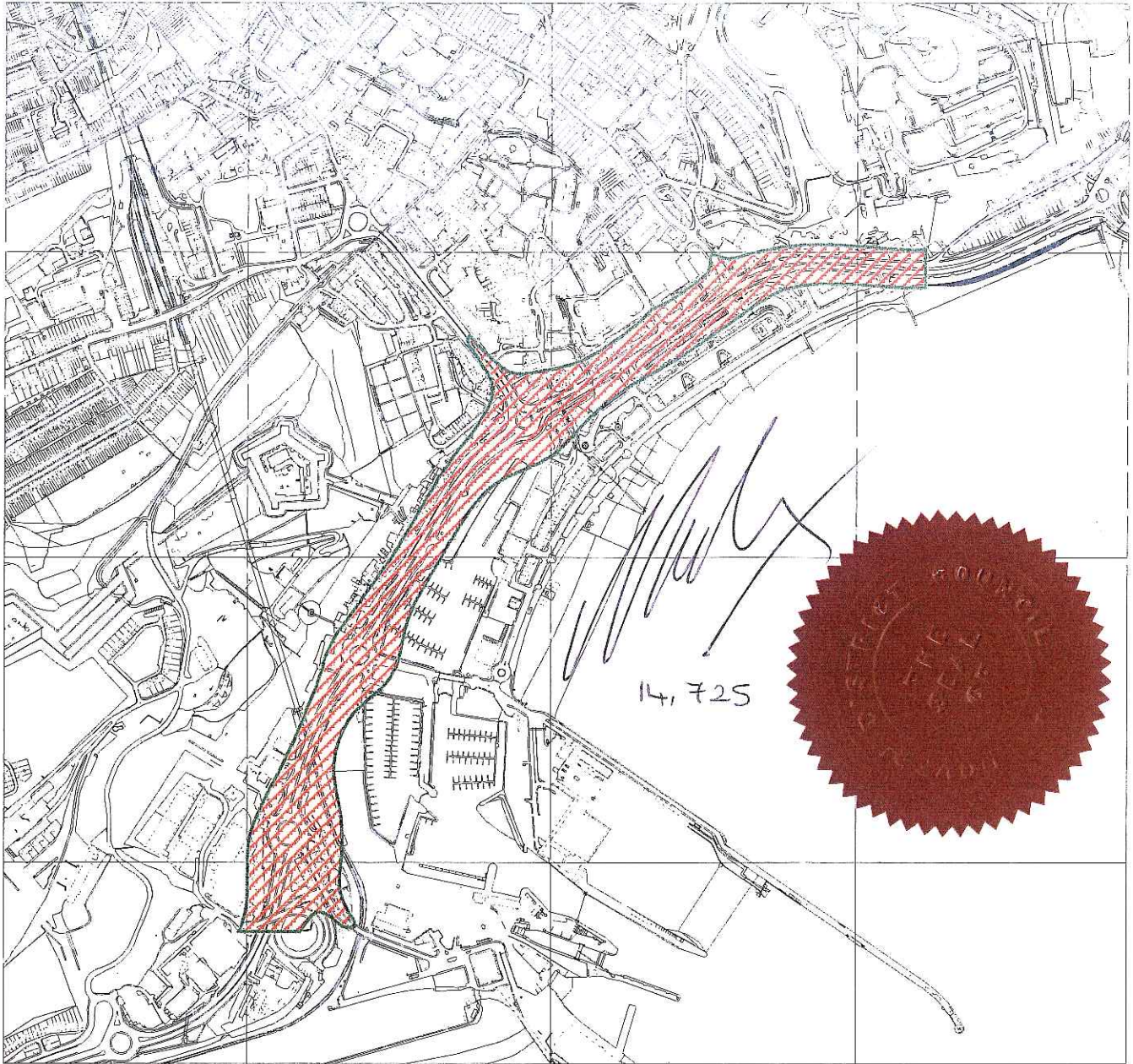
The area edged green and hatched on the attached map, being the area from St Martins House, Limekiln Street at its western end and to a point approximately 280 metres from the entrance to the Eastern Docks, Dover at its eastern end. The area follows the route of the A20 and comprises Limekiln Street, Snargate Street, Townwall Street, part of the south end of Woolcomber Street and York St to the north and the Gateway Flats to the south.

The Common Seal of)
)
DOVER DISTRICT COUNCIL)
)
 was hereunto affixed this day)
)
)
)
 In the presence of:)

[Handwritten Signature]
 14, 725



Chief Executive



Air Quality Management Area

**Environment Act 1995
 Air Quality (England) Regulations 2000
 Dover District Council Air Quality Management Area Order 2004
 (Amendment 2009) A20 Trunk Road, Dover**



DOVER DISTRICT COUNCIL
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Scale 1:10,000

From O.S. Sheets: TR3141 & TR3241
 TR3140 & TR3240

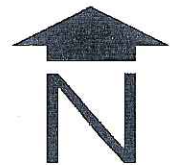
Plan No: 137/09

Date: 16 October 2009

Drawn by: T.A.W.

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DOVER DISTRICT COUNCIL

**THE DOVER DISTRICT COUNCIL AIR QUALITY
MANAGEMENT AREA ORDER 2007
HIGH STREET/LADYWELL, DOVER**

SECTION 83(1) ENVIRONMENT ACT 1995

ORDER DESIGNATING AN AIR QUALITY MANAGEMENT AREA

Whereas the Dover District Council ("the Council") is satisfied that as a result of its Local Air Quality Management – Detailed Assessment Report (April 2007) the air quality objectives for nitrogen dioxide (annual mean) in the area of High Street/Ladywell Dover are not likely to be achieved by the relevant dates prescribed by the Air Quality (England) Regulations 2000 being 31 December 2005 in the area described below:-

The Council, in exercise of its powers conferred on it by Section 83(1) of the Environment Act 1995 HEREBY ORDERS THAT:-

1. The area edged green and hatched on the attached map shall be designated as an Air Quality Management Area to be known as the Dover District Council Air Quality Management Area 2007, High Street/Ladywell, Dover.
2. The Air Quality Management Area will be an air quality management area in relation to nitrogen dioxide only.
3. The Order may be cited as the Dover District Council Air Quality Management Area Order 2007, High Street/Ladywell, Dover.
4. The Order shall come into force on 20 December 2007 and shall remain in force until varied or revoked by subsequent Order.

The Schedule

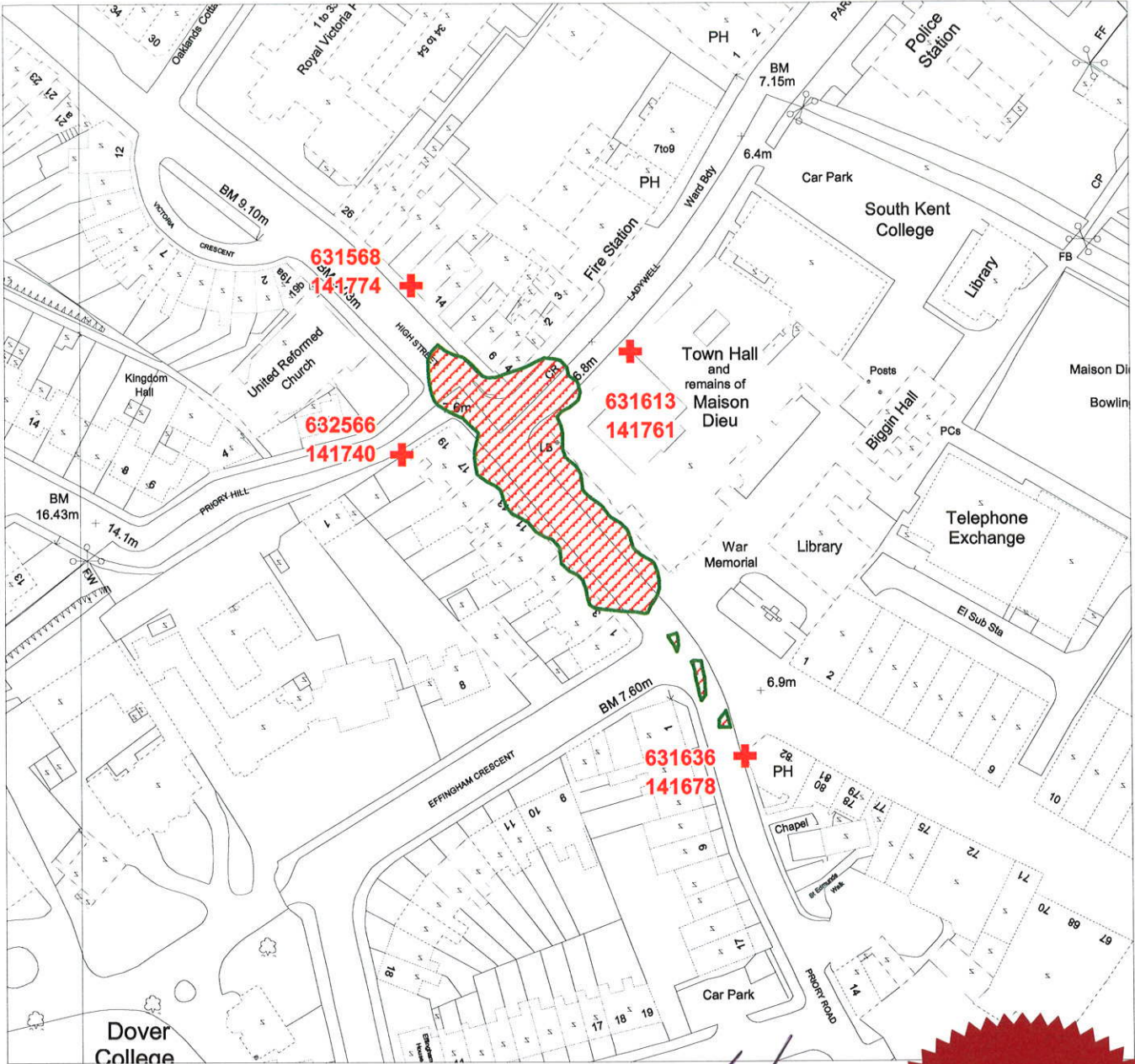
The area edged green and hatched on the attached map being the area from the junction of Effingham Crescent/High Street at its southern end and to the junction of Priory Hill/High Street an the northern end.

The Common Seal of)
DOVER DISTRICT COUNCIL)
was hereunto affixed this)
10th day of December 2007 in the)
presence of:)



Chief Executive

A handwritten signature in black ink, appearing to be 'M. A. ...'.



Air Quality Management Area

**Environment Act 1995
 Air Quality (England) Regulations 2000
 Dover District Council Air Quality Management Area Order 2007
 High Street/Ladywell, Dover**



DOVER DISTRICT COUNCIL
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Scale 1:1250
 From O.S. Sheet: TR3241
 Plan No: 211/07
 Date: 17 September 2007
 Drawn by: T.A.W.



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Dover District Council

*Air Quality Action Plan Inputs
Dispersion Modelling Assessment*

March 2021



**BUREAU
VERITAS**

Move Forward with Confidence



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Document Control Sheet

Identification	
Client	Dover District Council
Document Title	Air Quality Action Plan Inputs for Dover District Council
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Configuration				
Version	Date	Author	Reason for Issue/Summary of Changes	Status
1	03/03/2021	P Stockton	Draft for comment	Draft

	Name	Job Title	Signature
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Executive Summary

Bureau Veritas UK Ltd has been commissioned by Dover District Council ('the Council') to complete an Air Quality Assessment to support the development of the Council's Air Quality Action Plan (AQAP), covering primarily the A20 AQMA declared in 2004 (and amended in 2007 and 2009) and the High Street / Ladywell AQMA declared in 2007, both due to exceedances of the annual mean NO₂ Air Quality Strategy (AQS) objective.

The basis of the assessment is the updated Dover Transportation Strategy completed by WSP, on which a report on Air Quality was originally produced in 2008. The transport model is itself built on analysis of the existing and future transport conditions in Dover using a multi-modal transport 'VISSUM' model.

The assessment considered exposure of existing residential receptors to concentrations of Nitrogen Dioxide (NO₂) and Particulate Matter (PM₁₀), using the Cambridge Environmental Research Consultants ADMS-Roads™ dispersion model (version 5.0).

For NO₂, there is one predicted exceedance of the AQS NO₂ annual mean objective for all modelled receptors, at R58, which lies within the existing High St / Ladywell AQMA. This receptor location predicted the maximum concentration across the modelled receptor locations, reporting a concentration of 40.2µg/m³, which is just over the AQS objective and represents 100.5% of the objective. One further location was predicted to be within 10% of the AQS Objective, at receptor location R54, within the A20 AQMA. This receptor location predicted a concentration of 37.5µg/m³, representing 93.9% of the AQS Objective therefore highlighting an area of potential concern.

NO₂ concentrations predicted at all other modelled receptor locations were below the annual mean NO₂ AQS Objective and no further locations were within 10% of the objective. Additionally, annual mean NO₂ concentrations at all assessed receptor locations, original and additional, are below the 60µg/m³ limit given in LAQM.TG(16)⁴, and therefore short-term NO₂ exposure from road traffic emissions at the assessed receptor locations are not considered to be in exceedance of the AQS objective.

NO₂ concentration isopleths indicated that no change to either the High Street / Ladywell AQMA boundary and the A20 AQMA boundary is necessary. The modelled exceedances of the AQS objective are largely localised to the roadway and concentrations drop off as you move further from the road. Regarding the High Street / Ladywell AQMA, the elevated concentrations that led to the declaration of the AQMA are confirmed to still be present, however, the concentrations drop off further from the junction and exceedances have not been modelled north of the AQMA boundary. The 40µg/m³ isopleth extends slightly to the south of the AQMA boundary along High Street to the junction with Effingham Crescent. However, the exceedances are modelled within the roadway and concentrations drop to below 36µg/m³ at either side of the road, where receptors are present. Regarding the A20 AQMA, the area of potential concern is confirmed along Snargate street, where concentrations between 36-40µg/m³ have been modelled along parts of the minor road where receptors are present. The extent of the 40µg/m³ isopleth extends beyond the AQMA boundary to the north and south, however these concentrations are confined to the roadway and concentrations drop to below 36µg/m³ at either side of the road, where receptors are present.

For NO_x, regional background (the concentrations which the Council are not able to influence), account for only 23.1% of total concentrations. As such local policy should have a significant influence on NO_x concentrations. At the receptor where the maximum road NO_x concentration has been predicted, located within the High Street / Ladywell AQMA, road traffic accounts for 77.4% of the overall NO_x. Of this total NO_x, Cars account for the most (42.6%) of any of the vehicle types, followed by LGVs (15.1%) and Buses (12.1%). This indicates that Cars, Buses and LGVs are largely responsible for the exceedances in the High St / Ladywell AQMA. Therefore, measures should focus specifically to reduce the number of these vehicle types travelling along the most vulnerable routes.

However, the receptor where the second highest road NO_x concentration was predicted, within the A20 AQMA, shows that different localised effects are influencing the NO_x concentrations. Cars are

the highest contributors to road NO_x (27.6%), however this is closely followed by HGVs (26.0%) and then LGVs (16.3%). This confirms that this is a common route for HGVs to take in order to access the port and indicates that cars, HGVs and LGVs emissions are responsible for increasing NO_x concentrations in the A20 AQMA. Understanding the key routes into the town and towards the port, including how different vehicle types are using the surrounding roads, will help focus measures.

For PM₁₀, the maximum predicted annual mean concentration in 2019 was 21.4µg/m³. This represents only 53.5% of the 40µg/m³ annual mean AQS objective. The maximum number of exceedances of the 24-hour PM₁₀ 50µg/m³ AQS objective at all receptor locations in 2019 was 5 days. This is well below the 35 permitted exceedances. In conclusion, there are no exceedances of the PM₁₀ AQS objectives modelled in 2019. There is no requirement to declare an AQMA for this pollutant.

On the basis of the results of the detailed dispersion modelling assessment, the following actions are recommended:

- The High St / Ladywell AQMA to remain as currently declared although the existing monitoring at High Street toward Victoria Crescent (DV30) should continue, with a focus on increasing data capture and ensuring relevant public exposure (i.e. located at the height of a residential property);
- The A20 AQMA to remain as currently declared, though monitoring to be continued to assess the current boundary, particularly at the monitoring locations along Snargate Street (DV23, DV24 and DV25) and outside of the AQMA boundary at the A20 Eastern Docks roundabout (DV33) to assess whether any permanent changes to HGV routes through Dover will worsen the air quality within the A20 AQMA. If the monitoring at DV33 identifies a new exceedance, amendment will need be considered;
- Commence work on an updated Air Quality Action Plan, using the source apportionment information as a basis for measures, and targeting specifically the roads along the A256 High Street to A20 Snargate Street link;
- Re-evaluation of detailed modelling to be considered once permanent changes to HGV routes are known post-Brexit and considering the new White Cliffs Inland Border Facility.

1. Introduction

Bureau Veritas UK Ltd has been commissioned by Dover District Council ('the Council' / DDC) to complete a detailed dispersion modelling assessment to inform an update to the Council's AQAP. The work undertaken will help to ensure that the AQAP adheres to the Council's recently developed Local Plan as well as changes to national best practice measures. Prior to preparing the revised AQAP the Council requested a dispersion modelling assessment in the area covered by the Council's presently declared Air Quality Management Areas (AQMAs) to provide a detailed understanding of the existing conditions within Dover.

There are currently two AQMAs declared in the district due to exceedances of the annual mean Air Quality Strategy (AQS) objective for nitrogen dioxide (NO₂), caused primarily by road traffic emissions. These are the A20 AQMA, declared in 2004 (and amended in 2007 and 2009) and the High Street/Ladywell AQMA, declared in 2007. The extent of these AQMAs has not been reviewed since 2009 and 2007 respectively.

The basis of this assessment is the Dover Transportation Strategy, first completed in 2008 and recently updated by WSP. The strategy is built on an analysis of the existing and future transport conditions in Dover using a multi-modal transport 'VISSUM' model. This was updated by re-validating the base year with 2015 traffic data, 2011 Census data, new traffic data collected by Dover Harbour Board, traffic data collected from Automatic Traffic Counts in November 2015, mobile phone data and any completed/committed development since 2007. A growth factor has been applied to the 2015 traffic data using the National Trip End Model (NTEM) to give a baseline of 2019.

1.1 Scope of Assessment

Based upon the requirements provided by the Council the main objectives of this assessment are as follows:

- To assess the air quality at selected locations ("receptors") at the façades of existing residential units representative of worst-case exposure, based on modelling of emissions from road traffic on the local road network for the year 2019;
- To compare the predicted air pollutant concentrations with the objectives set out in the AQS¹ and set out by the Government in the Air Quality (England) Regulations 2000² and (Amended 2002 version³) for Local Air Quality Management (LAQM) purposes, in order to identify any issues pertinent to the exposure of residents to these pollutants;
- To determine the geographical extent of any potential exceedance of the annual mean AQS objectives for NO₂ and PM₁₀;
- To determine the source apportionment at the worst-case receptor location within each AQMA; and
- To put forward recommendations as to the extent of any changes to the current AQMA boundaries or introduction of a new AQMA within Dover.

The approach adopted in this assessment to evaluate the impact of road traffic emissions on air quality has utilised Cambridge Environmental Research Consultants (CERC) ADMS-Roads™ dispersion model (version 5.0) with the latest vehicle emission factors released by the Department for Environment, Food and Rural Affairs (Defra) Emissions Factors Toolkit (EFT) version 10.1, focusing on NO₂ and PM₁₀. These pollutants are the main pollutants of concern associated with

¹ Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland.

² The Air Quality (England) Regulations 2000 (Statutory Instrument 928).

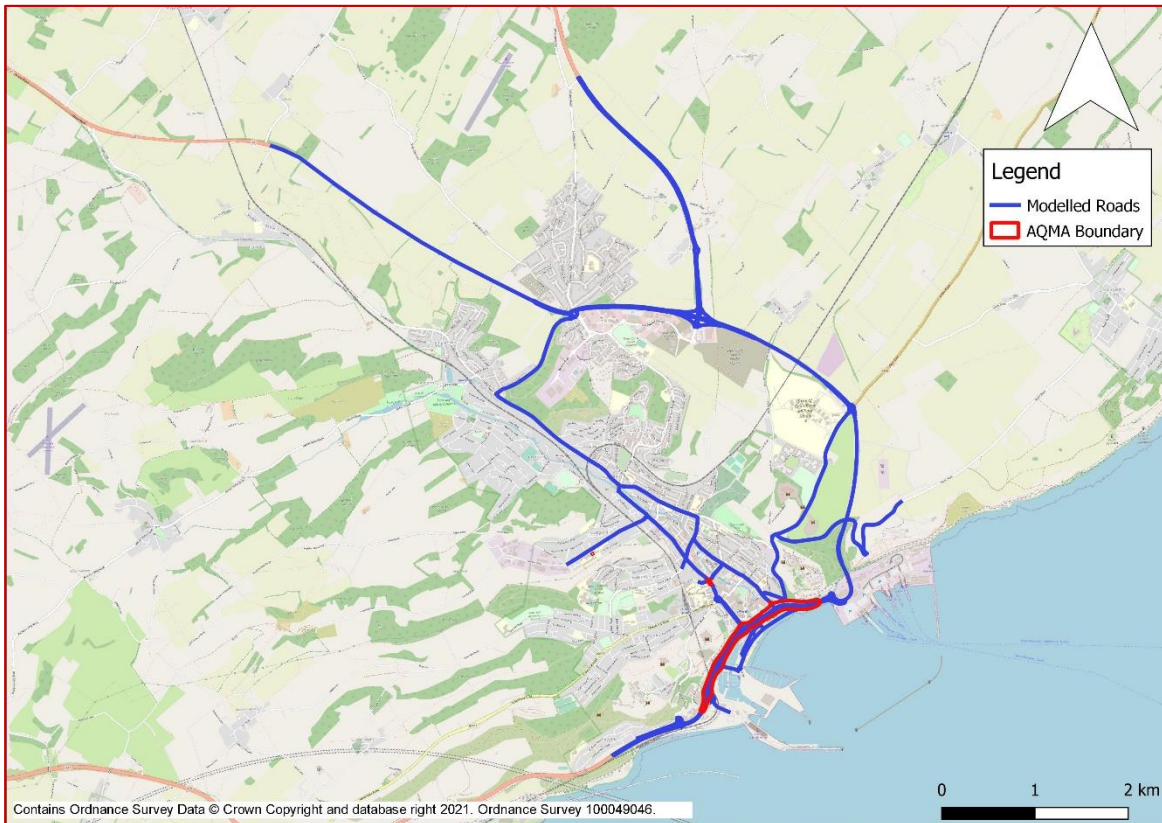
³ The Air Quality (England) (Amendments) Regulations 2002 (Statutory Instrument 3043).

traffic emissions for comparison against the relevant Air Quality Standard (AQS) objectives, both nationally and within the Council's administrative area. Further general information in relation to these pollutants and urban pollution is provided in Appendix A.

In order to provide consistency with the Council's own work on air quality, the guiding principles for air quality assessments as set out in the latest guidance and tools provided by Defra (LAQM TG(16)⁴) have been used where relevant.

The area considered as part of this study is illustrated in Figure 1-1.

Figure 1-1 - Study Area



⁴ LAQM Technical Guidance LAQM TG(16) – February 2018. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.

2. Air Quality – Legislative Context

2.1 Air Quality Strategy

The importance of existing and future pollutant concentrations can be assessed in relation to the national air quality standards and objectives established by Government. The Air Quality Strategy (AQS)⁵ provides the over-arching strategic framework for air quality management in the UK and contains national air quality standards and objectives established by the UK Government and Devolved Administrations to protect human health. The air quality objectives incorporated in the AQS and the UK Legislation are derived from Limit Values prescribed in the EU Directives transposed into national legislation by Member States.

The CAFE (Clean Air for Europe) programme was initiated in the late 1990s to draw together previous directives into a single EU Directive on air quality. The CAFE Directive⁶ has been adopted and replaces all previous air quality Directives, except the 4th Daughter Directive⁷. The Directive introduces new obligatory standards for PM_{2.5} for National Government but places no statutory duty on Local Governments to work towards achievement of these standards.

The Air Quality Standards (England) Regulations⁸ 2010 came into force on 11 June 2010 in order to align and bring together in one statutory instrument the UK Government's obligations to fulfil the requirements of the new CAFE Directive.

The objectives for ten pollutants – benzene (C₆H₆), 1,3-butadiene (C₄H₆), carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), sulphur dioxide (SO₂), particulate matter - PM₁₀ and PM_{2.5}, ozone (O₃) and Polycyclic Aromatic Hydrocarbons (PAHs), have been prescribed within the AQS².

The EU Limit Values are considered to apply everywhere with the exception of the carriageway and central reservation of roads and any location where the public do not have access (e.g. industrial sites).

The AQS objectives apply at locations outside buildings or other natural or man-made structures above or below ground, where members of the public are regularly present and might reasonably be expected to be exposed to pollutant concentrations over the relevant averaging period. Typically these include residential properties and schools/care homes for long-term (i.e. annual mean) pollutant objectives and high streets for short-term (i.e. 1-hour) pollutant objectives. Table 2-1, taken from LAQM TG(16)⁴, provides an indication of those locations that may or may not be relevant for each averaging period.

This assessment focuses on NO₂ and PM₁₀ as these are the pollutants of most concern within the Council's administrative area. Moreover, as a result of traffic pollution the UK has failed to meet the EU Limit Values for NO₂ by the 2010 target date. Therefore, as a result, the UK Government has submitted time extension applications for compliance with the EU Limit Values; continued failure to achieve these limits may lead to EU fines.

In July 2017, the UK Government published its plan for tackling roadside NO₂ concentrations, which are, in many places within the UK, in exceedance of the EU Limit Values. This sets out UK Government policies for bringing NO₂ within statutory limits in the shortest possible time. Following on from the 2017 publication, the draft Clean Air Strategy was published in 2018, with the final version being published in January 2019. The strategy outlines how the UK will meet international commitments to significantly reduce emissions by 2020 and 2030 under the adopted revised National Emissions Ceiling Directive (NECD), with a focus on five of the most damaging air

⁵ The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007), Published by Defra in partnership with the Scottish Executive, Welsh Assembly Government and Department of the Environment Northern Ireland.

⁶ Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe.

⁷ Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic hydrocarbons in ambient air.

⁸ The Air Quality Standards Regulations (England) 2010, Statutory Instrument No 1001, The Stationary Office Limited.

pollutants. The five pollutants cited are fine particulate matter, ammonia, nitrogen oxides, sulphur dioxide, and non-methane volatile organic compounds.

The AQS objectives for the pollutants that the assessment focuses on are presented in Table 2-2.

Table 2-1 – Examples of where the AQS Objectives should apply

Averaging Period	Objectives should apply at:	Objectives should generally not apply at:
Annual mean	All locations where members of the public might be regularly exposed. Building facades of residential properties, schools, hospitals, care homes etc.	Building facades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term
24-hour mean and 8-hour mean	All locations where the annual mean objectives would apply, together with hotels. Gardens or residential properties ¹ .	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives would apply. Kerbside sites (e.g. pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where the public might reasonably be expected to spend one hour or more. Any outdoor locations at which the public may be expected to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.
15-minute mean	All locations where members of the public might reasonably be expected to spend a period of 15 minutes or longer.	
Notes:		
¹ For gardens and playgrounds, such locations should represent parts of the garden where relevant public exposure is likely, for example where there is seating or play areas. It is unlikely that relevant public exposure would occur at the extremities of the garden boundary, or in front gardens, although local judgement should always be applied.		

Table 2-2 – Relevant AQS Objectives for the Assessed Pollutants in England

Pollutant	AQS Objective	Concentration Measured as:	Date for Achievement
Nitrogen Dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 18 times per year	1-hour mean	31 December 2005
	40 µg/m ³	Annual mean	31 December 2005
Particulate Matter (PM ₁₀)	50 µg/m ³ not to be exceeded more than 35 times per year	24-hour mean	31 December 2010
	40 µg/m ³	Annual mean	31 December 2010

2.2 National Planning Policy

The National Planning Policy Framework⁹ (NPPF) was published in March 2012 and revised in February 2019. The framework details the English Government's vision for growth in England, outlining the need to favour sustainable development. One of the overarching objectives for achieving sustainable development is the environmental objective:

“to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”

With regard to air quality, the NPPF additionally states:

“Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas.

... Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan.”

The Planning Practice Guidance (PPG), updated in November 2019, provides further detail about the assessment of air quality effects and when an air quality assessment is required. It states:

“As well as having direct effects on public health, habitats and biodiversity, ... pollutants can combine in the atmosphere to form ozone, a harmful air pollutant (and potent greenhouse gas) which can be transported great distances by weather systems.

... It is important that the potential impact of new development on air quality is taken into account where the national assessment indicates that relevant limits have been exceeded or are near the limit, or where the need for emissions reductions has been identified.

... Whether air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implementation of air quality strategies and action plans and/or breach legal obligations (including those relating to the conservation of habitats and species). Air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity.”

2.3 Local Air Quality Management (LAQM)

Part IV of the Environment Act 1995¹⁰ places a statutory duty on local authorities to periodically Review and Assess the current and future air quality within their area, and determine whether they are likely to meet the AQS objectives set down by Government for a number of pollutants – a process known as Local Air Quality Management (LAQM). The AQS objectives that apply to LAQM are defined for seven pollutants: benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, sulphur dioxide and particulate matter.

Where the results of the Review and Assessment process highlight that problems in the attainment of health-based objectives for air quality will arise, the authority is required to declare an Air Quality Management Area (AQMA) – a geographic area defined by high concentrations of pollution and exceedances of health-based standards.

Where an authority has declared an AQMA, and development is proposed to take place either within or near the declared area, further deterioration to air quality resulting from a proposed development

⁹ National Planning Policy Framework. Published February 2019. Available at : https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

¹⁰ Part IV of the Environment Act 1995. Published by the UK Government, 1st February 1996. Available at: <http://www.legislation.gov.uk/ukpga/1995/25/part/IV>

can be a potential barrier to gaining consent for the development proposal. Similarly, where a development would lead to an increase of the population within an AQMA, the protection of residents against the adverse long-term impacts of exposure to existing poor air quality can provide the barrier to consent. As such, following an increased number of declarations across the UK, it has become standard practice for planning authorities to require an air quality assessment to be carried out for a proposed development (even where the size and nature of the development indicates that a formal Environmental Impact Assessment (EIA) is not required).

One of the objectives of the LAQM regime is for local authorities to enhance integration of air quality into the planning process. Current LAQM Policy Guidance¹¹ recognises land-use planning as having a significant role in terms of reducing population exposure to elevated pollutant concentrations. Generally, the decisions made on land-use allocation can play a major role in improving the health of the population, particularly at sensitive locations – such as schools, hospitals and dense residential areas.

2.4 Local Planning Policy

A number of local policy documents set out measures that relate to air quality, namely:

- Core Strategy (to be replaced by new Local Plan)¹²
- Saved Policies from the Dover District Local Plan (Adopted 2002, currently being updated)¹³
- Land Allocations Local Plan (Adopted 2015, to be replaced by new Local Plan)¹⁴
- Dover Transport Strategy (2007 – currently being updated)¹⁵
- The Local Transport Plan for Kent¹⁶
- Kent Environment Strategy¹⁷
- Kent and Medway Energy and Low Emissions Strategy (June 2020)¹⁸

Principal among these is the Dover Core Strategy, which is the District's key plan in the local development framework up to 2026. The core policies within the plan specifically addressing air quality are as follows:

Policy CP7 – Green Infrastructure Network – protecting and enhancing the existing network of green infrastructure. Proposals that would introduce additional pressure on the existing and proposed green infrastructure network are only permitted if they incorporate quantitative and qualitative measures, as appropriate, sufficient to address that pressure. Air quality monitoring will be used to help assess the need for mitigation measures and, if required, establish the nature of those measures.

¹¹ LAQM Policy Guidance LAQM.PG(16) – April 2016. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.

¹² Core Strategy (2010) <https://www.dover.gov.uk/Planning/Planning-Policy-and-Regeneration/Adopted-Development-Plans/Core-Strategy.aspx>

¹³ <http://dover.devplan.org.uk/document.aspx?document=26&display=contents>

¹⁴ <http://www.dover.gov.uk/Planning/Planning-Policy/Local-Plan/Land-Allocations/Land-Allocations.aspx>

¹⁵ <http://www.dover.gov.uk/Planning/Planning-Policy/Local-Plan/Evidence-Base/Studies/TRANSDoverTransportStrategy.pdf>

¹⁶ <http://www.kent.gov.uk/about-the-council/strategies-and-policies/transport-and-highways-policies/local-transport-plan>

¹⁷ <http://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/environmental-policies/kent-environment-strategy>

¹⁸ https://www.kent.gov.uk/__data/assets/pdf_file/0009/112401/Kent-and-Medway-Energy-and-Low-Emissions-Strategy.pdf

Policy CP8 – Dover Waterfront – Planning permission only granted along the waterfront provided the proposals incorporate avoidance and mitigation measures to address impact on air quality issues associated with the A20 trunk road and the Port operations.

A second key facet of Dover’s strategy towards air quality is its participation in the Kent and Medway Air Quality Partnership (KMAQP), which aims to co-ordinate efforts across the numerous districts and boroughs in the region to improve air quality. As part of this, the partnership prepared Air Quality Planning Guidance (options A¹⁹ and B²⁰) aimed at providing clarity and consistency of approach for developers, the local planning authority and local communities. The two approaches differ only slightly in their approach to mitigation. As part of this, an annual review is also published tracking trends and changes across the region, which gives the Council an appreciation of the impact improvement measures are having in a wider context. Working with the partnership, the Council has been able to implement further direct measures to improve air quality, as referenced in the Council’s 2020 Annual Status Report.

¹⁹ http://www.kentair.org.uk/documents/K&MAQP_Air_Quality_Planning_Guidance_Mitigation_Option_A.pdf

²⁰ http://www.kentair.org.uk/documents/K&MAQP_Air_Quality_Planning_Guidance_Mitigation_Option_B.pdf

3. Review and Assessment of Air Quality Undertaken by the Council

3.1 Local Air Quality Management

The Council, under its obligations in Part IV of the Environment Act 1995, has maintained a thorough annual review and assessment of air quality through their statutory reporting, the most recent report (2020) can be found on the air quality section of the Councils website²¹.

The Council have two declared AQMAs; A20 AQMA, declared in 2004 and amended in 2007 and 2009 (Figure 3-1), and High Street/Ladywell AQMA, declared in 2007 (Figure 3-2). Both AQMAs were designated due to exceedances of the annual mean Air Quality Strategy objective for concentrations of NO₂, caused primarily by traffic emissions.

Figure 3-1 - A20 AQMA Boundary



²¹ <https://www.dover.gov.uk/Environment/Environmental-Health/Air-Quality/Air-Quality-Monitoring.aspx>

Figure 3-2 - High Street / Ladywell AQMA Boundary



3.2 Review of Air Quality Monitoring

3.2.1 Local Air Quality Monitoring

The most recent LAQM report the Council has published is the 2020 Air Quality Annual Status Report (ASR), inclusive of 2019 monitoring data that has been used in this assessment. In 2019 the Council undertook automatic continuous monitoring at one location, measuring PM₁₀ and in addition NO₂ was monitored at 17 locations using passive diffusion tubes.

Details of monitoring locations across Dover, and the relevant 2019 pollutant concentrations are presented in Table 3-1 and Table 3-2. Four passive monitoring locations were not included in the modelling assessment: the urban background site DV04 and the urban centre site DV05 due to the distance from modelled roads, DV30 due to low data capture and DV12/DV18/DV19 due to lack of representativity in the model. Figure 3-3 shows a visual representation of the monitoring locations referenced against the AQMAs and the modelled road links, as detailed in Section 4.

It can be seen from the 2019 monitoring results that there was only one exceedance of the annual mean AQS objective for NO₂ and no exceedances for PM₁₀. The exceedance was recorded at DV30, which has not been used in the assessment due to low data capture (50%) and uncertainty surrounding the height of the monitoring location. The highest NO₂ concentration at the monitoring sites used within the assessment, was recorded at the triplicate site DV06/07/08, which is located within the High Street/Ladywell AQMA.

Table 3-1 – 2019 Dover PM₁₀ Continuous Monitoring

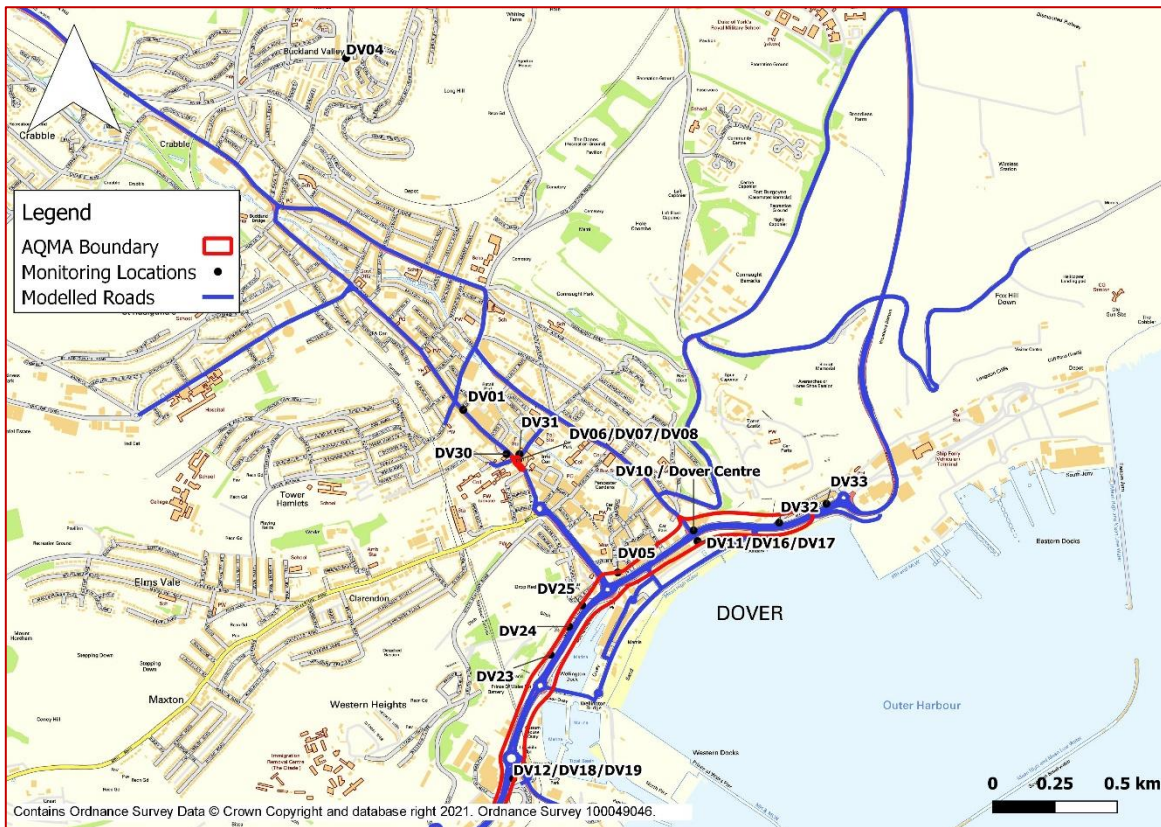
Site ID	Site Type	Data Capture (%)	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Annual Mean Concentration (µg/m ³) PM ₁₀	PM ₁₀ Daily Means in Excess of the 24-hour Objective (50µg/m ³)
Dover Centre	Roadside	97%	632302	141465	22	8

Table 3-2 – 2019 Dover NO₂ Passive Monitoring

Site ID	Site Type	Data Capture (%)	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	In AQMA	Annual Mean (µg/m ³)
DV01	Roadside	92	631376	141949	NO	30.8
DV04	Urban Background	92	630905	143362	NO	15.3
DV05	Urban Centre	92	631997	141296	A20	24.4
DV06/ DV07/ DV08	Roadside	92	631597	141748	High St /Ladywell	39.8
DV10	Roadside	83	632302	141465	A20	35.9
DV11/ DV16/ DV17	Roadside	92	632318	141422	A20	28.1
DV12/ DV18/ DV19	Roadside	92	631577	140468	A20	31.5
DV23	Roadside	92	631727	140966	A20	31.2
DV24	Roadside	83	631802	141079	A20	33.7
DV25	Roadside	83	631854	141164	A20	29.3
DV30	Kerbside	50	631550	141772	NO	40.4
DV31	Kerbside	83	631602	141771	NO	31.5
DV32	Roadside	92	632646	141496	A20	31.7
DV33	Roadside	75	632836	141572	NO	35.9
DV34	Kerbside	71	633088	158032	NO	25.9
DV35	Kerbside	71	633174	158094	NO	16.1
DV36	Roadside	100	635696	152325	NO	18.5

Exceedances of the objective are shown in bold.

Figure 3-3 – Dover District Council Monitoring Locations with Reference to Modelled Roads and AQMAs



3.2.2 Background Concentrations

DEFRA maintain a nationwide model of existing and future background air quality concentrations at a 1 km grid square resolution²². The data sets include annual average concentration estimates for NO_x, NO₂, PM₁₀ and PM_{2.5}, using a base year of 2018. The model used is semi-empirical in nature; it uses the national atmospheric emissions inventory (NAEI) emissions to model-predict the concentrations of pollutants at the centroid of each 1km grid square, but then calibrates these concentrations in relation to actual monitoring data.

Annual mean background concentrations have been obtained from the Defra published background maps²³, based on the 1km grid squares which cover the modelled area and the affected road network. To avoid double counting of sources, it is necessary to remove road contributions to the background concentrations that are explicitly modelled. As such, Trunk_A_Rd_in and Primary_A_Rd_in sector contributions have been removed. To complete this process the NO_x Sector Removal Tool²⁴ has been used. The background concentrations used in the modelling assessment are detailed in Table 3-3.

The background concentrations presented in Table 3-3 and used for the purposes of this assessment are all below the respective annual mean AQS objectives. These were used in preference to local 'urban background' monitoring data points (see Table 3-2) as they provide a greater geographic coverage, and thus were deemed to be more representative at each specific location than applying a single concentration to such a wide area.

²² UK AIR Background Mapping Tool. Available at: <https://uk-air.defra.gov.uk/data/laqm-background-home>

²³ Defra Background Maps <http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html>

²⁴ NO_x Sector Removal Tool <https://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html#NOxsector>

The predicted annual mean modelled road contributions are added to the relevant annual mean background concentration in order to predict the total pollutant concentration at each receptor location. The total pollutant concentration can then be compared against the relevant AQS objectives to determine the event of an exceedance.

Table 3-3 - Defra Background Map Concentrations used in the Modelling Assessment

Year	Grid Square (E,N)	Annual Mean Concentration ($\mu\text{g}/\text{m}^3$)		
		NO ₂	NO _x	PM ₁₀
2019	630500, 142500	10.6	14.0	14.7
2019	631500, 142500	11.3	15.1	14.4
2019	631500, 141500	12.4	16.8	14.7
2019	632500, 141500	13.0	17.7	13.9
2019	632500, 142500	11.3	15.1	13.3
2019	633500, 142500	12.3	16.6	13.5
2019	630500, 144500	10.2	13.5	14.5
2019	629500, 144500	9.0	11.8	14.1
2019	629500, 143500	9.7	12.7	14.0
2019	630500, 143500	10.3	13.6	14.1
2019	631500, 140500	12.5	17.0	14.2

4. Assessment Methodology

The approach adopted in this assessment to evaluate the impact of road traffic emissions on air quality has utilised Cambridge Environmental Research Consultants (CERC) ADMS-Roads™ dispersion model (version 5.0) with the latest vehicle emission factors released by the Department for Environment, Food and Rural Affairs (Defra) Emissions Factors Toolkit (EFT) version 10.1. The ADMS-roads software is used extensively throughout the UK for regulatory compliance purposes and is accepted as an appropriate air quality modelling tool by the Environment Agency and local authorities. A single scenario has been modelled reflecting concentrations as observed in 2019 focusing on emissions of NO_x and PM₁₀.

In order to provide consistency with the Council's own work on air quality, the guiding principles for air quality assessments as set out in the latest guidance and tools provided by Defra for air quality assessment (LAQM.TG(16)¹) have been used.

The approach used in this assessment has been based on the following:

- Quantitative prediction of ambient NO₂ and PM₁₀ concentrations, to which existing receptors may be exposed and comparison with the relevant AQS objectives; and
- Determination of the geographical extent of any potential exceedances with a view to possible amendment of the boundary of the AQMA(s).

4.1 Traffic Inputs

The ADMS-Roads assessment incorporates numbers of road traffic vehicles, the proportion of different vehicle classes and vehicle speeds on the local roads. The AADT and vehicle speed data was provided by the appointed transport consultant, WSP. The reduction of vehicle speed at junctions is accounted for in the transport model.

Department for Transport (DfT) road traffic statistics from 2019²⁵, where available, were assigned to each modelled road link, to provide the proportion of vehicle types that could be applied to the AADT that was supplied by the traffic consultants. This allowed the source apportionment exercise to be carried out, providing a breakdown by vehicle type. Department for Transport (DfT) road traffic statistics from 2019, where available, provided the vehicle proportions for road links for the following vehicle classes:

- Cars;
- LGVs (Light Goods Vehicles);
- HGVs (Heavy Goods Vehicles);
- Buses/Coaches; and
- Motorcycles

Where relevant DfT data was not available, source apportionment was not completed for these roads.

A desktop study also identified multiple street canyons within the central high street area within Dover, thus requiring additional model adjustments.

Using the traffic data inputs supplied by the appointed transport consultants and supplemented by DfT road traffic statistics, the Emissions Factors Toolkit (EFT) version 10.1 developed by Defra²⁶

²⁵ DfT Road Traffic Statistics <https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints>

²⁶ Defra, Emission Factors Toolkit (2020). <http://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.html>

was then used to determine vehicle emissions for input into the ADMS-Roads model. The “Detailed Option 1” was used that allowed the percentage fleet input by: Car; Taxi; LGV; HGV; Bus and Coach; and Motorcycle.

The EFT v10.1 used to calculate emissions from road traffic in this assessment assumes a default proportion of vehicles of each vehicle type are a certain Euro emissions standard. This is based on a set of traffic activity projections from the DfT (RTF 2018, rebased to 2017 NAEI)²⁷ and DfT car sale projections (April 2019) including the uptake of low carbon passenger cars and LGVs with electric and hybrid electric propulsion systems.

Due to the scale of the model, a summary of the traffic data used in this assessment has not been appended to the report but can be provided in Excel format upon request. The modelled road links are presented in Figure 1-1.

4.2 Modelled Receptors

All receptors considered in the assessment of emissions from road traffic are presented in Table 4-1 and illustrated in Figure 4-1. Receptors relating to the AQMA areas are also illustrated in Figure 4-2. Receptors have been modelled at heights typical of human exposure i.e. 1.5m for ground level and 4m for first level exposure to account for relevant exposure to the air quality objectives as per Table 2-1.

Table 4-1 - Receptor Locations Considered in the Assessment of Emissions from Road Traffic

ID	Description	Coordinates		
		X	Y	Z
R1	Opposite Buckland Hospital	630305	142086	1.5
R2	5 Coombe Valley Rd	630871	142398	1.5
R3	Buckland Terrace	631097	142271	1.5
R4	303 London Rd	631230	142132	1.5
R5	103 High St	631354	141961	1.5
R6	8 Priory Hill	631557	141746	1.5
R7	Priory Rd	631627	141686	1.5
R8	Discovery Nursery	631869	141380	1.5
R9	York St	631892	141299	1.5
R10	Buckland Medical Centre	630679	142747	1.5
R11	26 A256	630743	142766	1.5
R12	75 A246	630821	142733	1.5
R13	90 A256	630902	142711	1.5
R14	157 A256	631027	142603	1.5
R15	190 A256	630670	142655	1.5
R16	204 A256	630767	142592	1.5
R17	219 London Rd	630836	142514	1.5
R18	Opposite Buckland Hospital	630425	142159	1.5
R19	Barton Junior School	631155	142539	1.5
R20	Opposite Barton Junior School	631155	142569	1.5
R21	69 Barton Rd	631248	142504	1.5
R22	St Edmunds Catholic School	631450	142448	1.5
R23	Dover Grammar School	631479	142377	1.5
R24	28 A256	631447	142291	1.5
R25	11 Bridge St	631358	142073	1.5
R26	69 Maison Dieu Rd	631578	142022	1.5
R27	50 Godwyn Cl	631788	141919	1.5

²⁷ DfT Road Traffic Forecasts 2018 <https://www.gov.uk/government/publications/road-traffic-forecasts-2018>

ID	Description	Coordinates		
		X	Y	Z
R28	Maison Dieu Nursery	631892	141850	1.5
R29	9 A256	632004	141749	1.5
R30	115 A256	632140	141652	1.5
R31	13 Castle Hill Rd	632284	141586	1.5
R32	2 Victoria Park	632379	141623	1.5
R33	11 Castle St	632135	141592	1.5
R34	York St	631761	141512	1.5
R35	Tancaster House	631719	141516	4
R36	Above Miles&Barr	631589	141757	4
R37	1 Upper Rd	632379	142209	1.5
R38	Wellesley Rd	632133	141306	1.5
R39	5 Marine Parade	632689	141518	1.5
R40	32 East Cliff	632878	141602	1.5
R41	A2	633003	142316	1.5
R42	Singledge Ln	630032	144659	1.5
R43	2 Archers Ct Rd	630178	144697	1.5
R44	Whitfield Hill	629731	144031	1.5
R45	Kearsney Ave	629360	143804	1.5
R46	London Rd	629401	143655	1.5
R47	London Rd	629658	143517	1.5
R48	15 London Rd	629944	143276	1.5
R49	98 A256	630250	143065	1.5
R50	55 A256	630410	142986	1.5
R51	Camden Cres	632068	141214	1.5
R52	Inchwater Home Care	632106	141184	1.5
R53	Waterloo Cres	631965	140962	1.5
R54	136 Snargate St	631765	141006	1.5
R55	161 Snargate St	631839	141139	4
R56	Gloster Ropewalk	631230	140231	4
R57	Kings Ropewalk	631039	140152	4
R58	11 High St	631595	141728	4
R59	150-167 Townwall St	632316	141428	4
R60	Victoria Crescent	631534	141781	1.5

Figure 4-1 – Receptor Locations with Respect to Modelled Road Links and AQMA Boundaries

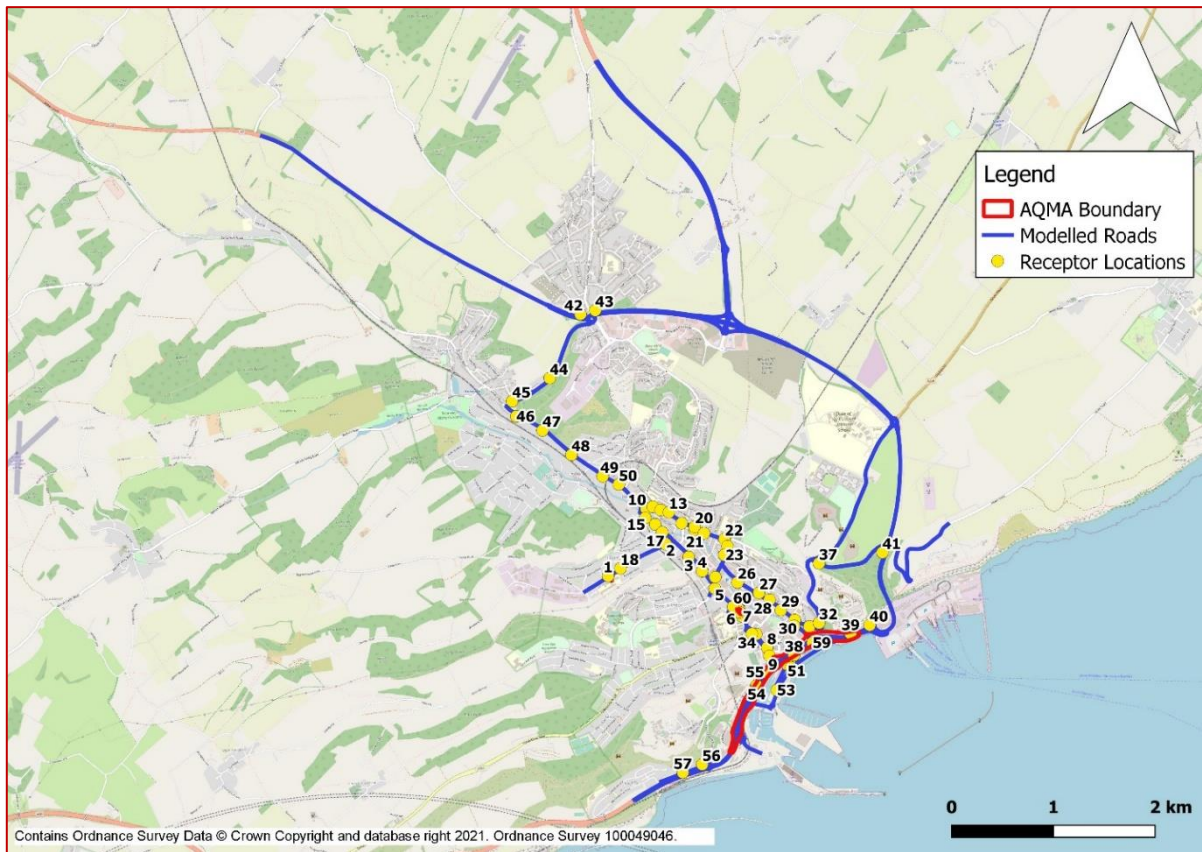
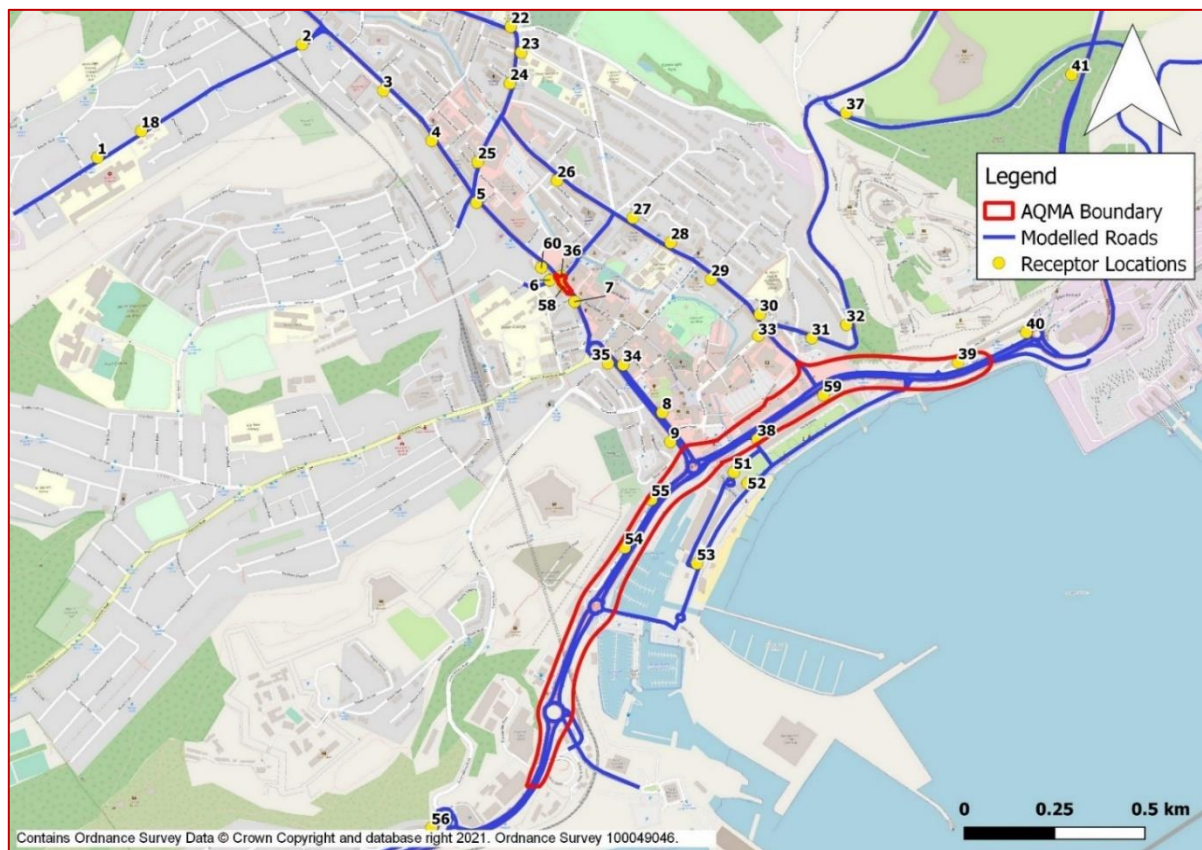


Figure 4-2 - Receptor Locations within Declared AQMAs with Respect to Modelled Road Links

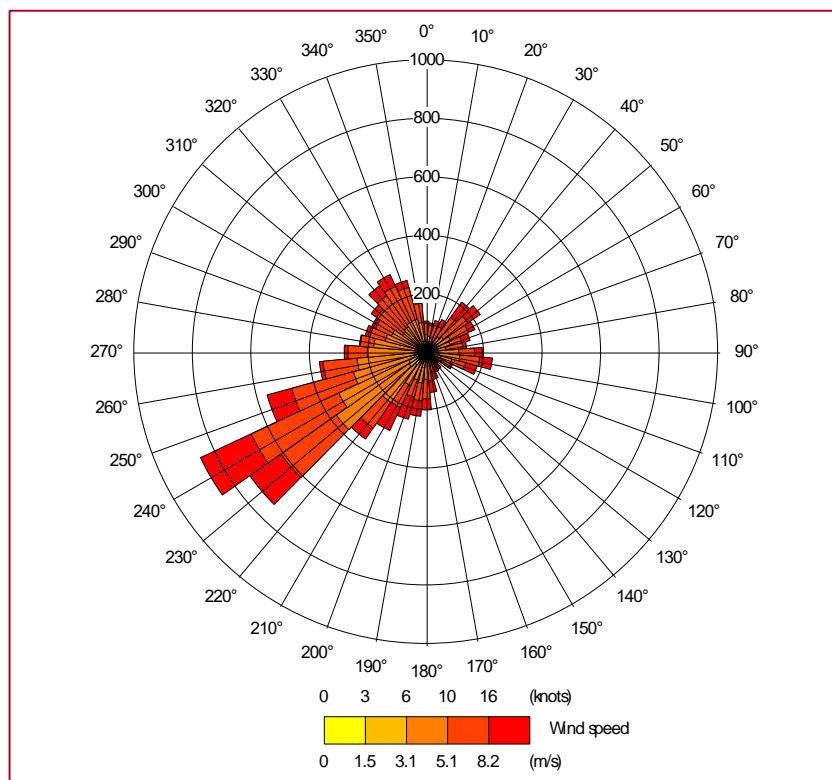


4.3 Meteorological Data

Meteorological data from a representative station to the study area is required as input to the dispersion model. 2019 meteorological data from the Langdon Bay weather station has been used in this assessment. A wind rose for this site for the year 2019 is shown in Figure 4-3. Most dispersion models do not use meteorological data if it relates to calm winds conditions, as dispersion of air pollutants is more difficult to calculate in these circumstances. ADMS-Roads treats calm wind conditions by setting the minimum wind speed to 0.75m/s. It is recommended in LAQM.TG(16)⁴ that the meteorological data file be tested within a dispersion model and the relevant output log file checked, to confirm the number of missing hours and calm hours that cannot be used by the dispersion model. This is important when considering predictions of high percentiles and the number of exceedances. LAQM.TG(16) recommends that meteorological data should only be used if the percentage of usable hours is greater than 75%, and preferably 90%. The 2019 meteorological data from Langdon Bay includes 8,664 lines of usable hourly data out of the total 8,760 for the year, i.e. 99% usable data. This is therefore suitable for the dispersion modelling exercise.

A wind rose for this site for the year 2019 is presented in Figure 4-3.

Figure 4-3 – Wind Rose for Langdon Bay 2019 Meteorological Data



4.4 Surface Roughness

Roughness length, z_0 , represents the aerodynamic effects of surface friction and is physically defined as the height at which the extrapolated surface layer wind profile tends to zero. This value is an important parameter used by meteorological pre-processors to interpret the vertical profile of wind speed and estimate friction velocities which are, in turn, used to define heat and momentum fluxes and, consequently, the degree of turbulent mixing.

The surface roughness length is related to the height of surface elements; typically, the surface roughness length is approximately 10% of the height of the main surface features. Thus, it follows

that surface roughness is higher in urban and congested areas than in rural and open areas. CERC (2020)²⁸ suggests typical roughness lengths for various land use categories (Table 4-2).

Table 4-2 – Typical Surface Roughness Lengths for Various Land Use Categories

Land Use	Surface Roughness: z_0 (m)
Large urban areas	1.5
Cities, woodlands	1.0
Parkland, open suburbia	0.5
Agricultural areas (max.)	0.3
Agricultural areas (min.)	0.2
Root crops	0.1
Open grassland	0.02
Short grass	0.005
Sea	0.0001

Increasing the surface roughness length increases turbulent mixing in the lower boundary layer. This can often have conflicting impacts in terms of ground level concentrations:

- The increased mixing can bring portions of an elevated plume down towards ground level, resulting in increased ground level concentrations closer to the emission source; and
- The increased mixing increases entrainment of ambient air into the plume and dilutes plume concentrations, resulting in reduced ground level concentrations further downwind from an emission source.

The overall impact on ground level concentration is, therefore, strongly correlated to the distance and orientation of a receptor from the emission source.

Surface roughness length is entered within the model for both the dispersion site (the model domain), and for the location of where the meteorological data has been measured. As detailed above in Section 0, the meteorological data utilised within the modelling has been taken from the Langdon bay station. The weather station is located within mixed-use open grassland and agricultural land with the sea to the south, approximately 4km south east of Dover town centre. Given the variability of land types at this location, the surface conditions at this location have been defined as the median value, 0.02, which is open grassland.

The surface roughness length for the model domain has been defined as 1.0, which is representative of the built-up areas within Dover.

4.5 Minimum Monin-Obukhov Length

A Minimum Monin-Obukhov Length is used as a model input within ADMS Roads as a parameter to describe the turbulent length scale, which is dependent on meteorological conditions. A minimum length can be used to account for the urban heat island effect, whereby retained heat in cities causes convective turbulence, which prevents the formation of a very shallow boundary layer at night.

²⁸ CERC, ADMS-Roads V5.0 User Guide (2020).

Table 4-3 – Typical Minimum Monin-Obukhov Length for Various Land Use Categories

Type of Surface	Minimum Monin-Obukhov Length
Large Conurbations > 1 million	100
Cities and Large Towns	30
Mixed Urban / Industrial	30
Small Towns < 10,000	10

In accordance with CERC's ADMS Roads user guide²⁸, a minimum Monin-Obukhov Length of 30m will be used for the ADMS Roads model to reflect the local topography of the overall model domain.

4.6 Model Outputs

The background pollutant values discussed in Section 3.2.2 have been used in the ADMS-Roads model to calculate predicted total annual mean concentrations of NO_x, NO₂ and PM₁₀.

For the prediction of annual mean NO₂ concentrations for the modelled scenarios, the output of the ADMS-Roads modelled for road-NO_x has been converted to total-NO₂ following the methodology in LAQM.TG(16) and using the NO_x to NO₂ conversion tool developed on behalf of Defra. This tool also utilises the total background NO_x and NO₂ concentrations. This assessment has utilised version 8.1 (August 2020) of the NO_x to NO₂ conversion tool. The road contribution is then added to the appropriate NO₂ background concentration value to obtain an overall total NO₂ concentration.

For the prediction of short term NO₂ impacts, LAQM.TG(16) advises that it is valid to assume that exceedances of the 1-hour mean AQS objective for NO₂ are only likely to occur where the annual mean NO₂ concentration is 60µg/m³ or greater. This approach has thus been adopted for the purposes of this assessment.

Annual mean PM₁₀ road contributions were also output from the model and processed in a similar manner, i.e. combined with the relevant background annual mean PM₁₀ concentrations to obtain overall total PM₁₀ concentrations.

For the prediction of short term PM₁₀, LAQM.TG(16) provides an empirical relationship between the annual mean and the number of exceedances of the 24-hour mean AQS objective for PM₁₀ that can be calculated as follows:

$$\text{Number of 24 hour Mean Exceedances} = -18.5 + 0.00145 * \text{annual mean}^3 + \frac{206}{\text{annual mean}}$$

This relationship has been adopted to determine whether exceedances of short-term PM₁₀ AQS objective are likely in this assessment.

Source apportionment was also carried out using Department for Transport (DfT) road traffic statistics from 2019, where available, to provide the vehicle proportions for road links for the following vehicle classes:

- Cars;
- LGVs (Light Goods Vehicles);
- HGVs (Heavy Goods Vehicles);
- Buses/Coaches; and
- Motorcycles

Where relevant DfT data was not available, source apportionment was not completed for these roads.

Verification of the NO₂ modelled concentrations has been undertaken using 10 monitoring locations operated by the Council, in two separate domains, consisting of 14 NO₂ diffusion tubes in total (including two triplicate sites). One verification domain used three monitoring locations and consisted of the section of road running parallel to the A20, along Snargate Street. It was found that the model was underpredicting in this area due to a minor road not being included in the model. As a result, a separate localised verification factor was required for increased accuracy. The other seven monitoring locations formed the remaining verification domain, which was used for model-wide verification. PM₁₀ verification was undertaken using the Dover Centre monitoring site. All NO₂ and PM₁₀ results presented in the assessment are those calculated following the process of model verification.

Full details of the model verification completed can be found in Appendix B.

4.7 Uncertainty

Due to the number of inputs that are associated with the modelling of the study area there is a level of uncertainty that has to be taken into account when drawing conclusions from the predicted concentrations of NO₂ and PM₁₀. The predicted concentrations are based upon a number of inputs from a number of different sources; traffic data, background concentrations, emission factors, meteorological data and availability of monitoring data from the assessment areas.

A degree of quality assurance/quality control (QA/QC) is completed throughout the modelling process, through the inputs, modelled outputs, and processing of results, to ensure that the accuracy of the modelled predictions is of a high standard to allow conclusions to be made upon them.

Analyses of historical monitoring data within the UK has identified a disparity between measured concentration data and the projected decline in concentrations associated with emission forecasts for future years²⁹. The report identifies that trends in ambient concentrations of NO_x and NO₂ in many urban areas of the UK have generally shown two characteristics; a decrease in concentration from about 1996 to 2002-2004, followed by a period of more stable concentrations from 2002-2004 up until 2009. Trends in more rural, less densely trafficked areas, tend to show downward trend in either NO_x or NO₂, which are more in line with those expected.

The reason for this disparity is thought to be related to the actual on-road performance of vehicles, in particular diesel cars and vans, when compared with calculations based on the Euro emission standards. Preliminary studies suggest the following:

- NO_x emissions from petrol vehicles appear to be in line with current projections and have decreased by 96% since the introduction of 3-way catalysts in 1993;
- NO_x emissions from diesel cars, under urban driving conditions, do not appear to have declined substantially, up to and including Euro 5. There is limited evidence that the same pattern may occur for motorway driving conditions; and
- NO_x emissions from HDVs equipped with Selective Catalytic Reduction (SCR) are much higher than expected when driving at low speeds.

This disparity in the historical national data highlights the uncertainty of future year projections of both NO_x and NO₂.

Defra and the Devolved Administrations have investigated these issues and have since published an updated version of the Emissions Factors Toolkit (EFT Version 10.1) utilising COPERT 5.3 emission factors, which may go some way to addressing this disparity, but it is considered possible that a gap still remains. This assessment has utilised the latest EFT version 10.1 and associated

²⁹ Carslaw, D, Beevers, S, Westmoreland, E, Williams, M, Tate, J, Murrells, T, Steadman, J, Li, Y, Grice, S, Kent, A and Tsagatakis, I. 2011. Trends in NO_x and NO₂ emissions and ambient measurements in the UK. Prepared for Defra, 18th July 2011.

tools published by Defra to help minimise any associated uncertainty when forming conclusions from this assessment.

Given that the year of assessment is 2019, the uncertainty of NO_x/NO₂ predictions is a less significant issue than when assessing future years.

5. Air Quality Modelling Results

This assessment has considered emissions of NO_x/NO₂ and PM₁₀ from road traffic at existing receptor locations, as detailed and illustrated in Section 4.2. The results of the dispersion modelling are summarised below.

5.1 Assessment of Nitrogen Dioxide (NO₂)

Table 5-1 presents the predicted annual mean nitrogen dioxide concentrations for all modelled receptors across the model domain, compared against the 40µg/m³ annual mean AQS objective. The predicted results across the model domain are illustrated in Figure 5-1.

One exceedance has been predicted across the modelled area, at receptor location R58 within the High St / Ladywell AQMA, as illustrated in Figure 5-2. This receptor reported a concentration of 40.2µg/m³, which is just over the AQS objective of 40µg/m³ for annual mean NO₂. This predicted exceedance was modelled at the first floor level (4m) as a commercial property occupies the ground floor.

One further location was predicted to be within 10% of the AQS Objective (36 to 40µg/m³), at receptor location R54, within the A20 AQMA, as illustrated in Figure 5-3. This receptor location predicted a concentration of 37.5µg/m³, representing 93.9% of the AQS Objective therefore highlighting an area of potential concern.

NO₂ concentrations predicted at all other modelled receptor locations were below the annual mean NO₂ AQS Objective and no further locations were within 10% of the objective.

The empirical relationship given in LAQM.TG(16) states that exceedances of the 1-hour mean objective for NO₂ are only likely to occur where annual mean concentrations are 60µg/m³ or above. Annual mean NO₂ concentrations at all assessed receptor locations are below this limit, and therefore short-term NO₂ exposure from road traffic emissions at the assessed receptor locations are not considered to be in exceedance of the AQS objective.

Table 5-1 - Predicted Annual Mean NO₂ Concentrations at all Modelled Receptors

ID	Annual Mean NO ₂ (µg/m ³)		2019 Annual Mean Concentration as a Percentage of the AQS Objective (%)
	AQS Objective	2019	
R1	40	11.2	28.0
R2	40	14.1	35.3
R3	40	16.7	41.7
R4	40	17.9	44.7
R5	40	33.4	83.4
R6	40	16.2	40.4
R7	40	22.8	56.9
R8	40	22.4	56.0
R9	40	20.2	50.5
R10	40	17.5	43.7
R11	40	20.9	52.3
R12	40	27.3	68.3
R13	40	28.0	70.0
R14	40	22.5	56.1
R15	40	18.8	46.9
R16	40	22.9	57.3
R17	40	16.9	42.2
R18	40	11.3	28.3
R19	40	18.3	45.7

ID	Annual Mean NO ₂ (µg/m ³)		2019 Annual Mean Concentration as a Percentage of the AQS Objective (%)
	AQS Objective	2019	
R20	40	22.5	56.1
R21	40	20.8	52.1
R22	40	26.7	66.8
R23	40	22.4	56.1
R24	40	21.6	53.9
R25	40	22.1	55.3
R26	40	16.3	40.7
R27	40	19.8	49.6
R28	40	20.4	51.0
R29	40	17.8	44.5
R30	40	22.9	57.3
R31	40	23.4	58.4
R32	40	20.2	50.4
R33	40	17.9	44.7
R34	40	22.1	55.3
R35	40	17.9	44.8
R36	40	26.5	66.2
R37	40	15.8	39.4
R38	40	32.0	80.1
R39	40	26.6	66.5
R40	40	32.2	80.4
R41	40	16.6	41.4
R42	40	20.4	51.1
R43	40	18.9	47.2
R44	40	19.9	49.6
R45	40	23.2	58.1
R46	40	15.0	37.4
R47	40	16.4	41.0
R48	40	18.1	45.2
R49	40	19.8	49.4
R50	40	30.4	76.0
R51	40	20.8	52.1
R52	40	18.2	45.6
R53	40	16.3	40.7
R54	40	37.5	93.9
R55	40	27.5	68.7
R56	40	20.4	51.1
R57	40	22.0	54.9
R58	40	40.2	100.5
R59	40	28.0	70.1
R60	40	16.3	40.6

In Bold – Exceedances of the 40 µg/m³ annual mean objective
In Italics – Within 10% of the 40 µg/m³ annual mean objective

Figure 5-1 - Modelled 2019 NO₂ Results at all Receptor Locations

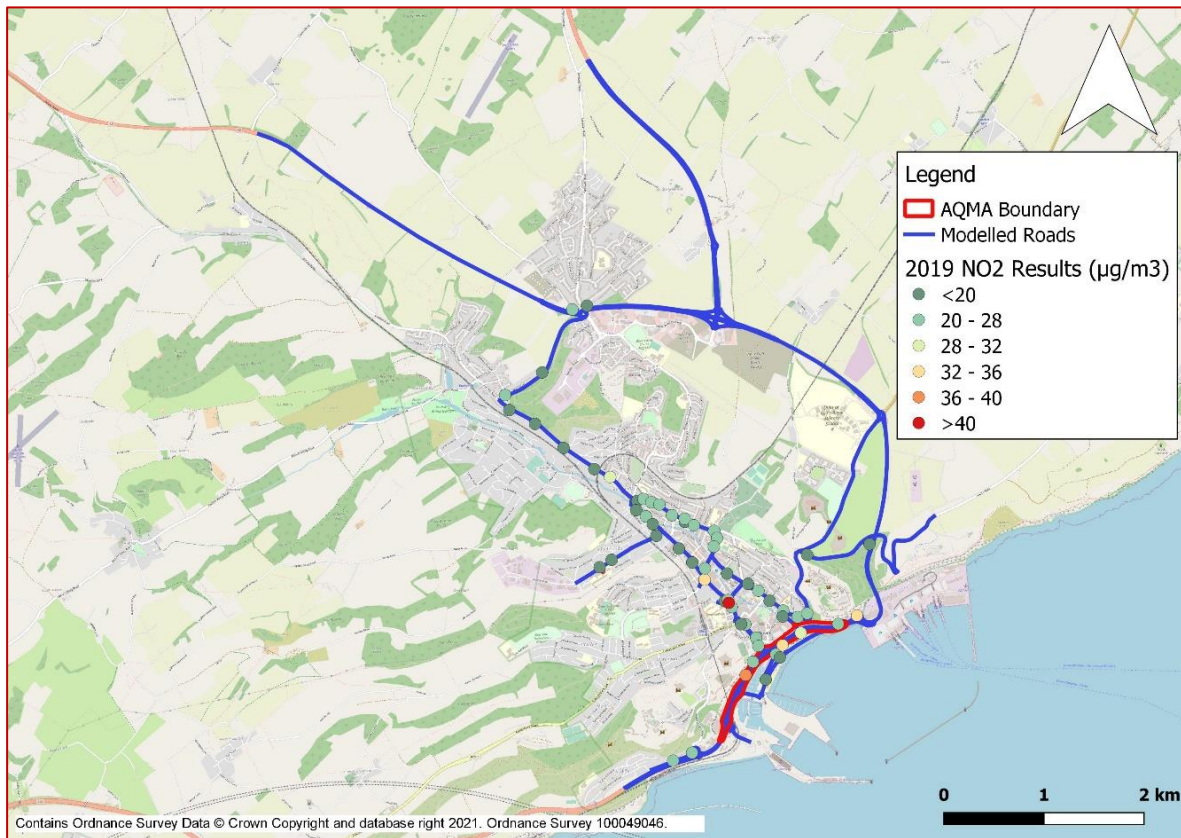


Figure 5-2 - Location of Receptor (R58) within Dover District Predicted to be Exceeding the 40µg/m³ NO₂ AQS Annual Objective, located within the High St / Ladywell AQMA

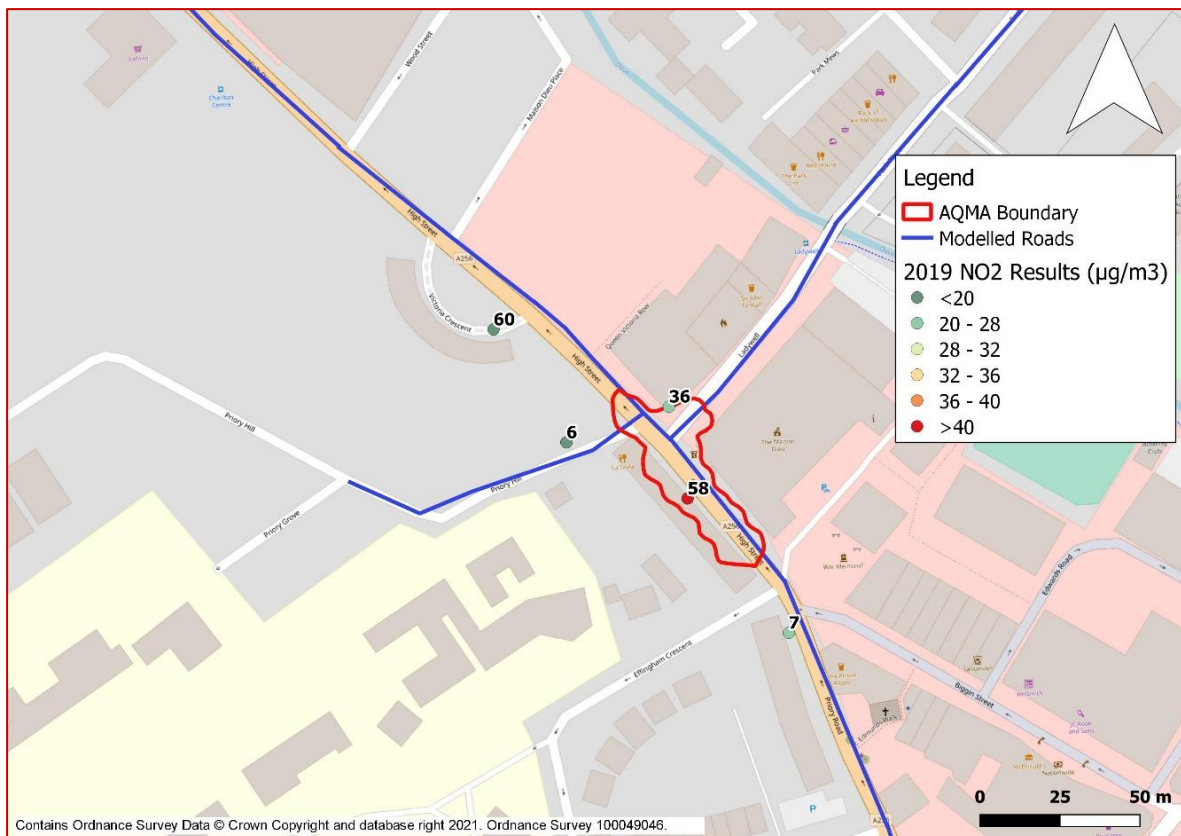
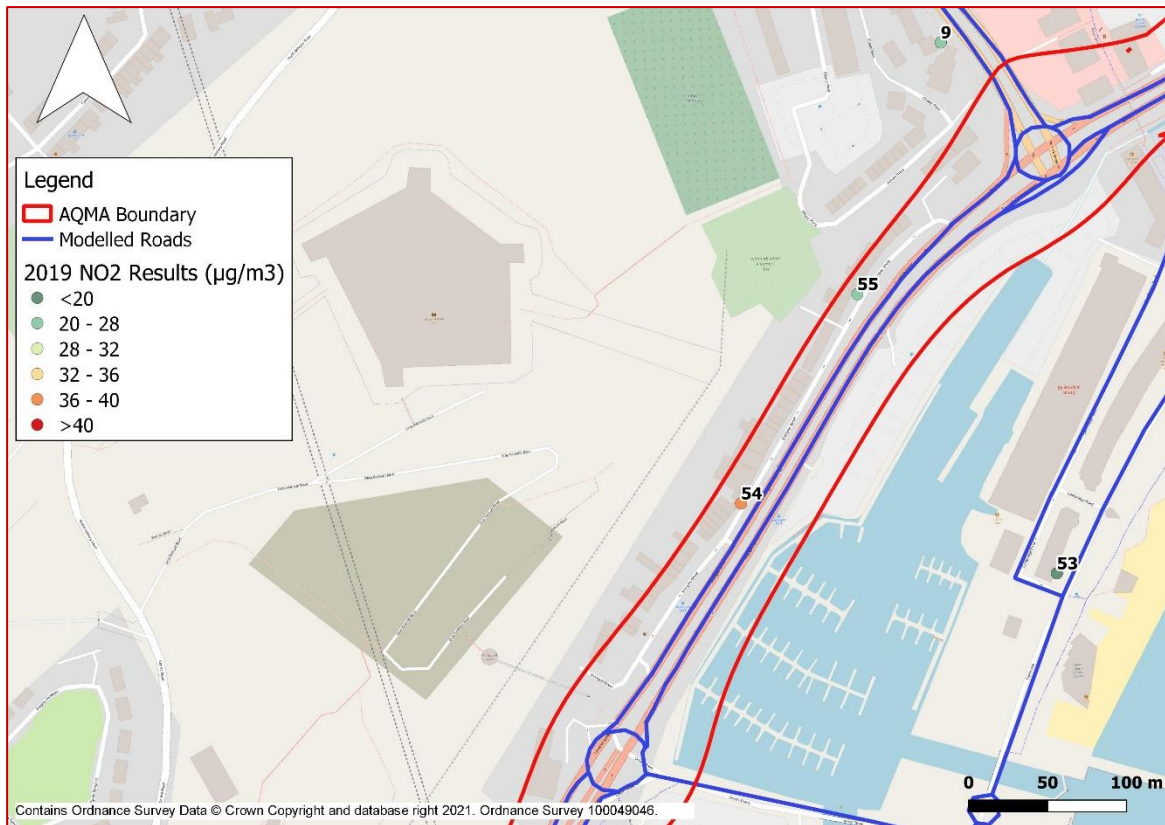


Figure 5-3 - Location of Receptor (R54) within Dover District Predicted to be within 10% of Exceeding the 40µg/m³ NO₂ AQS Annual Objective, located within the A20 AQMA



5.2 NO₂ Concentration Isopleths

Figure 5-4 and Figure 5-5 illustrate the annual mean NO₂ concentration isopleths for the areas around the High Street / Ladywell AQMA and the A20 AQMA. Both AQMA areas were highlighted as areas of potential concern in relation to exceedances of the annual mean NO₂ AQS Objective following the initial analyses. Concentration isopleths have been presented for 36µg/m³ (i.e. within 10% of the AQS objective), 40µg/m³ and 60µg/m³.

It can be seen that the exceedances of the AQS objective are largely localised to the roadway and concentrations drop off as you move further from the road.

Regarding the High Street / Ladywell AQMA, the elevated concentrations that led to the declaration of the AQMA are confirmed to still be present as shown in Figure 5-4. The 40µg/m³ isopleth encompasses the kerbside commercial properties, where the discrete receptor R58 reported an exceedance. However, it can be seen that the concentrations drop off further from the junction and that exceedances have not been modelled north of the AQMA boundary. The 40µg/m³ isopleth is concentrated on the western side of the road due to the prevailing wind direction from the meteorological data and the street canyon environment. The 40µg/m³ isopleth extends slightly to the south of the AQMA boundary along High Street to the junction with Effingham Crescent. However, the exceedances are only modelled within the roadway and concentrations drop to below 36µg/m³ at either side of the road, where receptors are present.

Regarding the A20 AQMA, the area of potential concern is confirmed along Snargate street, where concentrations between 36-40µg/m³ have been modelled along parts of the minor road where receptors are present, as shown in Figure 5-6. This is in line with the concentration reported at R54, 136 Snargate St, which reported within 10% of the AQS objective, 37.5µg/m³. It can be seen from Figure 5-5 that the extent of the 40µg/m³ isopleth extends beyond the AQMA boundary to the north and south, however these concentrations are confined to the roadway and concentrations drop to below 36µg/m³ at either side of the road, where receptors are present.

Figure 5-4 - High Street / Ladywell AQMA NO₂ Concentration Isopleths

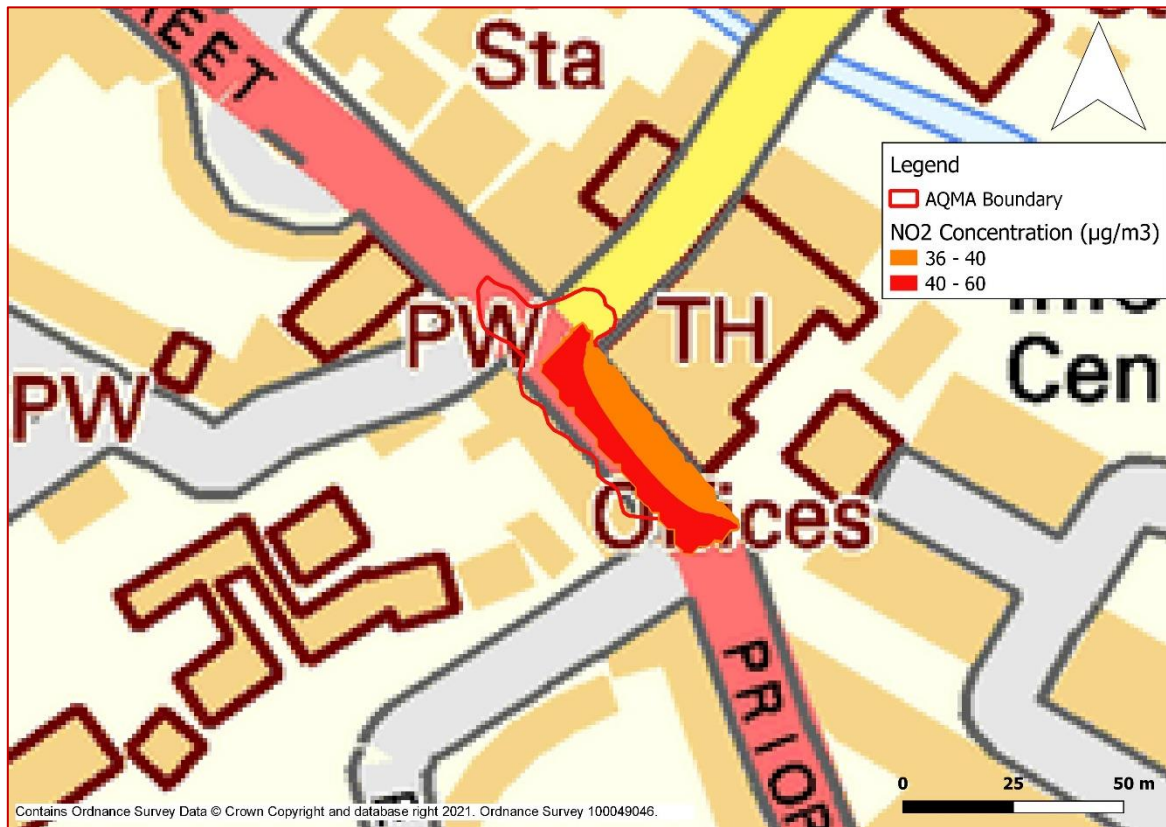


Figure 5-5 – A20 AQMA NO₂ Concentration Isopleths



Figure 5-6 - A20 AQMA NO₂ Concentration Isopleths along Snargate Street



5.3 AQMA Amendment

5.3.1 High Street / Ladywell AQMA

The predicted NO₂ concentrations following the modelling exercise do not indicate that a revocation of the High St / Ladywell AQMA is possible as an exceedance of the 40µg/m³ AQS objective was predicted to be present at R58, within the existing AQMA boundary (Figure 5-2). The 2019 monitoring undertaken by the Council as part of its LAQM commitments also indicated an area of poor air quality within the declared AQMA at triplicate site DV06/07/08 (Figure 3-3) located at the junction within the High St / Ladywell AQMA. This site reported an annual mean NO₂ concentration that was within 10% of the AQS Objective (39.8µg/m³). Additionally, one diffusion tube location reported an exceedance (DV30) and this was located approximately 25m from the boundary of the High St / Ladywell AQMA (see Table 3-2 and Figure 3-3). However, data capture for the 2019 monitoring year was 50% at this location and building works taking place meant that the height of the diffusion tube was not consistent throughout the year, and monitoring at a lowered height could have contributed to the high concentration reported at this location. For these reasons the diffusion tube was not included in our baseline model verification. The closest modelled receptor to this exceedance location was at the residential properties along Victoria Crescent, R60. The annual mean NO₂ concentration was predicted to be 16.3µg/m³ at this location. This suggests that as you move away from the junction and traffic becomes more free-flowing, the concentrations drop substantially. The residential properties at Victoria Crescent are also set back from the road and are not located in the street canyon environment, thus allowing for more dispersion of pollutants.

Although there are three years of monitoring data available at DV30, adjacent to 19B High Street, indicating a slight exceedance just outside of the northern AQMA boundary, and near to residential properties, this has not been reflected in the modelled results (both discrete receptors and concentration isopleths). There are also uncertainties surrounding this monitoring data, discussed previously. It is therefore recommended that monitoring is continued within this area to continually assess the AQMA boundary, with a focus on increased data capture and consistency of the diffusion tube height throughout the year.

The results of the NO₂ concentration isopleths confirm the drop in concentrations further from the junction between High Street and Ladywell. Although the 40µg/m³ isopleth extended beyond the southern AQMA boundary towards Effingham Crescent (Figure 5-4), the exceedances are confined to the roadway and drop off substantially at either side of the road. Therefore, the modelling results do not support an amendment to the High Street / Ladywell AQMA boundary.

5.3.3 A20 AQMA

One modelled receptor location predicted an NO₂ concentration within 10% of the NO₂ AQS Objective within the A20 AQMA, therefore highlighting an area of potential concern and not supporting a revocation of the A20 AQMA. This was also reflected in the NO₂ concentration isopleths, which show that Snargate Street is subject to NO₂ concentrations that are within 10% of the AQS objective, originating from the A20 (Figure 5-6). As all other modelled locations were reporting below 10% of the AQS Objective, there is potential that the AQMA boundary could be reduced to concentrate on the area of concern around Snargate street.

However, there is currently a lot of uncertainty in the port area of Dover relating to both the EU-Exit and the Covid-19 pandemic. At the time of writing, there is ongoing HGV congestion, leading to temporary changes to the HGV routes into Dover³⁰. Additionally, the proposed Customs facility in Whitfield will further alter the HGV routes across Dover District on a more permanent basis³¹. These uncertainties will impact the HGV proportions that are already known to be a major contributor to NO₂ concentrations within the A20 AQMA, further outlined by the source apportionment exercise conducted at the worst-case receptor within the A20 AQMA (Figure 5-10). For this reason, an amendment to the boundary is not supported at this time until more is known about the certainty of preferred HGV routes around Dover in light of the UK leaving the EU and the Covid-19 pandemic.

In previous detailed modelling exercises, there were discussions surrounding the potential extension of the A20 boundary to the east to encompass the residential properties along East Cliff and Marine parade. The monitoring at DV33 in 2019 reported 35.9µg/m³ at 24 Marine Parade, which is not within 10% of the AQS Objective. The closest modelled receptor, R40 is located at 32 East Cliff and the modelled NO₂ concentration was also reporting below the AQS Objective at 32.2µg/m³. The NO₂ concentration isopleth indicates that the exceedances extend beyond the current AQMA boundary, however these high concentrations are confined to the roadway and therefore nearby receptors are not exposed to poor air quality (Figure 5-5). There is therefore not enough evidence to necessitate an extension of the AQMA boundary. However, this should be re-considered following any permanent changes to HGV routes and proportions across the District, and monitoring should continue to continually assess NO₂ concentrations in this area.

5.3.4 Source Apportionment of NO_x

To help inform the development of measures as part of the action plan stage of the project, source apportionment of the different road traffic categories has been undertaken. It should be noted that emission sources of NO₂ are dominated by a combination of direct NO₂ (f-NO₂) and oxides of nitrogen (NO_x), the latter of which is chemically unstable and rapidly oxidised upon release to form NO₂. Reducing levels of NO_x emissions therefore reduces levels of NO₂. As a consequence, the source apportionment study has considered the emissions of NO_x which are assumed to be representative of the main sources of NO₂.

Source apportionment results for modelled NO_x concentrations are presented in the section below, as follows:

- Figure 5-7 illustrates the general breakdown of NO_x concentrations averaged across all modelled locations, providing information regarding:

³⁰ Kent Traffic Management on M20 Motorway to Dover and Eurotunnel <https://www.gov.uk/guidance/kent-traffic-management-on-m20-motorway-to-dover-and-eurotunnel>

³¹ White Cliffs Inland Border Facility, Dover <https://inlandborderfacilities.uk/wp-content/uploads/2021/01/Online-Leaflet-Updated-22-Jan-2021.pdf>

- the regional background, which the Council is unable to influence;
 - the local background, which the Council should have some influence over; and
 - other local sources (explicitly modelled), which the Council should be able to directly influence with policy intervention.
- Figure 5-8, Figure 5-9 and Figure 5-10 provide detailed breakdowns of the local source contributions to NO_x concentrations, based on:
- the average across all modelled receptors (Figure 5-8). This provides useful information when considering possible action measures to test and adopt. It will however understate road NO_x concentrations in problem areas;
 - the receptor where the maximum road NO_x concentration has been predicted (Figure 5-9). This is likely to be in the area of most concern and so a good place to test and adopt action plan measures. Any gains predicted by action plan measures are however likely to be greatest at this location and so would not represent gains across the whole modelled area.
 - the receptor where the second highest road NO_x concentration has been predicted (Figure 5-10). This is a good place to assess the main sources of concern in the worst-case receptor location within the A20 AQMA, as the sources differ from the model-wide worst-case receptor location that is located in the High Street / Ladywell AQMA.

Figure 5-7 - Average NO_x Contribution Across All Modelled Receptors – General Breakdown

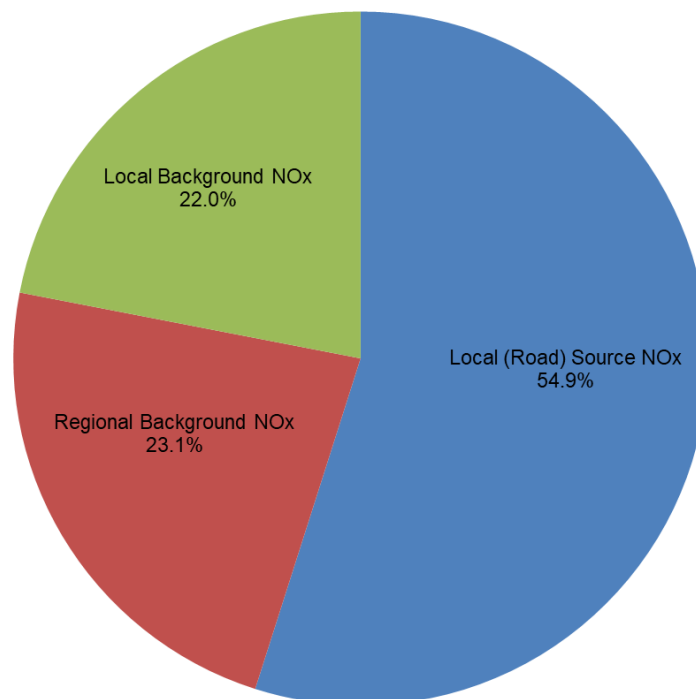


Table 5-2 - Source Apportionment of NOx

Results	All Vehicles	Car	LGV	HGV	Bus	Moto	Background
Average across all modelled receptors							
NO _x Concentration (µg/m ³)	19.0	9.8	4.2	3.3	1.6	0.0	15.6
Percentage of Total NO _x	54.9%	28.4%	12.2%	9.6%	4.7%	0.1%	45.1%
Percentage Road Contribution	100.0%	51.8%	22.2%	17.4%	8.5%	0.1%	-
Receptor R58 within High St / Ladywell AQMA – exceeding the AQS Objective and reporting the maximum road NO_x Concentration							
NO _x Concentration (µg/m ³)	57.5	31.6	11.2	5.5	9.0	0.1	16.8
Percentage of Total NO _x	77.4%	42.6%	15.1%	7.4%	12.1%	0.1%	22.6%
Percentage Road Contribution	100.0%	55.0%	19.6%	9.6%	15.7%	0.1%	-
Receptor R54 within A20 AQMA – reporting within 10% of AQS Objective							
NO _x Concentration (µg/m ³)	50.7	18.6	11.0	17.6	3.5	0.0	16.8
Percentage of Total NO _x	75.1%	27.6%	16.3%	26.0%	5.1%	0.1%	24.9%
Percentage Road Contribution	100.0%	36.8%	21.6%	34.7%	6.8%	0.1%	-

Figure 5-8 - Source Apportionment of NOx Averaged Across All Modelled Receptors

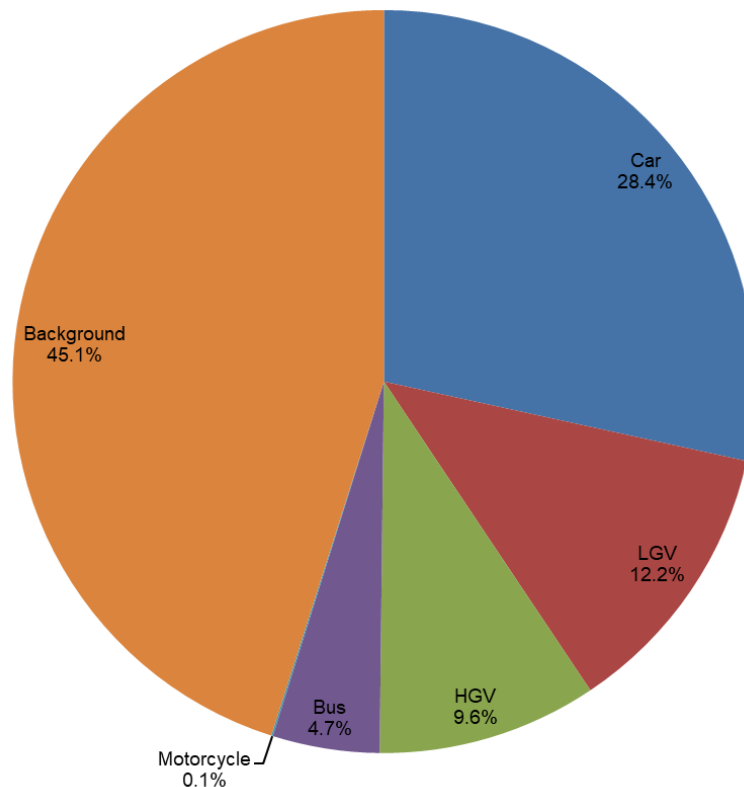


Figure 5-9 - Source Apportionment of NOx at Receptor with the Maximum Road NOx Concentration (R58), within the High St / Ladywell AQMA

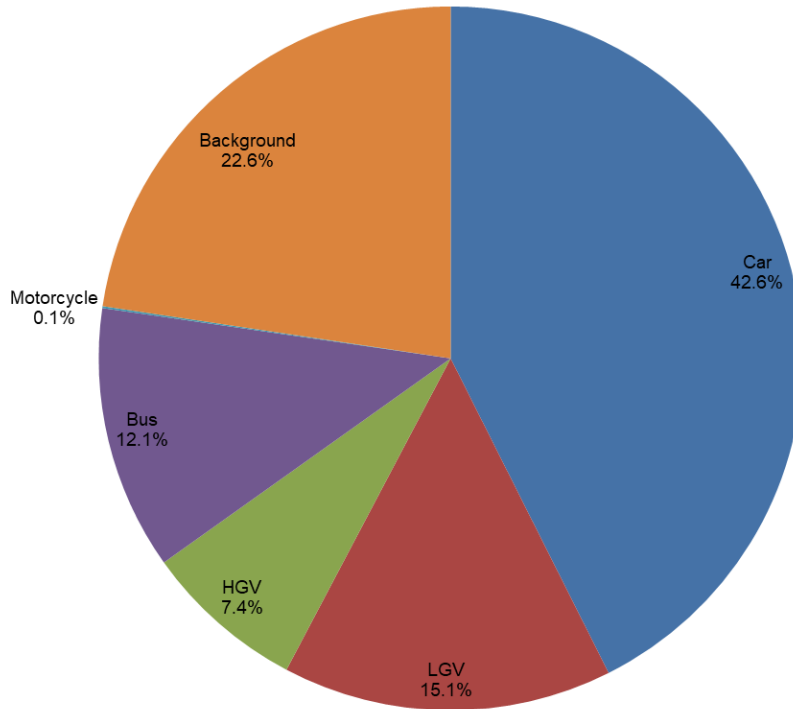
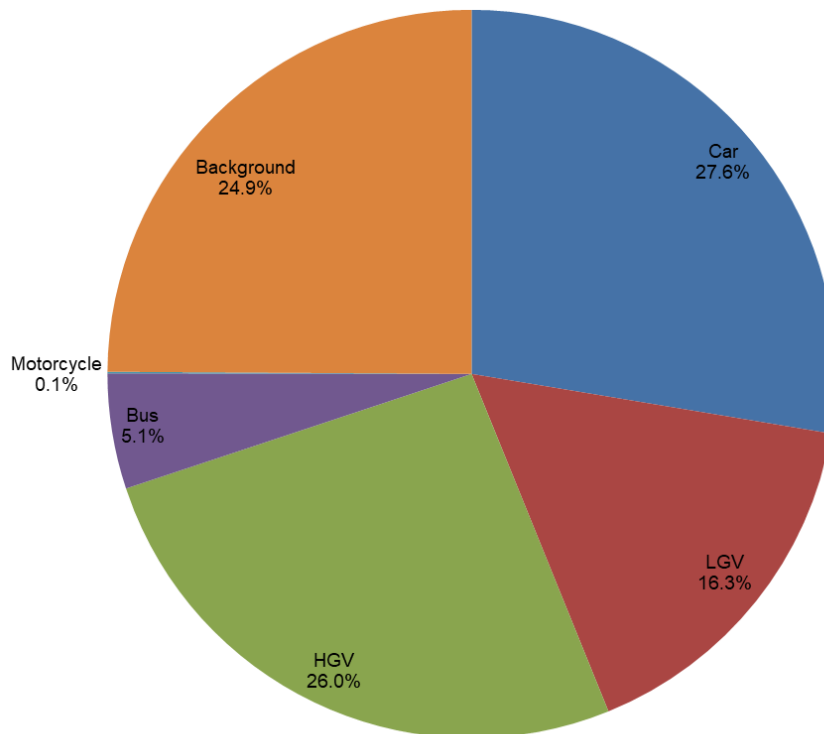


Figure 5-10 - Source Apportionment of NOx at Receptor R54, reporting within 10% of the AQS Annual Mean Objective for NO₂, within the A20 AQMA



Of the contributors to total NO_x concentrations, local (road) sources are the largest at 54.9%, followed by regional background at 23.1%, then local background at 22.0%. This means that the Council should be able to influence 76.9% of total NO_x concentrations with intervention policies.

When considering the average breakdown of NO_x concentration across all modelled receptors in more detail, road traffic accounts for 19µg/m³ (54.9%) of total NO_x (34.6µg/m³). Of this total average NO_x, Cars account for the most (28.4%) of any of the vehicle types on average, followed by LGVs (12.2%).

At the receptor where the maximum road NO_x concentration has been predicted (57.5µg/m³, predicted at receptor R58), road traffic accounts for 77.4% of the overall NO_x. Of this total NO_x, Cars account for the most (42.6%) of any of the vehicle types, followed by LGVs (15.1%) and Buses (12.1%). This indicates that Cars, Buses and LGVs are largely responsible for the exceedances in the High St / Ladywell AQMA.

However, the receptor where the second highest road NO_x concentration was predicted, within the A20 AQMA, shows that different localised effects are influencing the NO_x concentrations. At R54, although Cars are the highest contributors to road NO_x (27.6%), this is closely followed by HGVs (26.0%) and then LGVs (16.3%). This confirms the that this is a common route for HGVs to take in order to access the port. Understanding the key routes into the town and towards the port, including how different vehicle types are using the surrounding roads will help focus measures.

5.3.5 Required Reduction in Emissions

In order to understand the scale of the challenge in achieving compliance of the annual mean NO₂ standard within the AQMA, focus on emissions reduction at the worse-case location should be considered. The approach to source apportionment reported above shows that location R58 is where currently the highest level of NO_x is reported, located within the High St / Ladywell AQMA.

In order to reduce NO₂ concentrations, it is important to consider reductions in emissions from the source. Reducing emissions will in turn reduce concentrations. In the case of NO₂ however, the relationship between emissions of NO_x relative to the formation of NO₂ is not linear. That is, a reduction in NO_x of 10% does not lead to a reduction in NO₂ of 10%.

For this reason, reductions in emissions to achieve compliance with the annual mean NO₂ standard are best considered in terms of the extent of NO_x reduction. Consideration is also made to the roadside contribution – above background – which local measures cannot influence.

Table 5-3 provides the details on the calculations of the NO_x emission reduction at the worst-case exposure location, R58, which is associated with the High Street / Ladywell AQMA. The reduction in NO_x required to achieve compliance with the annual mean NO₂ objective of 40µg/m³ at the worst-case location of R58 is **2.0%**. This reduction would achieve the compliance needed at the worst-case location, within the High Street / Ladywell AQMA. When considering the A20 AQMA, no exceedances were modelled, however there are uncertainties about future traffic flows, particularly relating to HGVs across Dover in the port area, relating to the A20 AQMA.

Table 5-3 – Required NO_x Emission Reduction at Worst-Case Relevant Exposure (R58)

Metric	Value (Concentrations as µg/m ³)
Worst-Case Relevant Exposure NO ₂ Concentration	40.4
Equivalent NO _x Concentration	74.3
Background NO _x	16.8
Background NO ₂	12.4
Road NO _x - Current	57.5
Road NO _x - Required (to achieve NO ₂ concentration of 39.9µg/m ³)	56.3

Metric	Value (Concentrations as $\mu\text{g}/\text{m}^3$)
Required Road NO _x Reduction	1.2
Required % Reduction	2.0%

5.4 Assessment of Particulate Matter (PM₁₀)

The baseline modelled concentrations of PM₁₀ were all well below the AQS annual mean objective of 40 $\mu\text{g}/\text{m}^3$ at all receptors, as presented in Table 5-4.

The maximum predicted annual mean PM₁₀ concentration in 2019 for all receptors was at R50 with a predicted concentration of 21.4 $\mu\text{g}/\text{m}^3$. This represents only 53.5% of the 40 $\mu\text{g}/\text{m}^3$ annual mean AQS objective.

Table 5-4 - Predicted Annual Mean PM₁₀ Concentrations at all Modelled Receptors

ID	Annual Mean NO ₂ ($\mu\text{g}/\text{m}^3$)		2019 Annual Mean Concentration as a percentage of AQS Objective (%)
	AQS Objective	2019	
R1	40	14.9	37.2
R2	40	15.7	39.2
R3	40	15.8	39.4
R4	40	16.3	40.8
R5	40	19.0	47.4
R6	40	15.7	39.2
R7	40	17.4	43.4
R8	40	17.5	43.8
R9	40	16.6	41.6
R10	40	16.7	41.8
R11	40	17.9	44.8
R12	40	19.9	49.9
R13	40	20.1	50.3
R14	40	16.7	41.8
R15	40	17.1	42.8
R16	40	18.4	46.0
R17	40	16.6	41.5
R18	40	14.9	37.3
R19	40	16.4	41.0
R20	40	17.7	44.3
R21	40	17.3	43.4
R22	40	19.0	47.5
R23	40	17.8	44.5
R24	40	17.4	43.4
R25	40	17.6	43.9
R26	40	15.9	39.6
R27	40	17.0	42.5
R28	40	17.2	43.0
R29	40	15.3	38.4
R30	40	16.3	40.7
R31	40	16.9	42.4
R32	40	15.9	39.8
R33	40	15.1	37.9
R34	40	17.6	44.1
R35	40	16.2	40.6
R36	40	18.6	46.4

ID	Annual Mean NO ₂ (µg/m ³)		2019 Annual Mean Concentration as a percentage of AQS Objective (%)
	AQS Objective	2019	
R37	40	14.8	36.9
R38	40	19.0	47.6
R39	40	17.8	44.6
R40	40	18.6	46.4
R41	40	15.0	37.5
R42	40	17.7	44.2
R43	40	17.3	43.2
R44	40	17.8	44.6
R45	40	18.3	45.8
R46	40	15.8	39.4
R47	40	16.3	40.7
R48	40	16.7	41.8
R49	40	17.0	42.4
R50	40	21.4	53.5
R51	40	15.9	39.7
R52	40	15.2	38.1
R53	40	15.2	38.1
R54	40	19.7	49.3
R55	40	17.7	44.2
R56	40	16.7	41.7
R57	40	17.4	43.5
R58	40	21.1	52.9
R59	40	17.9	44.8
R60	40	15.8	39.4

In Bold – Exceedances of the 40 µg/m³ annual mean objective
In Italics – Within 10% of the 40 µg/m³ annual mean objective

Table 5-5 shows the number of predicted exceedances of the 24-hour PM₁₀ 50µg/m³ AQS objective at all modelled receptors against the permitted number of exceedances. The maximum number of exceedances of the 24-hour PM₁₀ 50µg/m³ AQS objective at all receptor locations in 2019 were predicted at R50 and R58, both with 5 days. This is well below the 35 permitted exceedances.

Table 5-5 - Predicted Number of Exceedances of 24-hour PM₁₀ 50µg/m³ AQS Objective at all Modelled Receptors

ID	24-hour Mean PM ₁₀ (µg/m ³)	
	Number of allowed exceedances of PM ₁₀ 50µg/m ³ AQS Objective	2019
R1	35	0
R2	35	0
R3	35	0
R4	35	0
R5	35	2
R6	35	0
R7	35	1
R8	35	1
R9	35	1
R10	35	1
R11	35	1
R12	35	3
R13	35	4
R14	35	1
R15	35	1

ID	24-hour Mean PM ₁₀ (µg/m ³)	
	Number of allowed exceedances of PM ₁₀ 50µg/m ³ AQS Objective	2019
R16	35	2
R17	35	1
R18	35	0
R19	35	0
R20	35	1
R21	35	1
R22	35	2
R23	35	1
R24	35	1
R25	35	1
R26	35	0
R27	35	1
R28	35	1
R29	35	0
R30	35	0
R31	35	1
R32	35	0
R33	35	0
R34	35	1
R35	35	0
R36	35	2
R37	35	0
R38	35	2
R39	35	1
R40	35	2
R41	35	0
R42	35	1
R43	35	1
R44	35	1
R45	35	2
R46	35	0
R47	35	0
R48	35	1
R49	35	1
R50	35	5
R51	35	0
R52	35	0
R53	35	0
R54	35	3
R55	35	1
R56	35	1
R57	35	1
R58	35	5
R59	35	1
R60	35	0

6. Conclusions and Recommendations

Bureau Veritas UK Ltd has been commissioned by Dover District Council to undertake the following tasks:

- Modelling of the current AQMAs to take into account latest available traffic data and 2019 air quality monitoring data, and carrying out a source apportionment exercise to inform the subsequent new action plan; and
- Production of a new AQAP, incorporating best practice measures from around the UK.

This report addresses the first task which involved modelling the existing AQMAs and undertaking a source apportionment assessment within Dover.

The assessment considered exposure of existing residential receptors to concentrations of Nitrogen Dioxide (NO₂) and Particulate Matter (PM₁₀), using the Cambridge Environmental Research Consultants ADMS-Roads™ dispersion model (version 5.0).

6.1 Nitrogen Dioxide (NO₂)

There is one predicted exceedance of the AQS NO₂ annual mean objective for all modelled receptors, at R58, which lies within the existing High St / Ladywell AQMA. This receptor location predicted the maximum concentration across the modelled receptor locations, reporting a concentration of 40.2µg/m³, which is just over the AQS objective and represents 100.5% of the objective. This predicted exceedance was modelled at first floor level (4m) where there is potential for exposure relevant to the annual mean objective.

One further location was predicted to be within 10% of the AQS Objective (36 to 40µg/m³), at receptor location R54, within the A20 AQMA. This receptor location predicted a concentration of 37.5µg/m³, representing 93.9% of the AQS Objective therefore highlighting an area of potential concern.

NO₂ concentrations predicted at all other modelled receptor locations were below the annual mean NO₂ AQS Objective and no further locations were within 10% of the objective.

The empirical relationship given in LAQM.TG(16)⁴ states that exceedances of the 1-hour mean objective for NO₂ are only likely to occur where annual mean concentrations are 60µg/m³ or above. Annual mean NO₂ concentrations at all assessed receptor locations are below this limit, and therefore short-term NO₂ exposure from road traffic emissions at the assessed receptor locations are not considered to be in exceedance of the AQS objective.

In conclusion, whilst there was one location in exceedance of the 40µg/m³ annual mean AQS objective, and one location within 10% of the objective, each of these is within an existing AQMA, so there are no new exceedance areas that the Council has not previously identified.

NO₂ concentration isopleths indicated that no change to either the High Street / Ladywell AQMA boundary and the A20 AQMA boundary is necessary. The modelled exceedances of the AQS objective are largely localised to the roadway and concentrations drop off as you move further from the road.

6.1.1 High Street/Ladywell AQMA

The predicted NO₂ concentrations following the modelling exercise do not indicate that a revocation of the High St / Ladywell AQMA is possible as an exceedance of the 40µg/m³ AQS objective was predicted to be present within the existing AQMA boundary (Figure 5-2).

The 2019 monitoring undertaken by the Council as part of its LAQM commitments also indicated an area of exceedance at one diffusion tube location (DV30), located approximately 25m from the boundary of the High St / Ladywell AQMA. This monitoring location was excluded from baseline model verification due to low data capture (50% in 2019) and the uncertainty surrounding the height of the receptor. The closest modelled receptor to this exceedance location was at the residential properties along Victoria Crescent (R60), where the annual mean NO₂ concentration was predicted to be 16.3µg/m³. This indicates that as you move away from the junction, traffic becomes more free-flowing and concentrations drop substantially. The residential properties at Victoria Crescent are also set back from the road and are not located in the street canyon environment, thus allowing for more dispersion of pollutants.

Regarding the modelled NO₂ concentration isopleths within the High Street / Ladywell AQMA, the elevated concentrations that led to the declaration of the AQMA are confirmed to still be present, however, the concentrations drop off further from the junction and exceedances have not been modelled north of the AQMA boundary. The 40µg/m³ isopleth extends slightly to the south of the AQMA boundary along High Street to the junction with Effingham Crescent. However, the exceedances are modelled within the roadway and concentrations drop to below 36µg/m³ at either side of the road, where receptors are present.

Based on the modelling exercise, it is therefore recommended that the AQMA boundary remains unchanged. It is recommended that monitoring is continued within the area to continually assess the AQMA boundary, with particular attention paid to increasing data capture and monitoring at heights relevant for public exposure.

6.1.2 A20 AQMA

One modelled receptor location predicted a NO₂ concentration within 10% of the NO₂ AQS Objective within the A20 AQMA, therefore highlighting an area of potential concern and not supporting a revocation of the A20 AQMA. As all other monitoring locations were reporting below 10% of the AQS Objective, there is therefore potential that the AQMA boundary could be reduced to concentrate on the area of concern around Snargate street. This was confirmed by the modelled NO₂ concentration isopleths, where concentrations between 36-40µg/m³ have been modelled along parts Snargate road where receptors are present. The extent of the 40µg/m³ isopleth extends beyond the AQMA boundary to the north and south, however these concentrations are confined to the roadway and concentrations drop to below 36µg/m³ at either side of the road, where receptors are present.

However, there is currently a lot of uncertainty in the port area of Dover relating to both the EU-Exit and the Covid-19 pandemic. At the time of writing, there are ongoing HGV traffic jams, leading to temporary changes to the HGV routes into Dover³². Additionally, the proposed Customs facility in Whitfield will further alter the HGV routes across Dover District on a more permanent basis³³. These uncertainties will impact the HGV proportions that are known to be a major contributor to NO₂ concentrations within the A20 AQMA. For this reason, an amendment to the boundary is not supported at this time until more is known about the certainty of preferred HGV routes around Dover in light of the UK leaving the EU and the nature of the Covid-19 pandemic.

In previous detailed modelling exercises, there were concerns surrounding the potential extension of the A20 boundary to the east to encompass the residential properties along East Cliff and Marine parade. The monitoring at DV33 in 2019 reported 35.9µg/m³ at 24 Marine Parade, which is not within 10% of the AQS Objective. The closest modelled receptor, R40 is located at 32 East Cliff and the modelled NO₂ concentration was also reporting below the AQS Objective at 32.2µg/m³. Additionally, the NO₂ concentration isopleth confirmed that exceedances were confined to the roadway and concentrations drop to below 36µg/m³ at receptor locations. There is therefore not enough evidence to necessitate an extension of the AQMA boundary. However this should be re-

³² Kent Traffic Management on M20 Motorway to Dover and Eurotunnel <https://www.gov.uk/guidance/kent-traffic-management-on-m20-motorway-to-dover-and-eurotunnel>

³³ White Cliffs Inland Border Facility, Dover <https://inlandborderfacilities.uk/wp-content/uploads/2021/01/Online-Leaflet-Updated-22-Jan-2021.pdf>

considered following any permanent changes to HGV routes and proportions across the District, and monitoring should continue to continually assess NO₂ concentrations in this area.

6.1.3 Source Apportionment of NO_x

Of the contributors to total NO_x concentrations, local (road) sources are the largest at 54.9%, followed by regional background at 23.1%, then local background at 22.0%. This means that the Council should be able to influence 76.9% of total NO_x concentrations with intervention policies.

When considering the average breakdown of NO_x concentration across all modelled receptors in more detail, road traffic accounts for 54.9% of total NO_x. Of this total average NO_x, Cars account for the most (28.4%) of any of the vehicle types on average, followed by LGVs (12.2%).

At the receptor where the maximum road NO_x concentration has been predicted (57.5µg/m³, predicted at receptor R58), road traffic accounts for 77.4% of the overall NO_x. Of this total NO_x, Cars account for the most (42.6%) of any of the vehicle types, followed by LGVs (15.1%) and Buses (12.1%). This indicates that Cars, Buses and LGVs are largely responsible for the exceedances in the High St / Ladywell AQMA.

However, the receptor where the second highest road NO_x concentration was predicted, within the A20 AQMA, shows that different localised effects are influencing the NO_x concentrations. At R54, although Cars are the highest contributors to road NO_x (27.6%), this is closely followed by HGVs (26.0%) and then LGVs (16.3%). This confirms that this is a common route for HGVs to take in order to access the port. Understanding the key routes into the town and towards the port, including how different vehicle types are using the surrounding roads will help focus measures.

6.1.4 NO_x Emission Reduction

The reduction in NO_x required to achieve compliance with the annual mean NO₂ objective of 40µg/m³ at the worst-case location of R58 within the High Street / Ladywell AQMA is **2.0%**. This reduction would achieve the compliance needed at the worst-case location, however there are other uncertainties about future traffic flows, particularly relating to HGVs across Dover in the port area and relating to the A20 AQMA.

6.2 Particulate Matter – PM₁₀

The modelled concentrations of PM₁₀ were all well below the AQS annual mean objective of 40µg/m³ at all receptors. The maximum predicted annual mean PM₁₀ concentration in 2019 for all receptors was at R50 with a predicted concentration of 21.4µg/m³. This represents only 53.5% of the 40µg/m³ annual mean AQS objective.

Additionally, the maximum number of exceedances of the 24-hour PM₁₀ 50µg/m³ AQS objective at all receptor locations in 2019 were predicted at R50 and R58, both with 5 days. This is well below the 35 permitted exceedances.

In conclusion, there are no exceedances of the PM₁₀ AQS objectives modelled in 2019. There is no requirement to declare an AQMA for this pollutant.

6.3 Outcomes

Given the above conclusions, the following actions are recommended:

- The High St / Ladywell AQMA to remain unchanged, however the existing monitoring at High Street toward Victoria Crescent (DV30) should continue, with a focus on increasing data capture and ensuring relevant public exposure (i.e. located at the height of a residential property);
- The A20 AQMA to remain as currently declared, though monitoring to be continued to assess the current boundary, particularly at the monitoring locations along Snargate Street (DV23,

DV24 and DV25) and outside of the AQMA boundary at the A20 Eastern Docks roundabout (DV33) to assess whether any permanent changes to HGV routes through Dover will worsen the air quality within the A20 AQMA. If the monitoring at DV33 identifies a new exceedance, amendment will need be considered;

- Commence work on an updated Air Quality Action Plan, using the source apportionment information as a basis for measures, and targeting specifically the roads along the A256 High Street to A20 Snargate Street link;
- Re-evaluation of detailed modelling to be considered once permanent changes to HGV routes are known post-Brexit and considering the new White Cliffs Inland Border Facility.



Appendices

Appendix A – Background to Air Quality

Emissions from road traffic contribute significantly to ambient pollutant concentrations in urban areas. The main constituents of vehicle exhaust emissions, produced by fuel combustion are carbon dioxide (CO₂) and water vapour (H₂O). However, combustion engines are not 100% efficient and partial combustion of fuel results in emissions of a number of other pollutants, including carbon monoxide (CO), particulate matter (PM), Volatile Organic Compounds (VOCs) and hydrocarbons (HC). For HC, the pollutants of most concern are 1,3 - butadiene (C₄H₆) and benzene (C₆H₆). In addition, some of the nitrogen (N) in the air is oxidised under the high temperature and pressure during combustion; resulting in emissions of oxides of nitrogen (NO_x). NO_x emissions from vehicles predominately consist of nitrogen oxide (NO), but also contain nitrogen dioxide (NO₂). Once emitted, NO can be oxidised in the atmosphere to produce further NO₂.

The quantities of each pollutant emitted depend upon a number of parameters; including the type and quantity of fuel used, the engine size, the vehicle speed, and the type of emissions abatement equipment fitted. Once emitted, these pollutants disperse in the air. Where there is no additional source of emission, pollutant concentrations generally decrease with distance from roads, until concentrations reach those of the background.

This air quality assessment focuses on NO₂ and PM₁₀ (PM of aerodynamic diameter less than 10µm) as these pollutants are least likely to meet their respective Air Quality Strategy (AQS) objectives near roads. This has been confirmed over recent years by the outcome of the Local Air Quality Management (LAQM) regime. The most recent statistics³⁴ regarding Air Quality Management Areas (AQMA) show that approximately 650 AQMA are declared in the UK. The majority of existing AQMA have been declared in relation to road traffic emissions.

In line with these results, the reports produced by the Council under the LAQM regime have confirmed that road traffic within their administrative area is the main issue in relation to air quality.

An overview of these two pollutants, describing briefly the sources and processes influencing the ambient concentrations, is presented below.

Particulate Matter (PM₁₀)

Particulate matter is a mixture of solid and liquid particles suspended in the air. There are a number of ways in which airborne PM may be categorised. The most widely used categorisation is based on the size of particles such as PM_{2.5}, particles of aerodynamic diameter less than 2.5µm (micrometre = 10⁻⁶ metre), and PM₁₀, particles of aerodynamic diameter less than 10µm. Generically, particulate residing in low altitude air is referred to as Total Suspended Particulate (TSP) and comprises coarse and fine material including dust.

Particulate matter comprises a wide range of materials arising from a variety of sources. Examples of anthropogenic sources are carbon (C) particles from incomplete combustion, bonfire ash, recondensed metallic vapours and secondary particles (or aerosols) formed by chemical reactions in the atmosphere. As well as being emitted directly from combustion sources, man-made particles can arise from mining, quarrying, demolition and construction operations, from brake and tyre wear in motor vehicles and from road dust resuspension from moving traffic or strong winds. Natural sources of PM include wind-blown sand and dust, forest fires, sea salt and biological particles such as pollen and fungal spores.

The health impacts from PM depend upon size and chemical composition of the particles. For the purposes of the AQS objectives, PM₁₀ or PM_{2.5} is solely defined on size rather than chemical composition. This enables a uniform method of measurement and comparison. The short and long-term exposure to PM has been associated with increased risk of lung and heart diseases. PM may also carry surface-absorbed carcinogenic compounds. Smaller PM have a greater likelihood of penetrating the respiratory tract and reaching the lung to blood interface and causing the above adverse health effects.

³⁴ Statistics from the UK AIR website available at <https://uk-air.defra.gov.uk/aqma/summary> – Figures as of November 2019

In the UK, emissions of PM₁₀ have declined significantly since 1980, and were estimated to be 114kt (kilotonne) in 2010³⁵. Residential / public electricity and heat production and road transport are the largest sources of PM₁₀ emissions. The road transport sector contributed 22% (25kt) of PM₁₀ emissions in 2010. The main source within road transport is brake and tyre wear.

It is important to note that these estimates only refer to primary emissions, that is, the emissions directly resulting from sources and processes and do not include secondary particles. These secondary particles, which result from the interaction of various gaseous components in the air such as ammonia (NH₃), sulphur dioxide (SO₂) and NO_x, can come from further afield and impact on the air quality in the UK and vice versa.

Nitrogen Oxides (NO_x)

NO and NO₂, collectively known as NO_x, are produced during the high temperature combustion processes involving the oxidation of N. Initially, NO_x are mainly emitted as NO, which then undergoes further oxidation in the atmosphere, particularly with ozone (O₃), to produce secondary NO₂. Production of secondary NO₂ could also be favoured due to a class of compounds, VOCs, typically present in urban environments, and under certain meteorological conditions, such as hot sunny days and stagnant anti-cyclonic winter conditions.

Of NO_x, it is NO₂ that is associated with health impacts. Exposure to NO₂ can bring about reversible effects on lung function and airway responsiveness. It may also increase reactivity to natural allergens, and exposure to NO₂ puts children at increased risk of respiratory infection and may lead to poorer lung function in later life.

In the UK, emissions of NO_x have decreased by 62% between 1990 and 2010. For 2010, NO_x (as NO₂) emissions were estimated to be 1,106kt. The transport sector remained the largest source of NO_x emissions with road transport contribution 34% to NO_x emissions in 2010.

³⁵ National Atmospheric Emissions Inventory (NAEI) Summary Emission Estimate Datasets 2010. March 2012



Appendix B – Model Verification

The ADMS-Roads dispersion model has been widely validated for this type of assessment and is specifically listed in the Defra's LAQM.TG(16) guidance as an accepted dispersion model.

Model validation undertaken by the software developer (CERC) will not have included validation in the vicinity of the proposed development site. It is therefore necessary to perform a comparison of modelled results with local monitoring data at relevant locations. This process of verification attempts to minimise modelling uncertainty and systematic error by correcting modelled results by an adjustment factor to gain greater confidence in the final results.

The predicted results from a dispersion model may differ from measured concentrations for a large number of reasons, including uncertainties associated with:

- Background concentration estimates;
- Source activity data such as traffic flows and emissions factors;
- Monitoring data, including locations; and
- Overall model limitations.

Model verification is the process by which these and other uncertainties are investigated and where possible minimised. In reality, the differences between modelled and monitored results are likely to be a combination of all of these aspects.

Model setup parameters and input data were checked prior to running the models in order to reduce these uncertainties. The following were checked to the extent possible to ensure accuracy:

- Traffic data;
- Distance between sources and monitoring as represented in the model;
- Speed estimates on roads;
- Background monitoring and background estimates; and
- Checks on the monitoring data

NO₂ Verification Calculations

The verification of the modelling output was performed in accordance with the guidance provided in Chapter 7 of LAQM.TG(16).

Monitoring data provided by the Council, as presented in Section 3.2 has been used from the most recent available year of 2019. Four passive monitoring locations were not included in the modelling assessment: the urban background site DV04 and the urban centre site DV05 due to the distance from modelled roads, DV30 due to low data capture and DV12/DV18/DV19 due to lack of representativity in the model. Although DV12/DV18/DV19 is a roadside site, it is located 10m from the A20, behind a large hedgerow and at a higher elevation than the road, therefore the location is not representative of the majority of the modelled roads and receptors. Figure 3-3 shows a visual representation of the monitoring locations used within the assessment referenced against the AQMAs and the modelled road links.

Verification of the NO₂ modelled concentrations has therefore been undertaken using 10 monitoring locations operated by the Council, in two separate domains, consisting of 14 NO₂ diffusion tubes in total (including two triplicate sites). One verification domain used three monitoring locations and consisted of the section of road running parallel to the A20, along Snargate Street, as the minor

road was not included in the model, a separate verification factor was required for increased accuracy. The other seven monitoring locations formed the remaining verification domain, which was used for model-wide verification.

As per Section 3.2.2, background NO_x and NO₂ concentrations were obtained from the relevant Defra background maps for 2019. Table A-1 below shows an initial comparison of the monitored and unverified modelled NO₂ results for the year 2019, in order to determine if verification and adjustment was required.

Table A-1 – Comparison of Unverified Modelled and Monitored NO₂ Concentrations

Site ID	Site Location	Background NO ₂ (µg/m ³)	Monitored total NO ₂ (µg/m ³)	Unverified Modelled total NO ₂ (µg/m ³)	% Difference (modelled vs. monitored)
DV23	126 Snargate St	12.5	31.2	17.19	-44.87
DV24	148 Snargate St	12.4	33.7	17.01	-49.57
DV25	167 Snargate St	12.4	29.3	16.29	-44.35
DV11/16/17	The Gateway	13.0	28.1	19.03	-32.25
DV10	Townwall St	13.0	35.9	23.75	-33.77
DV32	1 Marine Parade	13.0	31.7	21.05	-33.59
DV33	24 Marine Parade	13.0	35.9	20.58	-42.62
DV06/07/08	Town Hall	12.4	39.8	22.36	-43.80
DV31	3 Ladywell	12.4	31.5	18.66	-40.72
DV01	95 High St	12.4	30.8	17.17	-44.22

The model was under predicting at the majority of locations, all model inputs were checked to be accurate and no further improvement of the modelled results could be obtained on this occasion. The difference between modelled and monitored concentrations was greater than ±25% at all locations, with all locations under predicting, meaning adjustment of the results was necessary. The relevant data was then gathered to allow the adjustment factor to be calculated.

Model adjustment needs to be undertaken for roads NO_x and not NO₂. For the diffusion tube monitoring results used in the calculation of the model adjustment, NO_x was derived from NO₂; these calculations were undertaken using the NO_x to NO₂ Calculator (version 8.1) spreadsheet tool available from the LAQM website³⁶.

Table A-2 provides the relevant data required to calculate the model adjustment based on regression of the modelled and monitored road source contribution to NO_x. Figure A-1 provides a comparison of the Modelled Road Contribution NO_x versus Monitored Road Contribution NO_x, and the equation of the trend line based on linear regression through zero. The Total Monitored NO_x concentration has been derived by back-calculating NO_x from the NO_x/NO₂ empirical relationship using the spreadsheet tool available from Defra's website. The equation of the trend lines presented in Figure A-1 gives an adjustment factor for the modelled results of 2.991.

³⁶ <http://laqm.defra.gov.uk/review-and-assessment/tools/background-maps.html#NOxNO2calc>

Table A-2 – Data Required for Adjustment Factor Calculation

Site ID	Monitored total NO ₂ (µg/m ³)	Monitored total NO _x (µg/m ³)	Background NO ₂ (µg/m ³)	Background NO _x (µg/m ³)	Monitored road contribution NO ₂ (total - background) (µg/m ³)	Monitored road contribution NO _x (total - background) (µg/m ³)	Modelled road contribution NO _x (excludes background) (µg/m ³)
DV23	31.2	53.7	12.5	17.0	18.7	36.8	8.7
DV24	33.7	59.2	12.4	16.8	21.3	42.4	8.5
DV25	29.3	49.7	12.4	16.8	16.8	32.9	7.1
DV11/16/17	28.1	47.0	13.0	17.7	15.1	29.3	11.2
DV10	35.9	63.7	13.0	17.7	22.8	46.0	20.5
DV32	31.7	54.6	13.0	17.7	18.7	36.9	15.1
DV33	35.9	63.7	13.0	17.7	22.9	46.0	14.2
DV06/07/08	39.8	72.9	12.4	16.8	27.3	56.1	18.8
DV31	31.5	54.3	12.4	16.8	19.0	37.5	11.6
DV01	30.8	52.9	12.4	16.8	18.3	36.1	8.8

Figure A-1 – Comparison of the Modelled Road Contribution NO_x versus Monitored Road Contribution NO_x

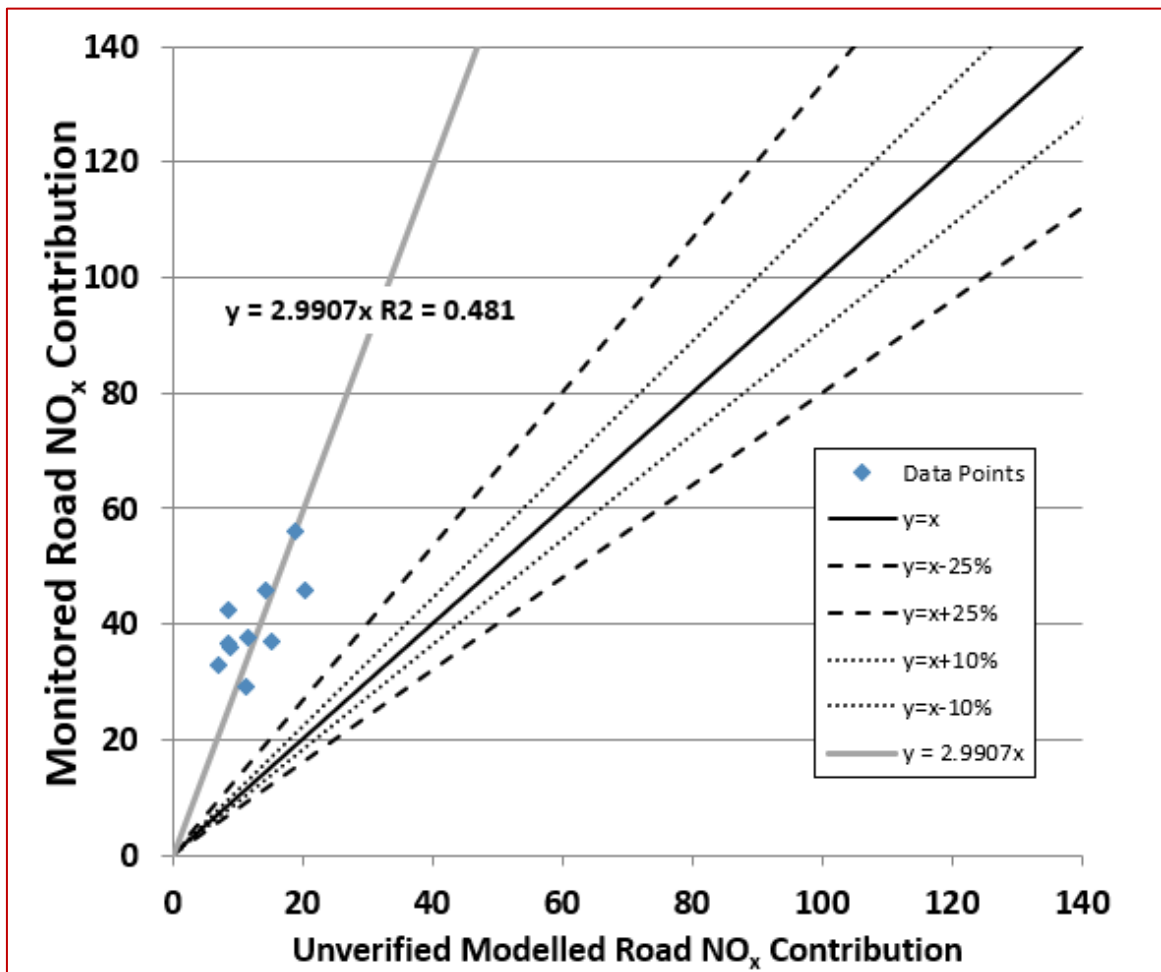


Table A-3 shows the ratios between monitored and modelled NO₂ for each monitoring location based on the above adjustment factor. Using a factor of 2.991, although all of the results are within 25% of the monitored value, the threshold deemed acceptable in TG.16, there are significant variations between the adjustment ratios across the verification points. Ideally, concentrations should be within ±10%, but 6 sites were outside of this range. Therefore, it was deemed 2.991 was not a suitable verification factor.

Table A-3 – Adjustment Factor and Comparison of Verified Results Against Monitoring Results

Site ID	Ratio of monitored road contribution NO _x / modelled road contribution NO _x	Adjustment factor for modelled road contribution NO _x	Adjusted modelled road contribution NO _x (µg/m ³)	Adjusted modelled total NO _x (including background NO _x) (µg/m ³)	Modelled total NO ₂ (based upon empirical NO _x / NO ₂ relationship) (µg/m ³)	Monitored total NO ₂ (µg/m ³)	% Difference (adjusted modelled NO ₂ vs. monitored NO ₂)
DV23	4.23	2.991	26.04	42.99	26.03	31.18	-16.52
DV24	5.01		25.31	42.13	25.62	33.73	-24.04
DV25	4.63		21.23	38.05	23.60	29.27	-19.38
DV11/16/17	2.60		33.60	51.34	30.16	28.09	7.37
DV10	2.25		61.16	78.91	42.47	35.86	18.44
DV32	2.44		45.26	63.01	35.54	31.70	12.12
DV33	3.24		42.50	60.25	34.30	35.87	-4.37
DV06/07/08	2.98		56.19	73.01	39.85	39.79	0.16
DV31	3.23		34.70	51.51	30.15	31.48	-4.22
DV01	4.11		26.22	43.04	26.07	30.78	-15.31

In order to provide more confidence in the model predictions, the model was split into two verification domains, the area along Snargate St running parallel to the A20 (Domain 2), that accounts for the influence of the A20 but not accounting for the traffic influence of the minor road. Domain 1 consists of the remainder of the modelled area.

Figure A-2 - Verification Domain 2 in Relation to the A20 AQMA and Modelled Roads



Splitting the modelled area into two domains results in a decrease in the model verification factor for Domain 1, and generally an increased alignment between monitored and modelled values, as shown in Table A-4 and Figure A-3. The equation of the new trend line presented gives a decreased adjustment factor for the modelled results in Domain 1 of 2.782.

Table A-4 - Adjustment Factor and Comparison of Verified Results Against Monitoring Results in Domain 1

Site ID	Ratio of monitored road contribution NO _x / modelled road contribution NO _x	Adjustment factor for modelled road contribution NO _x	Adjusted modelled road contribution NO _x (µg/m ³)	Adjusted modelled total NO _x (including background NO _x) (µg/m ³)	Modelled total NO ₂ (based upon empirical NO _x / NO ₂ relationship) (µg/m ³)	Monitored total NO ₂ (µg/m ³)	% Difference (adjusted modelled NO ₂ vs. monitored NO ₂)
DV11/16/17	2.60	2.782	31.26	49.00	29.05	28.09	3.42
DV10	2.25		56.91	74.65	40.66	35.86	13.39
DV32	2.44		42.11	59.86	34.12	31.70	7.64
DV33	3.24		39.54	57.29	32.94	35.87	-8.16
DV06/07/08	2.98		52.28	69.09	38.14	39.79	-4.14
DV31	3.23		32.28	49.09	29.00	31.48	-7.87
DV01	4.11		24.40	41.21	25.17	30.78	-18.24

Figure A-3 - Comparison of the Modelled Road Contribution NO_x versus Monitored Road Contribution NO_x in Domain 1

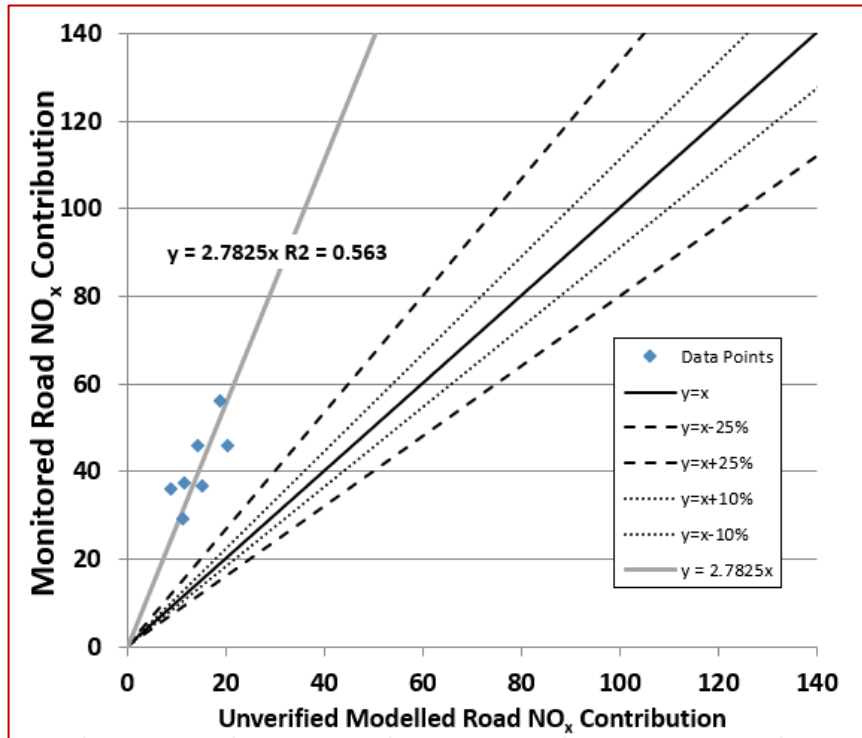
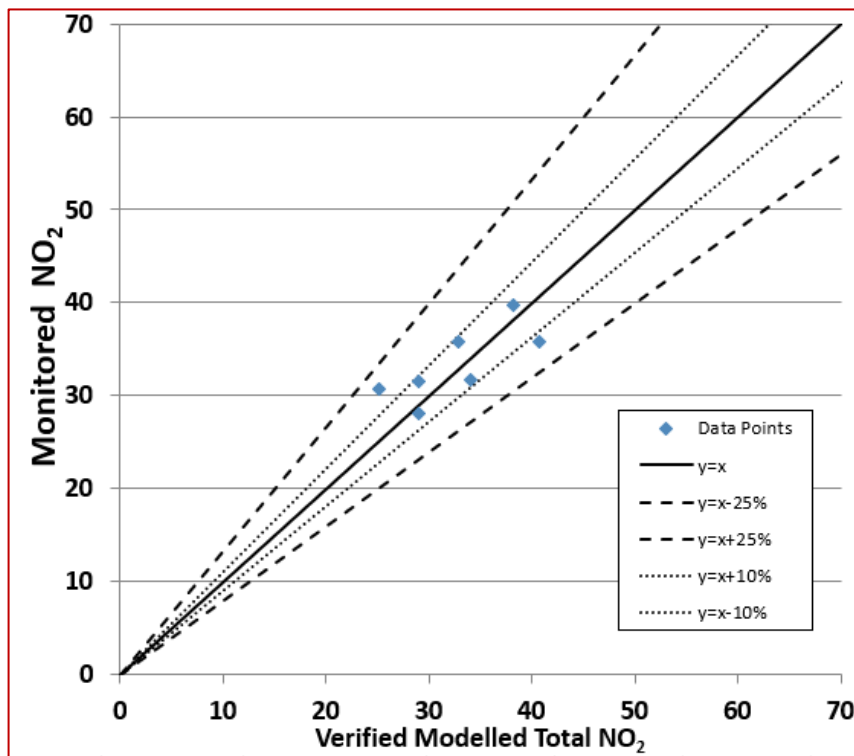


Figure A-4 - Comparison of the Modelled NO₂ versus Monitored NO₂ in Domain 1



The adjustment factor of 2.782 was applied to the road-NO_x concentrations predicted by the model in Domain 1 to arrive at the final NO₂ concentrations. The sites then show strong agreement between the ratios of monitored and modelled NO₂, all within ±25%, as shown in Figure A-4. A factor of 2.782 in Domain 1 also reduces the Root Mean Square Error (RMSE) from a value of 13.3 to 3.4, which is less than the guidance value of 4µg/m³ as stated within LAQM.TG(16).

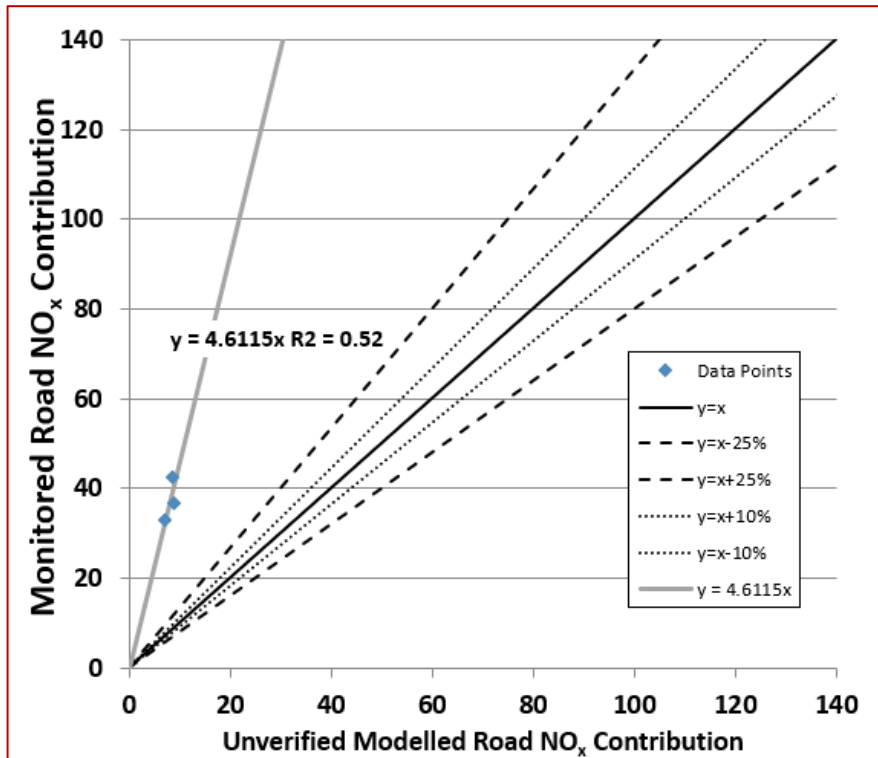
All NO₂ results residing within Domain 1 presented and discussed herein are those calculated following the process of model verification using an adjustment factor of 2.782.

For Domain 2, splitting the modelled area results in an increase in the model verification factor, and increased alignment between monitored and modelled values, as shown in Table A-5 and Figure A-5. The equation of the new trend line presented gives an increased adjustment factor for the modelled results in Domain 2 of 4.612.

Table A-5 - Adjustment Factor and Comparison of Verified Results Against Monitoring Results in Domain 2

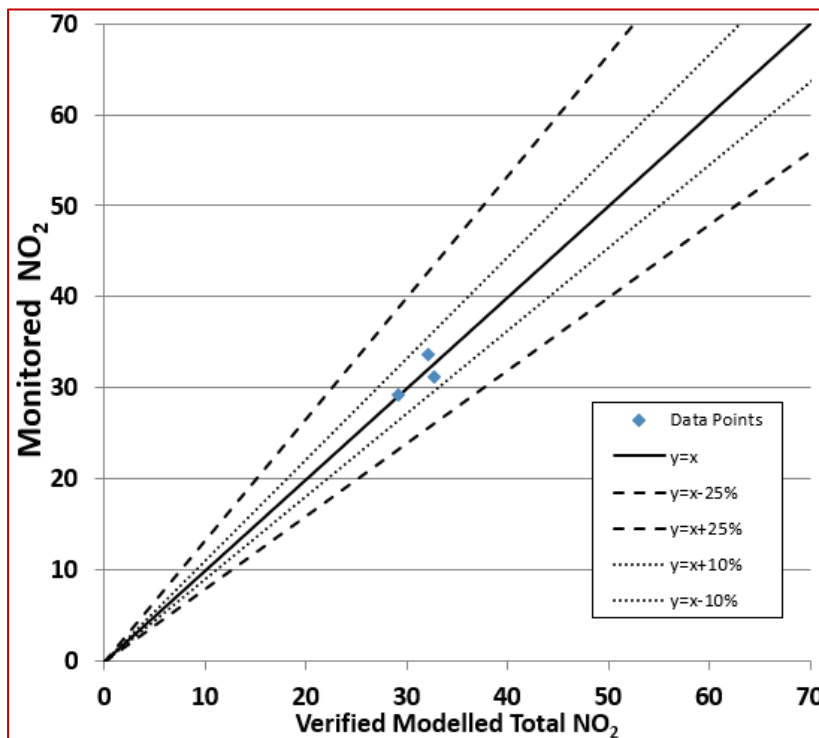
Site ID	Ratio of monitored road contribution NO _x / modelled road contribution NO _x	Adjustment factor for modelled road contribution NO _x	Adjusted modelled road contribution NO _x (µg/m ³)	Adjusted modelled total NO _x (including background NO _x) (µg/m ³)	Modelled total NO ₂ (based upon empirical NO _x / NO ₂ relationship) (µg/m ³)	Monitored total NO ₂ (µg/m ³)	% Difference (adjusted modelled NO ₂ vs. monitored NO ₂)
DV23	4.23	4.612	40.15	57.11	32.74	31.18	5.00
DV24	5.01		39.03	55.84	32.18	33.73	-4.59
DV25	4.63		32.74	49.56	29.22	29.27	-0.18

Figure A-5 - Comparison of the Modelled Road Contribution NO_x versus Monitored Road Contribution NO_x in Domain 2



The adjustment factor of 4.612 was applied to the road-NO_x concentrations predicted by the model in Domain 2 to arrive at the final NO₂ concentrations. The sites then show strong agreement between the ratios of monitored and modelled NO₂, all within ±10%, as shown in Figure A-6. A factor of 4.612 in Domain 2 also reduces the Root Mean Square Error (RMSE) from a value of 14.6 to 1.3, which is less than the guidance value of 4µg/m³ as stated within LAQM.TG(16).

Figure A-6 - Comparison of the Modelled NO₂ versus Monitored NO₂ in Domain 2



All NO₂ results in Domain 2 presented and discussed herein are those calculated following the process of model verification using an adjustment factor of 4.612.

LAQM.TG(16) states that:

“In order to provide more confidence in the model predictions and the decisions based on these, the majority of results should be within 25% of the monitored concentrations, ideally within 10%.”

Following verification within each Domain, the sites show good agreement between the ratios of monitored and modelled NO₂. It can be seen that all of the verification points lie within ±25%, and the majority lie close to the ±10% tolerance as detailed in LAQM.TG(16).

PM₁₀ Verification Calculations

The verification of the modelling output was performed in accordance with the methodology provided in Chapter 7 of LAQM.TG(16).

For the verification and adjustment of PM₁₀, the LAQM monitoring data was used, as presented in Table 3-1. Data capture for 2019 was very good at 97%. Table A-6 below shows the relevant data required to calculate the model adjustment based on the ratio of modelled and monitored road source contribution to PM₁₀.

Table A-6 – PM₁₀ Verification Calculations

Site	Monitored 2019 PM ₁₀ (µg/m ³)	Corrected Background 2019 PM ₁₀ (µg/m ³)	Monitored Road Contribution (µg/m ³)	Modelled Road Contribution (µg/m ³)	Verification Factor
Dover Centre	21.6	13.9	7.73	1.75	4.415

Following the verification of PM₁₀ modelled results, all results presented within the assessment for all receptors are those calculated following the process of model verification using the adjustment factor of 4.415 for PM₁₀.



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Annual Status Report 2022

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2021 Air Quality Annual Status Report (ASR)

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

Date: September 2022

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Executive Summary: Air Quality in Our Area

Air Quality in Dover District Council

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children, the elderly, and those with existing heart and lung conditions. There is also often a strong correlation with equalities issues because areas with poor air quality are also often less affluent areas^{1,2}.

The mortality burden of air pollution within the UK is equivalent to 28,000 to 36,000 deaths at typical ages³, with a total estimated healthcare cost to the NHS and social care of £157 million in 2017⁴.

Dover is “the gateway to England” and its location at the narrowest crossing point in the Channel has always given it great significance for both trade and military activities.

Dover is the district’s principal town, the major employment centre, an international gateway and a transport hub. In addition to Dover, Deal and Sandwich are the other main towns within the district.

The main sources of pollutant emissions within Dover are linked with port activities; regular cross-channel ships and large volumes of road traffic arising as a result of associated transport of good along the A2 and A20 entering and leaving the town.

Dover District Council (the Council) has an adopted Core Strategy (CS) which includes ambitious plans to regenerate Dover and other areas of the district and has an adopted Land Allocations Local Plan (LALP). The Council is currently in the process of preparing a new Local Plan which will replace the Adopted CS, LALP and ‘saved’ 2002 Local Plan Policies. Air quality will be one of a number of key considerations that will need to be taken

¹ Public Health England. Air Quality: A Briefing for Directors of Public Health, 2017

² Defra. Air quality and social deprivation in the UK: an environmental inequalities analysis, 2006

³ Defra. Air quality appraisal: damage cost guidance, July 2021

⁴ Public Health England. Estimation of costs to the NHS and social care due to the health impacts of air pollution: summary report, May 2018

into account as part of the development, consultation, adoption and implementation of the new Local Plan.

There are currently two Air Quality Management Areas (AQMAs) declared within the district. Both have been designated due to exceedances of the annual mean Air Quality Strategy (AQS) objective for nitrogen dioxide (NO₂), with the elevated concentrations caused primarily by road traffic emissions. These are:

- A20 AQMA, declared in 2004 (and amended in 2007 and 2009); and
- High Street/Ladywell AQMA, declared in 2007.

In 2021, a dispersion modelling exercise was carried out for both AQMAs to establish whether any changes to the extent of AQMA boundary could be made. The results concluded that exceedances of the annual mean NO₂ objective were still evident within the High St / Ladywell AQMA and concentration was predicted to be within 10% of the AQS Objective at receptor within the A20 AQMA. Concentrations predicted at any receptors outside the AQMA were below the annual mean NO₂ AQS objective. Following the modelling report, it was recommended that the AQMAs remain as currently declared. However, it was recommended that the existing monitoring at High Street toward Victoria Crescent (DV30) and monitoring around the A20 AQMA should continue to assess the current boundary.

A new Air Quality Action Plan (AQAP) has been developed to be released in 2022. An updated source apportionment study indicates that Cars, Buses and LGVs are largely responsible for the exceedances in the High St / Ladywell AQMA; and, Cars, HGVs and LGVs are largely responsible for the worst air quality within the A20 AQMA. Measure to further improve the air quality in Dover has been included in the new AQAP.

There were no exceedances of the annual mean NO₂ objective in 2021. All sites recorded annual mean concentrations below 36 µg/m³ (i.e. not within 10% of the AQS objective). The highest concentration of 35.9 µg/m³ was observed at co-location site DV06,07,08. Site DV06,07,08 is adjacent to Dover Town Hall, within the High Street/ Ladywell AQMA boundary. Exceedances of the annual mean NO₂ AQS objective have been recorded at DV06,07,08 in 2017 and 2018. In 2019, the concentration was recorded within 10% of the AQS objective. During 2020 and 2021, DV06,07,08 recorded concentrations below 36 µg/m³ (i.e. not within 10% of the AQS objective).

When compared to 2020 concentrations, results of the monitoring for 2021 show an overall increase in annual mean concentrations at most diffusion tube monitoring sites

except for co-location site DV11,16,17 and site DV30. The general increase of the NO₂ concentrations recorded in 2021 is likely due to the increased traffic emission as traffic activities have been gradually recovering from the impact of the Covid-19 pandemic.

During 2021, five new diffusion tube sites were added. DV37 (London Road, Deal) and DV38 (Roundabout, London Road, Deal) were installed in Deal area. DV39 was installed at St Edmund's School, Barton Road, Dover. DV40 and DV40a were installed at 1 St Martin's Road and 5 St Martin's Road respectively in Guston, Dover. To date, the monitoring results have reported NO₂ concentrations well below the AQS objective in these areas.

There have been no exceedances of the PM₁₀ AQS objective within the past five years at the single PM₁₀ monitoring location on Townwall Street (Dover Centre). There is currently no monitoring undertaken for PM_{2.5} within the District. However, the annual mean PM_{2.5} concentration at Dover Centre in 2021 was estimated in accordance with the methodology presented in LAQM.TG(22) to be 15.1 µg/m³.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades and will continue to improve due to national policy decisions, there are some areas where local action is needed to improve air quality further.

The 2019 Clean Air Strategy⁵ sets out the case for action, with goals to reduce exposure to harmful pollutants. The Road to Zero⁶ sets out the approach to reduce exhaust emissions from road transport through a number of mechanisms; this is extremely important given that the majority of Air Quality Management Areas (AQMAs) are designated due to elevated concentrations heavily influenced by transport emissions.

A package of measures to improve air pollution within the district are to be identified in the updated AQAP that is due to be published this year. A draft AQAP was previously developed, although a decision was made in early 2018 to put the AQAP on hold due to the Council's need to focus on contingency planning for the UK's departure from the

⁵ Defra. Clean Air Strategy, 2019

⁶ DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy, July 2018

European Union as Dover is a key area of impact. The AQAP has been further delayed due to the Covid-19 pandemic and resourcing issues. However, works are now underway for it to be published later in 2022 and internal consultation with stakeholders completed in September 2022. Dispersion modelling with a source apportionment study will allow identification of the key areas of exceedance and the sources that are contributing to the air quality exceedances in the area.

Additionally, the Council are in the process of preparing a new Local Plan to assess how future development will impact air quality within the area, with particular attention paid to any scenarios that will negatively impact air quality in sensitive areas, such as within AQMAs or within any of the internationally designated sites within the district. The Council welcomed the public consultation on the draft Dover District Local Plan (Regulation 18)⁷ for a period of eight weeks, which ended in March 2021. The updated LDS is expected to be available in September 2022, and it is anticipated that the Regulation 19 consultation will commence in Quarter 4 of 2022⁸.

The Council's fleet has been updated to include a proportion of electric vehicles (EVs). An additional 7 EV chargers have been installed in the Council's car park in 2022 and there are plans to increase numbers for public use. The Council succeeded in their OLEV funding bid for 19 sites with 42 units to be completed 2022.

Dover faces a number of challenges to manage traffic associated with the Port, discussions are currently taking place with Central Government and National Highways to manage the expected major increase in housing stock in South East England coupled with proposals for the third Thames crossing.

Conclusions and Priorities

During 2021, there were no exceedances of the relevant annual mean objective for either NO₂ or PM₁₀ across Dover. This is the second year with no exceedances recorded since the AQMAs were declared. The concentrations at most sites across the NO₂ diffusion tube network increased compared to 2020 concentrations likely due to increased traffic emission

⁷ <https://www.doverdistrictlocalplan.co.uk/uploads/pdfs/dover-district-draft-local-plan-regulation-18-document.pdf>

⁸ <https://www.dover.gov.uk/Planning/Planning-Policy-and-Regeneration/New-District-Local-Plan/Home.aspx>

as a result of recovered traffic activities from Covid-19 pandemic. All sites had recorded annual mean concentrations below 36 µg/m³.

There have been no exceedances of the PM₁₀ annual mean objective within the past five years.

The AQAP based upon detailed modelling of the AQMAs and taking into consideration Defra's proposals for 'tackling roadside nitrogen dioxide concentrations' is currently being updated. This will be placed in the context of identified significant developments in Dover, including re-development of the Western Docks through the Dover Western Docks Revival Project and work on the Dover Waterfront area. The potential impact upon air quality from these developments will be appraised through the Strategic Environmental Assessment approach and through requests for air quality assessments under the planning and development regime. The impacts of the Covid-19 pandemic upon the air quality and traffic within Dover have caused delays in the development of the AQAP, nevertheless the Council aims to complete this by the end of 2022.

The impacts of Brexit upon the port will continue to be a key influence in the coming years and any decisions made will be assessed in terms of the air quality impacts within Dover.

Local Engagement and How to get Involved

There are several ways that everyone can get involved to help improve air quality in Dover. Due to road traffic being the main source of pollutant emissions within the district you can look to move to more sustainable methods of transport. For example: looking to minimise unnecessary car journeys by choosing to walk, cycle, car-share or use public transport instead.

For further information regarding air quality the following links are provided:

- To download DDC's air quality monitoring data, you can visit:
<https://kentair.org.uk/data> ;
- To report a nuisance or pollution problem, please fill in the form located here:
<https://forms.dover.gov.uk/nuisance> ; and
- All other general enquiries should be made by either ringing 01304 872428 or emailing DDC.EnvProtection@DOVER.GOV.UK. You can also visit
<https://www.dover.gov.uk/Environment/Environmental-Protection/Air-Quality/Air-Quality-Monitoring.aspx>.

Local Responsibilities and Commitment

This ASR was prepared by Bureau Veritas in conjunction with the Environmental Protection section of Dover District Council with the support and agreement of the following officers and departments:

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If you have any comments on this ASR please send them to Brian Gibson at:

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1 Local Air Quality Management

This report provides an overview of air quality in Dover District Council during 2021. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) 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 an exceedance is considered likely the local authority must 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. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Dover District Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1.

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority should prepare an Air Quality Action Plan (AQAP) within 12 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

A summary of AQMAs declared by Dover District Council can be found in Table 2.1. The table presents a description of the two AQMAs that are currently designated within Dover District Council. Appendix D: Map(s) of Monitoring Locations and AQMAs provides maps of AQMAs and also the air quality monitoring locations in relation to the AQMAs. The air quality objectives pertinent to the current AQMA designations are for NO₂ annual mean.

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by National Highways?	Level of Exceedance: Declaration	Level of Exceedance/Highest Concentration: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
A20 AQMA	2004 (amended in 2007 and 2009)	NO ₂ Annual Mean	An area following the A20 from just west of the Limekiln Roundabout at the western end to a point c.140m from the Eastern Docks in Dover. No longer includes properties in Marine Parade and East Cliff to the east.	YES	49.8	30.2	Jul-07. New Draft AQAP has been completed. Internal/stakeholder consultation in progress.	https://www.dover.gov.uk/Environment/Environmental-Protection/Air-Quality/Dover-Air-Quality-Action-Plan-(No-2-A20).pdf
High Street/La	2007	NO ₂ Annual Mean	An area encompassing roads	NO	50.5	35.9	Jul-07. New Draft AQAP has been.	https://www.dover.gov.uk/Environment/Environmental-Protection/Air-Quality/Dover-Air-Quality-Action-Plan-(No-2-A20).pdf

AQMA Name	Date of Declaration	Pollutants and Air Quality Objectives	One Line Description	Is air quality in the AQMA influenced by roads controlled by National Highways?	Level of Exceedance: Declaration	Level of Exceedance/Highest Concentration: Current Year	Name and Date of AQAP Publication	Web Link to AQAP
dy-well AQMA			and properties between the junction of Effingham Crescent/High Street, and Priory Hill/High Street.				Internal/stakeholder consultation in progress.	

Dover District Council confirm the information on UK-Air regarding their AQMA(s) is up to date.

Dover District Council confirm that all current AQAPs have been submitted to Defra.

2.2 Progress and Impact of Measures to address Air Quality in Dover District Council

Defra's appraisal of last year's ASR concluded that "*the report is well structured, detailed, and provides the information specified in the Guidance*". Additional comments made are as follows:

1. *"Robust and accurate QA/QC procedures were applied. Calculations for bias adjustment and annualisation factors were outlined in detail. Distance-correction was not applicable for any of the passive monitoring sites.*
2. *The Council has included a discussion of the monitoring network and also the additional tubes put in place from 2019 to provide data, with improvements observed throughout the district in air quality. However, it should be noted that the impacts of Covid-19 may have influenced the concentrations and more realistic concentrations of pollutants could be identified in the next year reporting year.*
3. *Comments from last year's ASR have been mentioned and addressed. This is welcomed, and we encourage this to continue in future ASRs.*
4. *The Council is encouraged to adopt a revised AQAP as soon as possible with the previous AQAP outdated for greater than 5 years.*
5. *As part of the report discussing PM_{2.5}, Council have appropriately included Public Health Outcomes Frameworks and provided details of PM_{2.5} from Defra background maps in the absence of any monitoring in the district. These additions are welcomed in the report.*
6. *Council have provided a clear map of the diffusion tube monitoring network; trends are displayed and discussed in the report, this is welcomed.*
7. *Covid-19 impacts have been discussed in Appendix F and detailed information provided by the Council the surrounding impacts of the pandemic on air quality in the district. The Council have mentioned the AQAP was delayed and this could be added to the Appendix F as a medium impact within the Challenges and Constraints imposed by Covid-19 upon LAQM section.*
8. *Overall the report is detailed, concise and satisfies the criteria of relevant reporting standards. The Council should continue their good and thorough work."*

This year, the council will continue to review the long-term impact of COVID-19 on the annual concentration. The updated AQAP has been completed and the progress of the air quality measures are updated in the ASR.

Dover District Council has taken forward a number of direct measures during the current reporting year of 2021 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. 30 measures are included within Table 2.2, with the type of measure and the progress Dover District Council have made during the reporting year of 2021 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented within Table 2.2.

More detail on these measures can be found in their respective Action Plans and an update to these measures will be included in their new Action Plan to be adopted in 2022.

Key completed measures are:

- DDC introduced Cycling to Work scheme in Oct 2021.
- DDC new Licensing Policy enable Electric, Hybrid or LPG converted vehicles to be licensed. A reduction in the licence fee provided for any vehicle that is electric, hybrid or LPG converted.

Dover District Council expects the following measures to be completed over the course of the next reporting year:

- DDC succeed in OLEV funding bid for 19 sites, 42 units to be completed 2022. Additional 7 ELV chargers have been installed at Council office car park and there are plans to increase numbers for public use.
- Dover Fastrack which will become a zero-emission bus service with a fleet of electric buses – has a new route under construction 2022.

Dover District Council worked to implement these measures in partnership with the following stakeholders during 2021:

- Kent County Council (KCC);
- National Highways;
- Kent Energy Centre;
- Kent & Medway Air Quality Partnership (KMAQP);

Dover District Council anticipates that the measures stated above and in Table 2.2 will assist to achieve compliance in A20 AQMA and High Street/Lady-well AQMA. This will be reviewed and updated in the forthcoming AQAP.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Encourage Council Travel Plan opportunities and seek to facilitate uptake of sustainable modes of transport; disincentivise use of car travel on council business	Promoting Travel Alternatives	Workplace Travel Planning	2009	Ongoing	DCC	DCC	No			Ongoing	Below annual mean AQS objectives	% modal shift to car share / public transport / walking / cycling	Ongoing	Quality Bus Partnership with Stagecoach in East Kent and Kent County Council. The partnership agreement, signed in April 2009, commits each party to work together towards the improvement of bus travel in Dover District.
2	Work together with KCC to encourage the uptake of Employer and School Travel Plans within the District; including School start time variations and walking to school incentives/encouragement	Promoting Travel Alternatives	School Travel Plans	Ongoing	Ongoing	DCC/KCC	DCC/KCC	No			On-going	Below annual mean AQS objectives	No. of travel plans in place Reduction in school vehicle drop-offs / pick-ups	On-going	Approximately 73% of primary and 89% of secondary schools in Dover District have approved school travel plans
3	Work with KCC to improve the facilities for cycling and walking within Dover; promote cycle-to-work scheme and bike rental scheme	Promoting Travel Alternatives	Promotion of cycling	Ongoing	Ongoing	DCC/KCC	DCC/KCC	No			On-going	Below annual mean AQS objectives	%modal shift to cycling/walking, No. miles new cycle lanes/routes Number of bikes available and rentals	On-going	Includes Dover District Cycling Plan. 2019 Updated DDC website published local cycle routes and introduced Betteshanger cycle tracks. DDC introduced Cycling to Work scheme in Oct 2021.
4	Work together with developers to improve sustainable transport links serving new developments.	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	Ongoing	Ongoing	DCC	DCC	No			On-going	Below annual mean AQS objectives	No. planning applications where improvements secured	Planning conditions included in all major developments to install ELV charging points	Part of general and continual efforts of DDC Environmental Protection
5	Work with KCC to improve public transport services and encourage the use of more sustainable transport modes	Transport Planning and Infrastructure	Public transport improvements-interchanges stations and services	Ongoing	Ongoing	DCC/KCC	DCC/KCC	No			On-going	Below annual mean AQS objectives	% modal shift to public transport	On-going	Part of general and continual efforts of DDC Environmental Protection
6	Local air quality monitoring within the District to ensure a high standard of data is achieved	Public Information	Other	Ongoing	Ongoing	DCC	DCC	No			On-going	Below annual mean AQS objectives	Recorded Concentration	Completed Annually, renewed in 2018. Two automatic sites decommissioned, but more diffusion tubes added to compensate X4 Zephyr real time instruments purchased for indicative monitoring (potential traffic changes with Brexit)	General trend of reduction in concentrations monitored
7	Make details of the Action Plan measures and annual progress	Public Information	Via the Internet	2008	Ongoing	DCC	DCC	No			On-going	Below annual mean	Availability of recently published	On-going	Documents freely available. Part of general and continual efforts of

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
	reports available on the Website											AQS objectives	reports on the Website		DDC Environmental Protection. AQAP to be updated in 2022 after revision of AQMA boundaries. Bureau Veritas progressing, draft due in 2022
8	Work with KMAQP on promotional activities to raise the profile of air quality in Dover	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	Ongoing	Ongoing	DDC/KMAQP	DDC/KMAQP	No			On-going	Below annual mean AQS objectives	% improvement in energy efficiency, SAP rating	On-going	Dover DC as member of K&MAQP worked with KCC on Kent and Medway Energy and Low Emissions Strategy (ELES)
9	Work with Kent Energy Centre to promote and implement energy efficiency measures in Dover	Promoting Low Emission Plant	Shift to installations using low emission fuels for stationary and mobile sources	Ongoing	Ongoing	DDC/Kent Energy Centre	DDC/Kent Energy Centre	No			On-going	Below annual mean AQS objectives	% improvement in energy efficiency, SAP rating	On-going	Dover DC as member of K&MAQP worked with KCC on Kent and Medway Energy and Low Emissions Strategy (ELES)
10	Local Plan policy and guidance	Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	2022	Ongoing	DCC/KCC	DCC/KCC	TBC			Planning	Below annual mean AQS objectives	Implementation of policy	Local Plan timetable: Regulation 18 draft since November 2021; Local Plan dated to 2040	The DDC draft local plan already includes sustainable travel initiatives.
11	Road improvements along the High Street / Ladywell	Traffic Management	UTC, Congestion management, traffic reduction	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ To be confirmed if considered for further assessment.	Reduction in NO ₂ concentrations		KCC have adjusted traffic light timing historically. Further improvements will be considered.
12	Cycle-to-work schemes	Promoting Travel Alternatives	Promotion of cycling	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Small impact upon NO ₂ concentrations from measure individually, estimated to be less than 1µg/m3 based upon a low to medium uptake.	Number of bikes	DDC introduced Cycling to Work scheme Oct 2021	
13	Signage and cycle parking	Transport Planning and Infrastructure	Public transport improvements- interchanges stations and services	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Small impact upon NO ₂ concentrations from measure individually, estimated to be less than 1µg/m3 based upon a low to medium uptake.	Number of signage and cycle parking		
14	District wide promotion of active travel	Promoting Travel Alternatives	Intensive active travel campaign	2022	Ongoing	DCC/KCC	DCC/KCC	TBC			Planning	NO ₂ Measure to increase public awareness	Number of promotion events		DDC webpages can link to active travel - KCC looking to update Local Transport Plan - Mark Welch lead. DDC run

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
			& infrastructure												Wellbeing at Work initiatives.
15	Provision of high quality, bespoke and accessible information on sustainable travel	Public Information	Other	2022	Ongoing	DCC/KCC	DCC/KCC	TBC			Planning	NO ₂ Measure to increase public awareness	Number of campaigns		DDC officers input in to KCC Low Emission Strategy.
16	Behaviour change campaigns to reduce single occupancy car trips	Public Information	Other	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Measure to increase public awareness	Number of campaigns		Officers are encouraged to car share where site visits permit.
17	Reducing vehicle idling	Traffic Management	Anti-idling enforcement	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Measure largely to increase public awareness, but will help reduce pollutant levels in key hotspot areas	Reduction in NO ₂ concentrations		
18	Flexible working and home working encouraged	Promoting Travel Alternatives	Encourage / Facilitate home-working	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Measure to increase public awareness	Number of campaigns		Flexible working and home working policy has already been in place.
19	Educational campaigns for schools	Public Information	Other	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Measure to increase public awareness	Number of campaigns		As part of a 'Schools Group' DDC partner in a successful Defra bid for a 'Digital Schools Resource' led by Canterbury CC
20	District wide Clean Air Days	Public Information	Other	2022	2022	DCC/KCC	DCC/KCC	TBC			Planning	NO ₂ Measure to increase public awareness	Number of campaigns	part of Kent initiative 2022	As part of Kent initiative April 15th 2022
21	Taxi/Private Hire Vehicle Policy license fees	Promoting Low Emission Transport	Taxi Licensing conditions	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Measure to increase public awareness	Implementation of policy	Part of DDC Licensing Policy	DDC new Licensing Policy. 4.3.3: Vehicle Specifications enable Electric, Hybrid or LPG converted vehicles to be licensed. This Authority offers a reduction in the licence fee for any vehicle that is electric, hybrid or LPG converted of 25%.
22	Retrofitting or upgrade of private hire vehicles / taxis to LPG/retrofitting subsidies for local cab owners	Vehicle Fleet Efficiency	Vehicle Retrofitting programmes	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Measure to increase public awareness	Implementation of policy		
23	Collaboration with bus operators to introduce ultra-low emission vehicles into the fleets	Vehicle Fleet Efficiency	Promoting Low Emission Public Transport	2022	2022	DCC	DCC	TBC			Planning	NO ₂ To be confirmed if considered for further assessment. NO _x emission reduction will be able to be calculated annually depending on the change in fleet composition	Fleet composition	Part of Construction of Dover Fastrack 2022	Dover Fastrack which will become a zero-emission bus service with a fleet of electric buses – has a new route under construction 2022.

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
24	Procuring low emission vehicles for the LGV and HGV fleet, council-owned fleets and refuse fleet	Promoting Low Emission Transport	Company Vehicle Procurement - Prioritising uptake of low emission vehicles	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ To be confirmed if considered for further assessment. NOx emission reduction will be able to be calculated annually depending on the change in fleet composition	Fleet composition		DDC Environmental Protection team currently runs two ELVs.
25	Alternative fuel (EV) infrastructure development	Promoting Low Emission Transport	Procuring alternative Refuelling infrastructure to promote Low Emission Vehicles, EV recharging, Gas fuel recharging	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Small impact upon NO ₂ concentration from measure individually, estimated to be less than 1µg/m ³ based upon a low to medium uptake.	Number of EV charging points		DDC succeed in OLEV funding bid for 19 sites, 42 units to be completed 2022. Additional 7 ELV chargers have been installed at Council office car park and there are plans to increase numbers for public use.
26	Clean bus corridors	Promoting Low Emission Transport	Low Emission Zone (LEZ)	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ To be confirmed if considered for further assessment. NOx emission reduction will be able to be calculated annually depending on the change in fleet composition	Fleet composition		
27	On and off-street parking charges linked to vehicle emissions standards	Promoting Low Emission Transport	Priority parking for LEV's	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Small impact upon NO ₂ concentrations from measure individually, estimated to be less than 1µg/m ³ based upon a low to medium uptake.	Number of discounted permits		
28	Parking restrictions	Traffic Management	Emission based parking or permit charges	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Measure to increase public awareness	Implementation of policy		
29	Waiting and loading restrictions / Keep clear zones	Traffic Management	Other	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Measure to increase public awareness	Implementation of policy		

Measure No.	Measure	Category	Classification	Year Measure Introduced	Estimated / Actual Completion Year	Organisations Involved	Funding Source	Defra AQ Grant Funding	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
30	Business delivery time variations away from peak hours	Freight and Delivery Management	Delivery and Service plans	2022	Ongoing	DCC	DCC	TBC			Planning	NO ₂ Measure to increase public awareness	Reduction in NO ₂ concentrations		

2.3 PM_{2.5} – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8), local authorities are expected to work towards reducing emissions and/or concentrations of PM_{2.5} (particulate matter with an aerodynamic diameter of 2.5µm or less). There is clear evidence that PM_{2.5} has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Currently there is no monitoring of PM_{2.5} completed within Dover. However, in accordance with LAQM.TG(22), PM_{2.5} concentrations can be estimated from PM₁₀ monitoring using either a local PM_{Coarse} (the fraction of PM between 10µm and 2.5µm, i.e. PM₁₀ minus PM_{2.5}), or a nationally derived correction PM_{Coarse} which is updated annually. As there is no local monitoring for PM_{2.5} the nationally derived correction PM_{Coarse} of 5.7 was applied to the PM₁₀ concentration (20.8 µg/m³) at the automatic monitoring site Dover Centre. The estimated PM_{2.5} concentration in 2021 at the automatic monitoring site Dover Centre was 15.1 µg/m³. The main sources of PM₁₀ pollutant emissions within Dover Centre are linked with port activities; regular cross-channel ships and large volumes of road traffic arising as a result of associated transport of goods along the A2 and A20 entering and leaving the town.

The Defra 2021 background maps for Dover (2018 based)⁹ show that all background concentrations of PM_{2.5} are far below the annual mean EU limit value of 25µg/m³ for PM_{2.5}. The average background concentration for Dover Centre is 8.7µg/m³. The highest background concentration is estimated to be 10.8µg/m³ within the 1 x 1km grid square with the centroid grid reference of 623500,151500. This grid square is located near Spinney Lane in Aylesham, outside of any AQMAs. There is an industrial estate within the village including a waste recycling centre on Spinney Lane. The industrial and agricultural activities in, and surrounding, the village may contribute to the PM_{2.5} concentration at this location.

⁹ Defra Background Mapping data for local authorities (2018-based), available online at <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2018>

The Public Health Outcomes Framework data tool¹⁰ compiled by Public Health England quantifies the mortality burden of PM_{2.5} within England on a county and local authority scale. The 2020 (latest available dataset is 2020) fraction of mortality attributable to PM_{2.5} pollution in Dover is 5.6%, which is below South East region's average of 6.0% and the same as the national average of 5.6%.

There are currently no designated smoke control areas within Dover. However, information is provided within the air quality section of the Council's website available at <https://www.dover.gov.uk/Environment/Environmental-Protection/Air-Quality/Home.aspx>.

It is proposed, as suggested in LAQM.TG(22) that action in relation to PM_{2.5} monitoring and reduction actions are reviewed with Kent County Council Public Health Team whilst developing the updated AQAP to consider whether any specific additional actions are required. The Council recognise the importance of considering PM_{2.5} and also that long-term exposure (over several years) to elevated concentrations of particulate matter (PM_{2.5}) at levels typically experienced in urban areas reduces life expectancy between several months and a few years. Dover Council has contributed to and supports the Kent and Medway Energy and Low Emissions Strategy, published in June 2020¹¹. The strategy highlighted that in 2017 there were an estimated 922 deaths associated with PM_{2.5} exposure across Kent and Medway. The Kent and Medway Energy and Low Emissions Strategy has therefore included particulate matter as one of the key indicators of success across the region. Furthermore, the draft AQAP considers measures that specifically target PM_{2.5} concentrations. At the time of writing this report Dover Council has agreed to support Bureau Veritas in the Central Management and Co-ordination Unit (CMCU) for the UK Automatic Urban and Rural Network (AURN) on behalf of the Environment Agency (EA) and the Department of Environment, Food and Rural Affairs (Defra) in respect of a potential PM_{2.5} Phase II Expansion programme.

¹⁰ Public Health Outcomes Framework, Public Health England. data tool available online at <https://fingertips.phe.org.uk/profile/public-health-outcomes-framework/data#page/1/ati/101/are/E07000108>

¹¹ https://www.kent.gov.uk/_data/assets/pdf_file/0009/112401/Kent-and-Medway-Energy-and-Low-Emissions-Strategy.pdf

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2021 by Dover District Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2017 and 2021 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Dover District Council undertook automatic (continuous) monitoring at one site during 2021. Table A.1 in Appendix A shows the details of the automatic monitoring sites. The <https://kentair.org.uk/data> page presents automatic monitoring results for Dover District Council, with automatic monitoring results also available through the UK-Air website .

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

Dover District Council undertook non- automatic (i.e. passive) monitoring of NO₂ at 21 sites during 2021. Table A.2 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied (e.g. annualisation and/or distance correction), are included in Appendix C.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater

than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO₂)

Error! Reference source not found. and Table A.3 in Appendix A compare the ratified and adjusted monitored NO₂ annual mean concentrations for the past five years with the air quality objective of 40µg/m³. Note that the concentration data presented represents the concentration at the location of the monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2021 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant.

As there have been no diffusion tube monitoring sites with an annual mean greater than 60 µg/m³, it is assumed that there have been no exceedances of the 1-hour mean objective of 200 µg/m³.

One diffusion tube monitoring location within DDC recorded data capture less than 75% during 2021, the results of this location has been annualised and the details are provided in Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC.

The NO₂ results for 2021 have been bias adjusted using a national bias adjustment factor of 0.78. Full details of the bias adjustment and QA/QC monitoring procedures are provided in Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC.

The concentrations recorded at all sites excluding DV-11,16,17 and DV-30 in DDC increased in 2021 and the concentrations at all sites were below the annual mean objective of 40 µg/m³ and not within 10% of the AQS objective. The highest concentration of 35.9 µg/m³ is recorded at DV-06,07,08 Town Hall 1, located within the High Street/Ladywell AQMA.

Figure A.1 to Figure A.3 shows the trends of monitoring concentration outside AQMA, in the A20 AQMA and in the Ladywell/High Street AQMA respectively. The general increase of NO₂ concentrations from 2020 to 2021 is likely due to the recovery of traffic activities from impacts of the Covid-19 pandemic and thus increasing traffic emissions during 2021.

3.2.2 Particulate Matter (PM₁₀)

Table A.4 in Appendix A: Monitoring Results compares the ratified and adjusted monitored PM₁₀ annual mean concentrations for the past five years with the air quality objective of 40µg/m³.

Table A.5 in Appendix A compares the ratified continuous monitored PM₁₀ daily mean concentrations for the past five years with the air quality objective of 50µg/m³, not to be exceeded more than 35 times per year.

The PM₁₀ monitoring site is located in Dover Centre within the A20 AQMA. During 2021, there have been no exceedances in PM₁₀ annual mean concentrations. The annual mean concentration has decreased from last years concentration of 22.7 µg/m³ to 20.8 µg/m³. There has been no 24-hour mean greater than 50 µg/m³ during 2021, compared to one instance during 2020.

As the data capture was lower than 75% at Dover Centre site, with only 60.2% of the monitoring concentrations being recorded, the PM₁₀ data has been annualised in line with LAQM.TG(22).

3.2.3 Particulate Matter (PM_{2.5})

There is currently no monitoring of PM_{2.5} within Dover. However, in accordance with LAQM.TG(22), the PM_{2.5} concentrations can be estimated from PM₁₀ monitoring using either a local PM₁₀ and PM_{2.5} monitoring PM_{coarse} split (the fraction of PM between 10µm and 2.5µm, i.e. PM₁₀ minus PM_{2.5}), or a nationally derived correction PM_{coarse} of 4.9 for background site and 5.7 for roadside site in 2021. As there is no local monitoring for PM_{2.5}, the nationally derived correction PM_{coarse} of 5.7 has been applied to the PM₁₀ concentration (20.8 µg/m³) at the automatic monitoring site Dover Centre. The estimated PM_{2.5} concentration in 2021 at the automatic monitoring site Dover Centre was therefore 15.1 µg/m³ in line with TG(22).

3.2.4 Sulphur Dioxide (SO₂)

There is currently no SO₂ monitoring in Dover, however historically Dover conducted SO₂ monitoring in the previously declared Eastern Docks AQMA.

The AQMA was declared for exceedances of the 15-minute SO₂ objective in the Eastern Docks area in 2002. Since this time, sulphur emissions from ferry ships using the Port of Dover have reduced. Monitoring data showed that the air quality objectives were being

met at the port, with no exceedances since 2006. Residents within the AQMA were consulted via letter in 2013 and no comments were received, the AQMA was therefore revoked in 2014 and monitoring was discontinued.

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Inlet Height (m)
Dover Centre	A20 Townwall Street, Dover	Roadside	632302	141465	PM ₁₀	YES	TEOM	N/A	2.5	2

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable

Table A.2 – Details of Non-Automatic Monitoring Sites

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DV-01	High St	Roadside	631376	141949	NO ₂	NO	2.0	1.5	No	2.6
DV-04	Christchurch Way	Urban Background	630905	143362	NO ₂	NO	6.0	-	No	1.6
DV-05	Bench St	Urban Centre	631997	141296	NO ₂	YES - A20	4.0	30.0	No	3.0
DV-06, DV-07, DV-08	Town Hall 1	Roadside	631597	141748	NO ₂	YES - High St/Ladywell	0.0	2.5	No	3.0
DV-10	Townwall St (TEOM)	Roadside	632302	141465	NO ₂	YES - A20	-	2.5	Y(TEOM)	2.0
DV-11, DV-16, DV-17	Gateway	Roadside	632318	141422	NO ₂	YES - A20	0.0	12.0	No	3.0
DV-12, DV-18, DV-19	St Martins	Roadside	631577	140468	NO ₂	YES - A20	0.0	10.0	No	3.0
DV-23	Snargate A	Roadside	631727	140966	NO ₂	YES - A20	0.0	15.0	No	3.0
DV-24	Snargate B	Roadside	631802	141079	NO ₂	YES - A20	0.0	10.0	No	3.0
DV-25	Snargate C	Roadside	631854	141164	NO ₂	YES - A20	0.0	15.0	No	3.0
DV-28	Sunny Corner, Old Folkestone Road, Dover	Urban Background	630717	140020	NO ₂	NO	3	15	No	2.0
DV-30	19 High Street	Kerbside	631550	141772	NO ₂	NO	0.0	5.0	No	2.0
DV-31	3 Ladywell	Kerbside	631602	141771	NO ₂	NO	2.0	2.0	No	2.0
DV-32	1 Marine Parade	Roadside	632646	141496	NO ₂	YES - A20	2.0	4.0	No	2.0
DV-33	24 Marine Parade	Roadside	632836	141572	NO ₂	NO	10.0	5.0	No	2.0
DV-36	Sholden Primary School	Roadside	635696	152325	NO ₂	NO	0.0	2.0	No	2.0
DV-37	London Road, Deal	Kerbside	636161	151957	NO ₂	NO	5	2.0	No	2.0
DV-38	Roundabout, London Road, Deal	Kerbside	636259	151914	NO ₂	NO	2.0	1.5	No	2.0
DV-39	St Edmund's School, Barton Road, Dover	Roadside	631418	142455	NO ₂	NO	5	2.5	No	2.0

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DV-40	1, St Martin's Road, Guston, Dover	Urban Background	632064	143993	NO ₂	NO	10	N/A	No	2.0
DV-40a	5, St. Martin's Road, Guston, Dover	Urban Background	632069	144006	NO ₂	NO	5	N/A	No	2.0

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

Table A.3 – Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
DV-01	631376	141949	Roadside	82.7	82.7	33.2	31.2	30.8	25.5	26.2
DV-04	630905	143362	Urban Background	100.0	100.0	17.8	16.2	15.3	12.7	13.7
DV-05	631997	141296	Urban Centre	100.0	100.0	33.6	28.8	24.4	20.3	22.1
DV-06, DV-07, DV-08	631597	141748	Roadside	100.0	100.0	45.4	40.4	39.8	33.7	35.9
DV-10	632302	141465	Roadside	100.0	100.0	45.4	38.3	35.9	26.4	28.3
DV-11, DV-16, DV-17	632318	141422	Roadside	100.0	100.0	33.2	29.9	28.1	23.1	22.1
DV-12, DV-18, DV-19	631577	140468	Roadside	100.0	100.0	36.6	34.5	31.5	26.5	27.2
DV-23	631727	140966	Roadside	100.0	100.0	38.0	34.3	31.2	25.3	27.7
DV-24	631802	141079	Roadside	92.3	92.3	42.8	39.0	33.7	26.1	27.6
DV-25	631854	141164	Roadside	100.0	100.0	35.4	32.6	29.3	28.9	30.2
DV-28	630717	140020	Urban Background	100.0	100.0	22.9	-	-	-	14.1
DV-30	631550	141772	Kerbside	48.1	48.1	40.9	40.5	40.4	35.7	33.9
DV-31	631602	141771	Kerbside	100.0	100.0	36.7	31.2	31.5	23.5	26.5
DV-32	632646	141496	Roadside	100.0	100.0	40.1	35.4	31.7	26.7	28.5
DV-33	632836	141572	Roadside	92.3	92.3	37.2	37.6	35.9	28.4	29.5
DV-36	635696	152325	Roadside	100.0	100.0	-	-	18.5	14.9	16.4
DV-37	636161	151957	Kerbside	100.0	100.0	-	-	-	-	29.5
DV-38	636259	151914	Kerbside	75.0	75.0	-	-	-	-	34.0
DV-39	631418	142455	Roadside	82.7	82.7	-	-	-	-	19.9
DV-40	632064	143993	Urban Background	100.0	100.0	-	-	-	-	11.5
DV-40a	632069	144006	Urban Background	100.0	100.0	-	-	-	-	10.0

☒ Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.

☒ Diffusion tube data has been bias adjusted.

☒ Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.

Notes:

The annual mean concentrations are presented as $\mu\text{g}/\text{m}^3$.

Exceedances of the NO_2 annual mean objective of $40\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g}/\text{m}^3$, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.1 – Trends in Annual Mean NO₂ Concentrations at All Monitoring Locations outside AQMAs

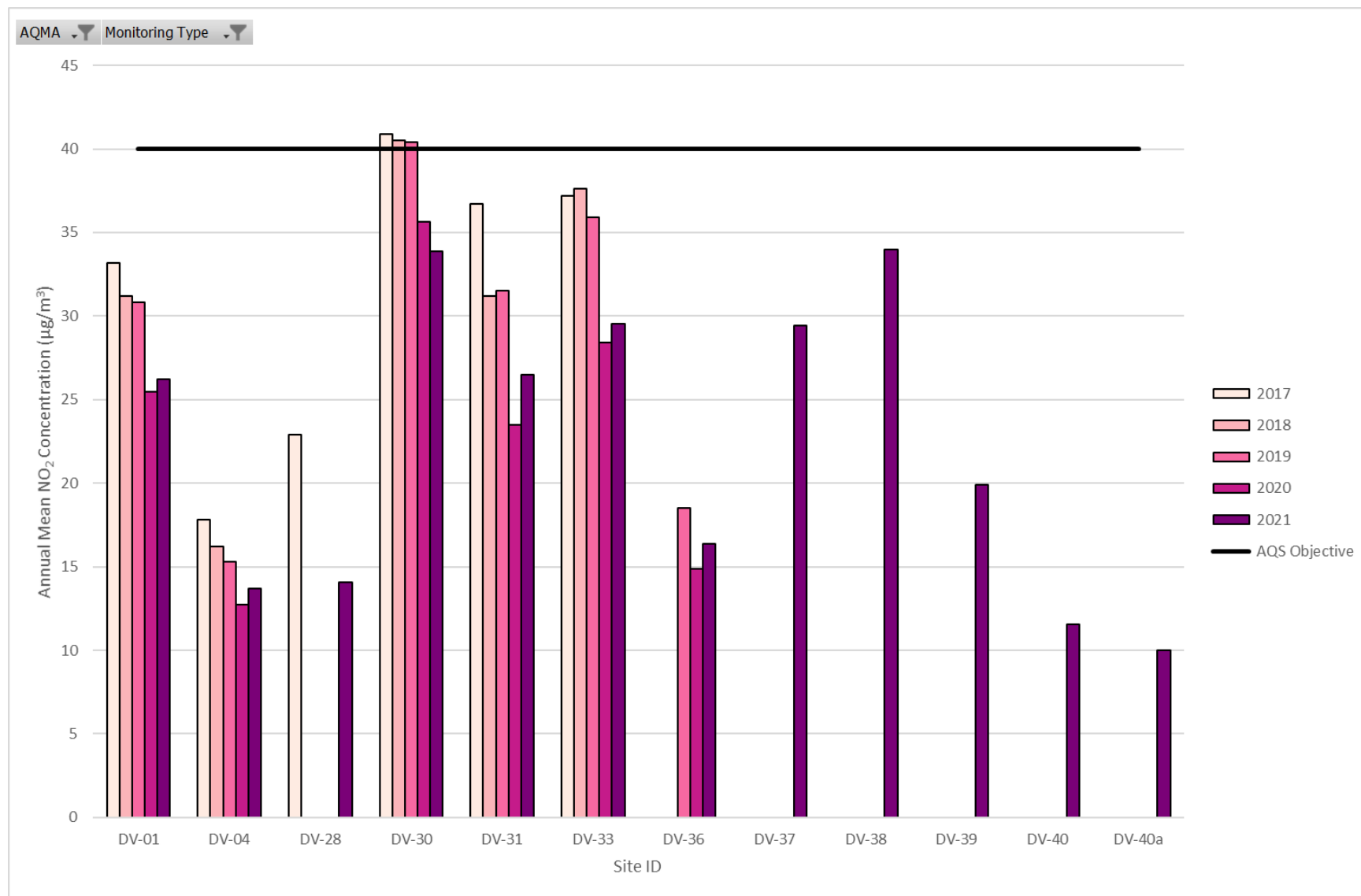


Figure A.2 – Trends in Annual Mean NO₂ Concentrations at All Monitoring Locations in the A20 AQMA

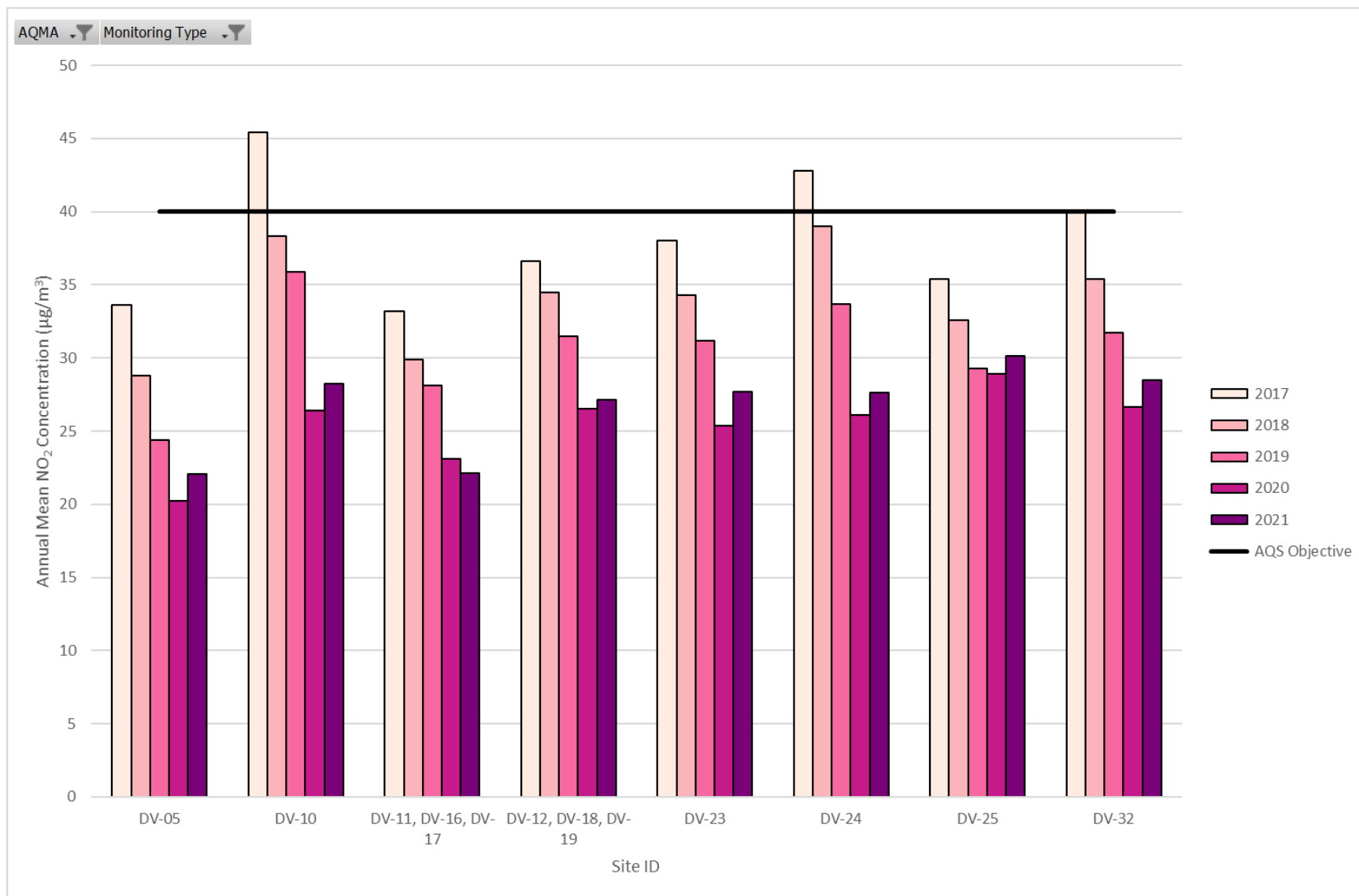


Figure A.3 – Trends in Annual Mean NO₂ Concentrations at the Monitoring Location in the Ladywell/High Street AQMA

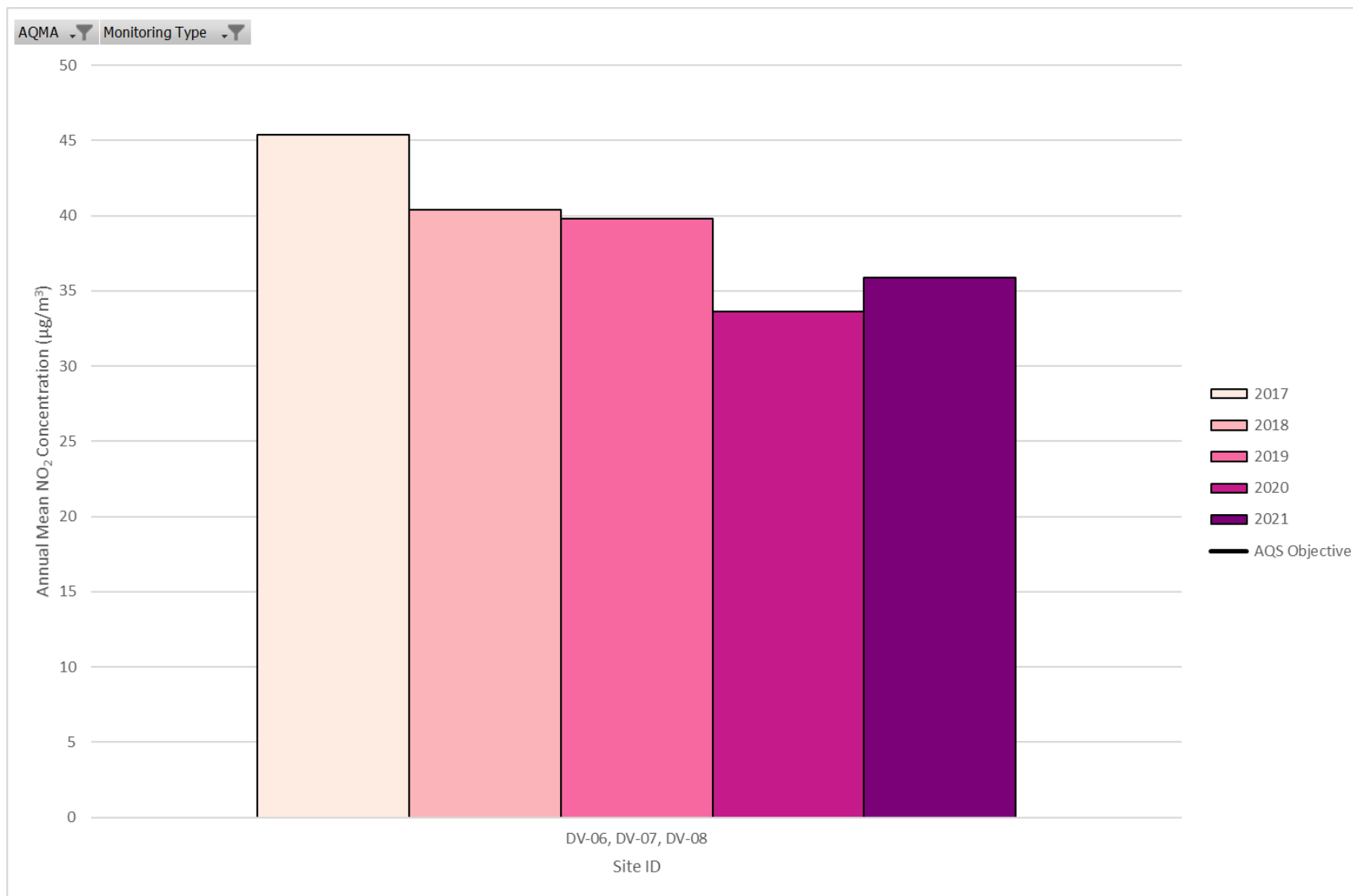


Table A.4 – Annual Mean PM₁₀ Monitoring Results (µg/m³)

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
Dover Centre	632302	141465	Roadside	60.2	60.2	27.0	26.0	22.0	22.7	20.8

Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.

Notes:

The annual mean concentrations are presented as µg/m³.

Exceedances of the PM₁₀ annual mean objective of 40µg/m³ are shown in **bold**.

All means have been “annualised” as per LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.4 – Trends in Annual Mean PM₁₀ Concentrations

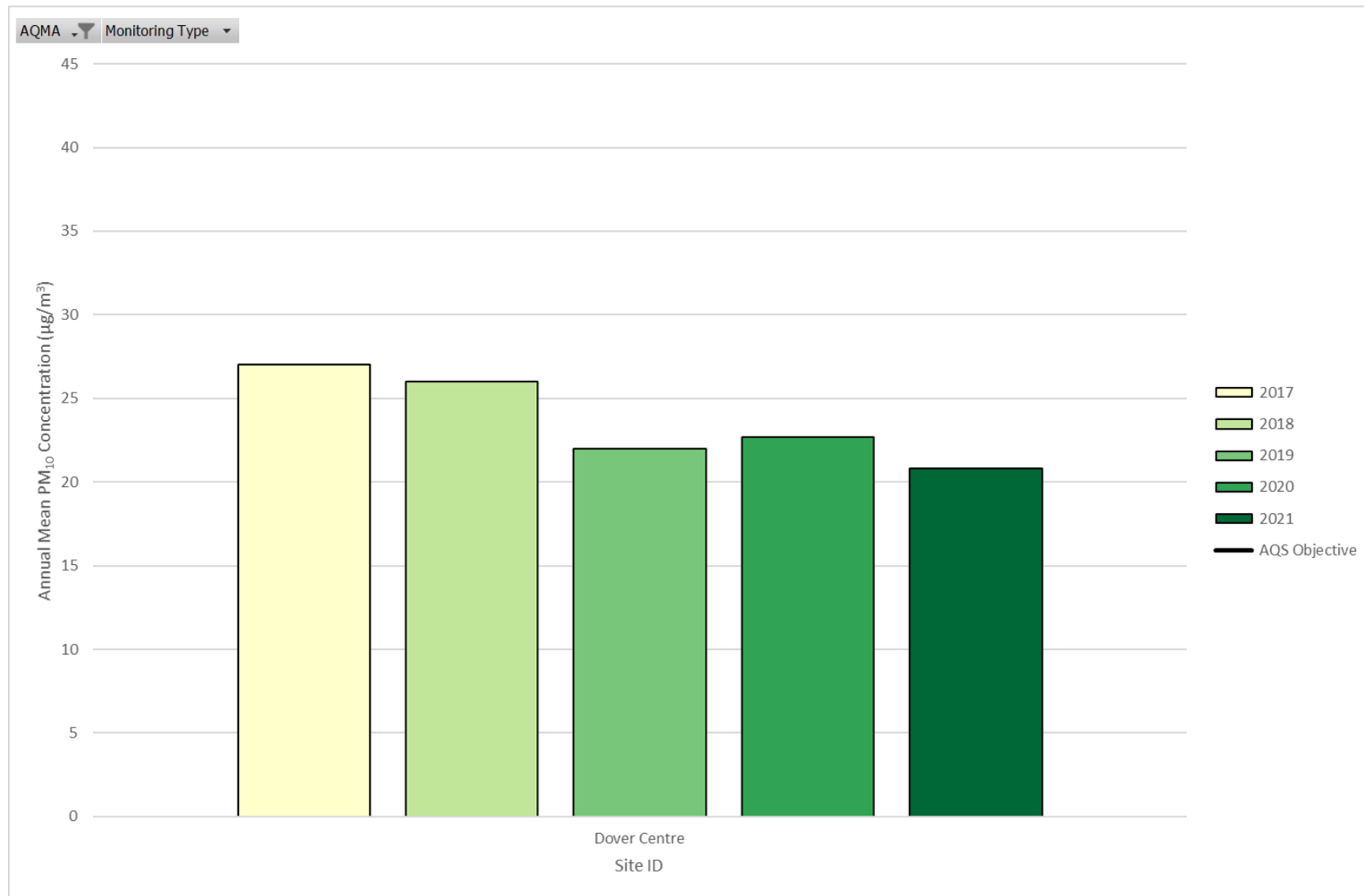


Table A.5 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2021 (%) ⁽²⁾	2017	2018	2019	2020	2021
Dover Centre	632302	141465	Roadside	60.2	60.2	20	7	8	1	0

Notes:

Results are presented as the number of 24-hour periods where daily mean concentrations greater than 50µg/m³ have been recorded.

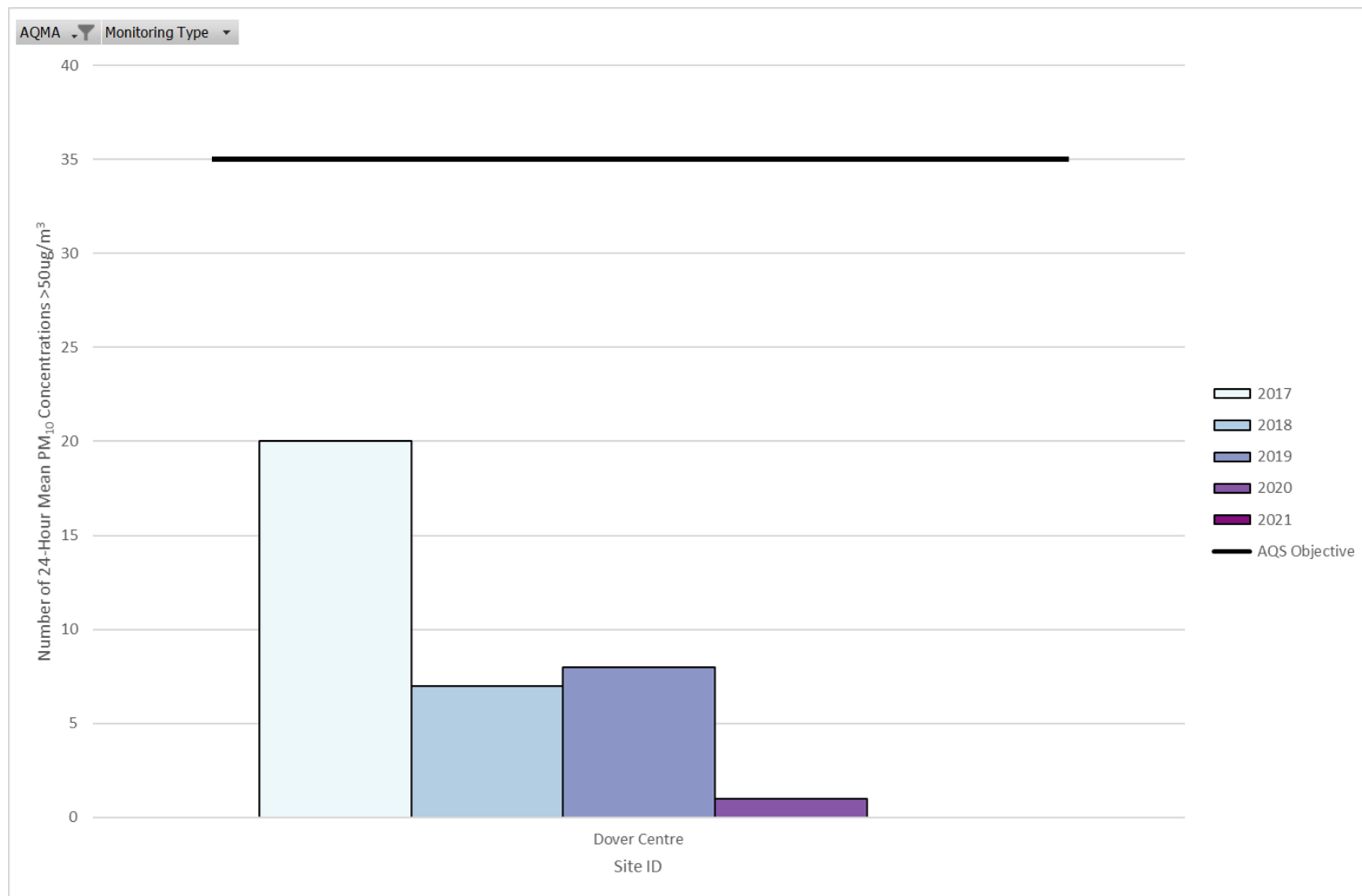
Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/year) are shown in **bold**.

If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figure A.5 – Trends in Number of 24-Hour Mean PM₁₀ Results > 50µg/m³



Appendix B: Full Monthly Diffusion Tube Results for 2021

Table B.1 – NO₂ 2021 Diffusion Tube Results (µg/m³)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.78)	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DV-01	631376	141949	39.3	31.5	32.4	33.3	30.2	-	34.4	23.1	39.2	36.5	36.2		33.6	26.2	-	
DV-04	630905	143362	21.8	24.1	15.4	15.5	16.2	18.7	16.0	8.6	19.0	17.4	19.2	18.9	17.6	13.7	-	
DV-05	631997	141296	36.4	34.9	29.7	23.7	29.2	32.8	23.5	17.8	33.1	29.5	18.2	30.5	28.3	22.1	-	
DV-06	631597	141748	38.9	42.7	41.4	37.3	41.0	50.5	42.2	33.0	50.7	48.7	48.1	43.2	-	-	-	Triplicate Site with DV-06, DV-07 and DV-08 - Annual data provided for DV-08 only
DV-07	631597	141748	57.3	47.1	43.8	38.3	37.0	50.7	40.6	35.3	48.0	45.9	50.9	57.7	-	-	-	Triplicate Site with DV-06, DV-07 and DV-08 - Annual data provided for DV-08 only
DV-08	631597	141748	53.1		49.3	37.9	43.3	63.0	47.8	31.4	48.2	59.7	61.7	46.1	45.1	35.9	-	Triplicate Site with DV-06, DV-07 and DV-08 - Annual data provided for DV-08 only
DV-10	632302	141465	40.6	45.3	31.9	30.2	38.6	42.4	35.8	16.3	42.2	37.2	38.2	36.0	36.2	28.3	-	
DV-11	632318	141422	29.4	13.9	25.5	24.4	32.1	33.8	32.0	20.9	35.0	33.1	29.7	30.8	-	-	-	Triplicate Site with DV-11, DV-16 and DV-17 - Annual data provided for DV-17 only
DV-12	631577	140468	35.5	38.6	37.4	29.9	35.1	35.6	32.2	24.0	45.9	34.9	36.4	32.7	-	-	-	Triplicate Site with DV-12, DV-18 and DV-19 - Annual data provided for DV-19 only
DV-16	632318	141422	32.9	34.8	22.2	24.9	22.1	30.8	31.0	20.1	34.8	34.8	29.4	28.6	-	-	-	Triplicate Site with DV-11, DV-16 and DV-17 - Annual data provided for DV-17 only
DV-17	632318	141422	33.6	32.3	21.1	24.8	24.7	32.8	27.4	11.0	35.4	32.4	27.9	30.2	28.4	22.1	-	Triplicate Site with DV-11, DV-16 and DV-17 - Annual data provided for DV-17 only
DV-18	631577	140468	41.2	44.7	33.0	33.5	24.0	31.7	36.3	28.7	46.3	34.5	31.1	32.6	-	-	-	Triplicate Site with DV-12, DV-18 and DV-19 - Annual data provided for DV-19 only
DV-19	631577	140468	36.1	36.9	33.6	33.6	28.7	35.3	38.9	28.4	45.8	36.3	33.8	30.8	34.8	27.2	-	Triplicate Site with DV-12, DV-18 and DV-19 - Annual data provided for DV-19 only
DV-23	631727	140966	37.5	37.5	34.5	36.8	37.4	42.1	32.2	25.6	40.0	36.0	39.2	27.4	35.5	27.7	-	
DV-24	631802	141079	35.1	42.7	32.1	27.1	34.2	35.2	34.4	-	40.5	37.7	37.1	33.6	35.4	27.6	-	
DV-25	631854	141164	38.2	35.4	38.6	38.4	25.0	47.3	39.1	33.7	45.8	44.8	42.3	35.3	38.7	30.2	-	
DV-28	630717	140020	13.9	27.1	16.6	13.0	18.9	20.3	23.4	10.1	25.4	15.5	15.3	16.9	18.0	14.1	-	
DV-30	631550	141772	48.9	36.8	-	-	-	51.8	46.4	34.6	-	-	45.5	-	44.0	33.9	-	
DV-31	631602	141771	30.9	35.1	32.8	30.0	28.9	42.0	35.6	27.2	39.3	37.4	36.9	31.2	33.9	26.5	-	
DV-32	632646	141496	35.4	41.3	37.2	32.7	36.7	43.0	39.1	30.5	39.8	33.5	35.4	34.0	36.6	28.5	-	
DV-33	632836	141572	43.1	36.4	44.1	32.8	34.5	41.0	24.4	29.1	47.6	36.7	-	46.9	37.9	29.5	-	
DV-36	635696	152325	22.5	24.6	23.2	18.0	20.1	22.0	18.4	12.8	24.4	23.2	19.7	23.1	21.0	16.4	-	
DV-37	636161	151957	36.3	32.7	31.1	26.1	27.0	34.3	29.3	36.8	56.8	48.6	46.9	47.2	37.8	29.5	-	
DV-38	636259	151914	31.4	50.7	43.5	47.9	48.3	56.6	45.5	-	34.8	33.2	-	-	43.5	34.0	-	
DV-39	631418	142455	33.2	29.2	24.8	-	20.5	-	23.6	16.7	27.1	26.2	28.5	25.3	25.5	19.9	-	
DV-40	632064	143993	16.3	22.6	13.7	10.0	14.5	15.5	15.4	10.1	17.3	15.8	11.8	14.3	14.8	11.5	-	
DV-40a	632069	144006	18.3	19.1	11.7	10.6	8.4	15.5	13.7	8.5	13.6	11.0	10.6	12.6	12.8	10.0	-	

- All erroneous data has been removed from the NO₂ diffusion tube dataset presented in Table B.1.
- Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG16.
- Local bias adjustment factor used.
- National bias adjustment factor used.
- Where applicable, data has been distance corrected for relevant exposure in the final column.

Dover District Council confirm that all 2021 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

New or Changed Sources Identified Within Dover District Council During 2021

Several new development applications have been progressed in 2021. Table C.1 details a list of planning applications which relevant information. If it is a major development, then Dover District Council are requesting that an Air Quality Assessment (AQA) is completed.

Table C.1 - Planning Applications within Dover District Council (2021)

Reference	Location	Details	Status	Comments
21/00402	Land South West Of Sandwich Road, Sholden, CT14 0AD	Outline application for the erection of up to 110 dwellings with associated parking and means of access (all matters reserved except for access)	Granted March 22	Air quality assessment has been submitted.
21/01822	Land On The West Side Of Cross Road Deal CT14 9LA	Outline planning application for the erection of up to 140 dwellings including affordable housing, with public open space, landscaping, and vehicular access (all matters reserved except for access)	Await Decision	Air quality assessment has been submitted.
20/01125	Site At Cross Road Deal CT14 9LA	Outline application for the erection of up to 100 dwellings (with landscaping, appearance, layout and scale to be reserved)	Granted Feb 21	Air quality assessment has been submitted.

Additional Air Quality Works Undertaken by Dover District Council During 2021

Dover District Council has not completed any additional works within the reporting year of 2021.

QA/QC of Diffusion Tube Monitoring

The diffusion tubes are supplied and analysed by SOCOTEC Didcot, formerly called Environmental Scientifics Group (ESG) Didcot utilising the 50% triethanolamine (TEA) in acetone preparation method. A bias adjustment of 0.78 for the year 2021 (based on 23

studies) has been derived from the national bias adjustment calculator, as shown in Figure C.1.

SOCOTEC Didcot is a UKAS accredited laboratory and participates in the AIR-PT Scheme for NO₂ tube analysis and the Annual Field Intercomparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO₂ concentrations reported are of a high calibre.

In the 2021 AIR-PT result, AIR-PT AR042 (January – March 2021) SOCOTEC scored 100%. The results for April to December 2021 have not been published. The percentage score reflects the results deemed to be satisfactory based upon the z-score of $< \pm 2$. Additionally, the precision of the NO₂ diffusion tubes (50% TEA in Acetone) supplied by SOCOTEC Didcot has been classified as 'good' for 20 observations (23 observations in total) in 2021. This precision reflects the laboratory's performance and consistency in preparing and analysing the tubes, as well as the subsequent handling of the tubes in the field. Further information on the precision summary results can be found on the [LAQM website](#).

Diffusion Tube Annualisation

Annualisation was required for only one non-automatic monitoring sites during 2021; DV30. The annualisation was carried out by calculating an annualisation factor using background concentrations from the three closest background monitoring sites to Dover; Canterbury, Rochester Stoke and Thurrock. Details of the calculations are provided in Table C.3.

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2021 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG16 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO₂ continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Dover District Council have applied a national bias adjustment factor of 0.78 to the 2021 monitoring data as shown in Figure C.1. A summary of bias adjustment factors used by Dover District Council over the past five years is presented in Table C.2.

Figure C.1 National Diffusion Tube Bias Adjustment Factor

National Diffusion Tube Bias Adjustment Factor Spreadsheet				Spreadsheet Version Number: 03/22						
Follow the steps below in the correct order to show the results of relevant co-location studies Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet This spreadsheet will be updated every few months; the factors may therefore be subject to change. This should not discourage their immediate use.						This spreadsheet will be updated at the end of June 2022 LAQM Helpdesk Website				
The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.				Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.						
Step 1:	Step 2:	Step 3:	Step 4:							
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor ³ shown in blue at the foot of the final column. If you have your own co-location study then see footnote ⁴ . If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953							
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data ² .								
Analysed By ¹	Method ² <small>To undo your selection, choose (All) from the pop-up list</small>	Year ² <small>To undo your selection, choose (All)</small>	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m ³)	Automatic Monitor Mean Conc. (Cm) (µg/m ³)	Bias (B)	Tube Precision ⁵	Bias Adjustment Factor (A) (Cm/Dm)
SOCOTEC Didcot	50% TEA in acetone	2021								Overall Factor ³ (23 studies)
										Use
										0.78

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2021	National	03/22	0.78
2020	National	06/21	0.76
2019	National	03/20	0.75
2018	National	03/19	0.76
2017	National	03/18	0.77

NO₂ Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO₂ concentration at the nearest location relevant for exposure has been estimated using the Diffusion Tube Data Processing Tool/NO₂ fall-off with distance calculator available on the LAQM Support website. Where appropriate, non-automatic annual mean NO₂ concentrations corrected for distance are presented in Table B.1.

No diffusion tube NO₂ monitoring locations within Dover District Council required distance correction during 2021

QA/QC of Automatic Monitoring

Dover District Council's 2021 automatic air quality monitoring site's data has been ratified by Air Quality Data Management (AQDM) to the LAQM.TG(22) standards. The instruments used to validate the data undergo regular calibrations. For LAQM reporting, the EU Reference Equivalent PM₁₀ has been calculated by running the Volatile Correction Model (VCM) on the TEOM data.

PM₁₀ and PM_{2.5} Monitoring Adjustment

The Council undertook monitoring of PM₁₀ based on TEOM analysers at one location during 2021. TEOMs collect particles on a small oscillating filter. The change in oscillation frequency of the filter is proportional to the change in PM₁₀ and PM_{2.5} concentrations. TEOMs are operated at 50°C and as such lose volatile components of the PM₁₀ and PM_{2.5}. Therefore, the monitoring results have been corrected using the Volatile Correction Model¹². The monitoring results are downloaded as gravimetric equivalent from the Kentair website¹³. The website managers of the Kentair website are responsible for the PM₁₀ adjustment.

Automatic Monitoring Annualisation

Annualisation was required for Dover District Council's one automatic monitoring location since data capture was less than 75% but greater than 25%. The PM₁₀ data has been annualised in line with the methodology described in LAQM.TG(22).

¹² <https://www.volatile-correction-model.info>

¹³ <http://www.kentair.org.uk/>

Table C.3 – Diffusion Tube Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor Canterbury	Annualisation Factor Rochester Stoke	Annualisation Factor Thurrock	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
DV-30	1.0081	0.9439	1.0092	0.9871	44.0	43.4	

Table C.4 – Automatic Monitoring Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$)

Site ID	Annualisation Factor Rochester Stoke	Annualisation Factor Thurrock	Annualisation Factor Eastbourne	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean	Comments
Dover Centre	1.069	1.045	1.051	1.055	19.8	20.8	

Appendix D: Map(s) of Monitoring Locations and AQMAs

Figure D.1 – Map of Monitoring Site: A20 AQMA East

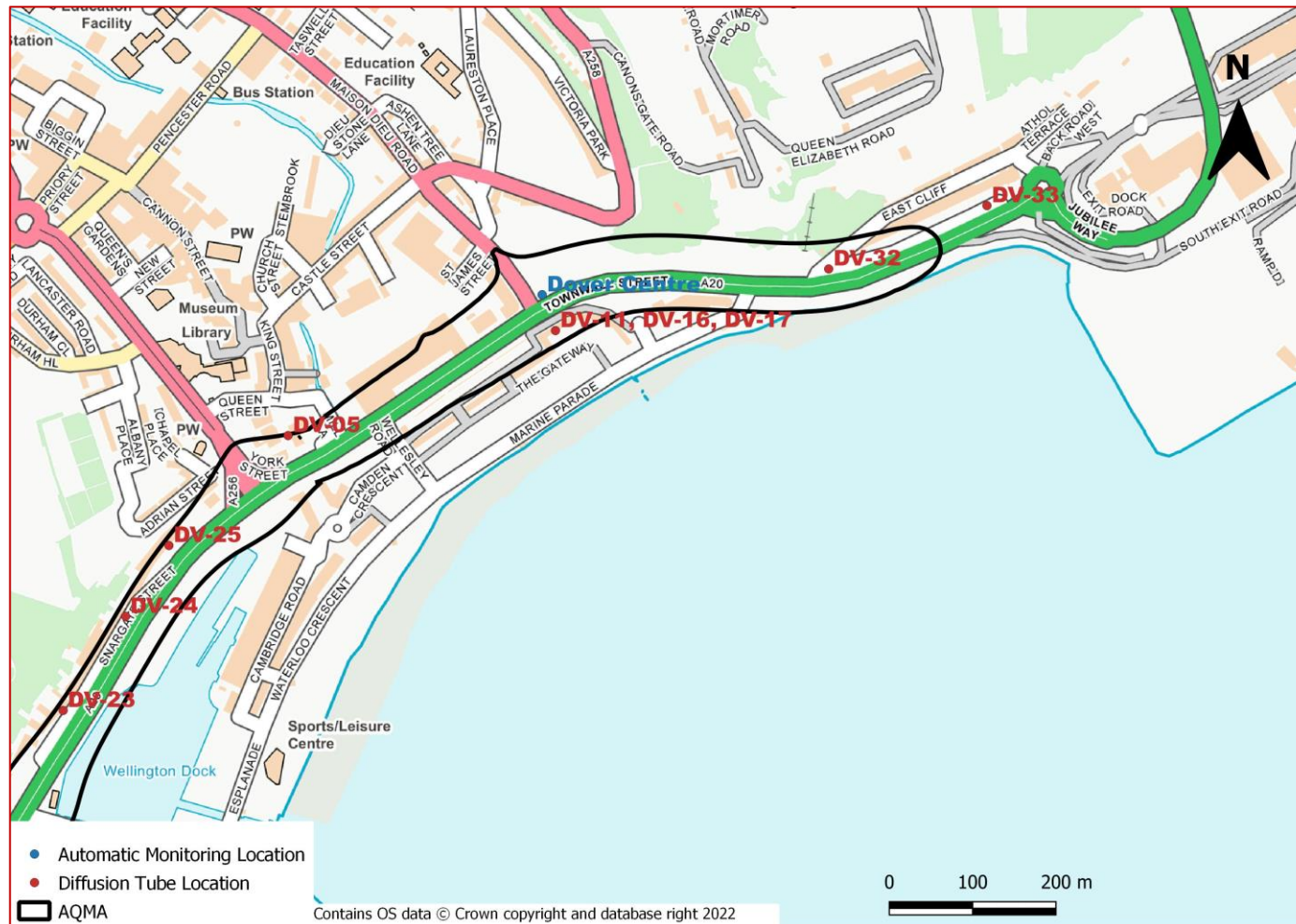


Figure D.2 – Map of Non-Automatic Monitoring Site: A20 AQMA West

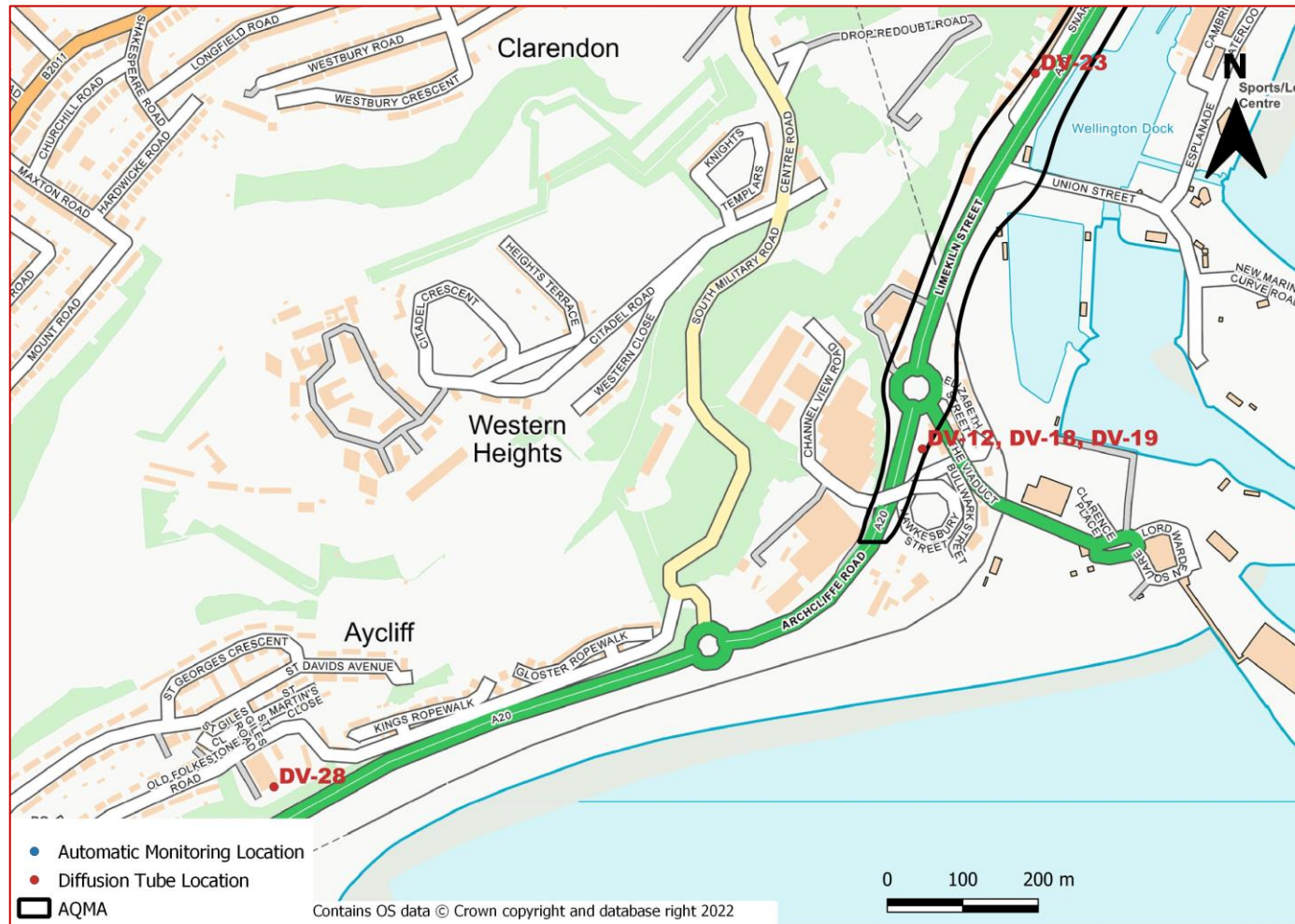


Figure D.3 – Map of Non-Automatic Monitoring Site: High Street AQMA

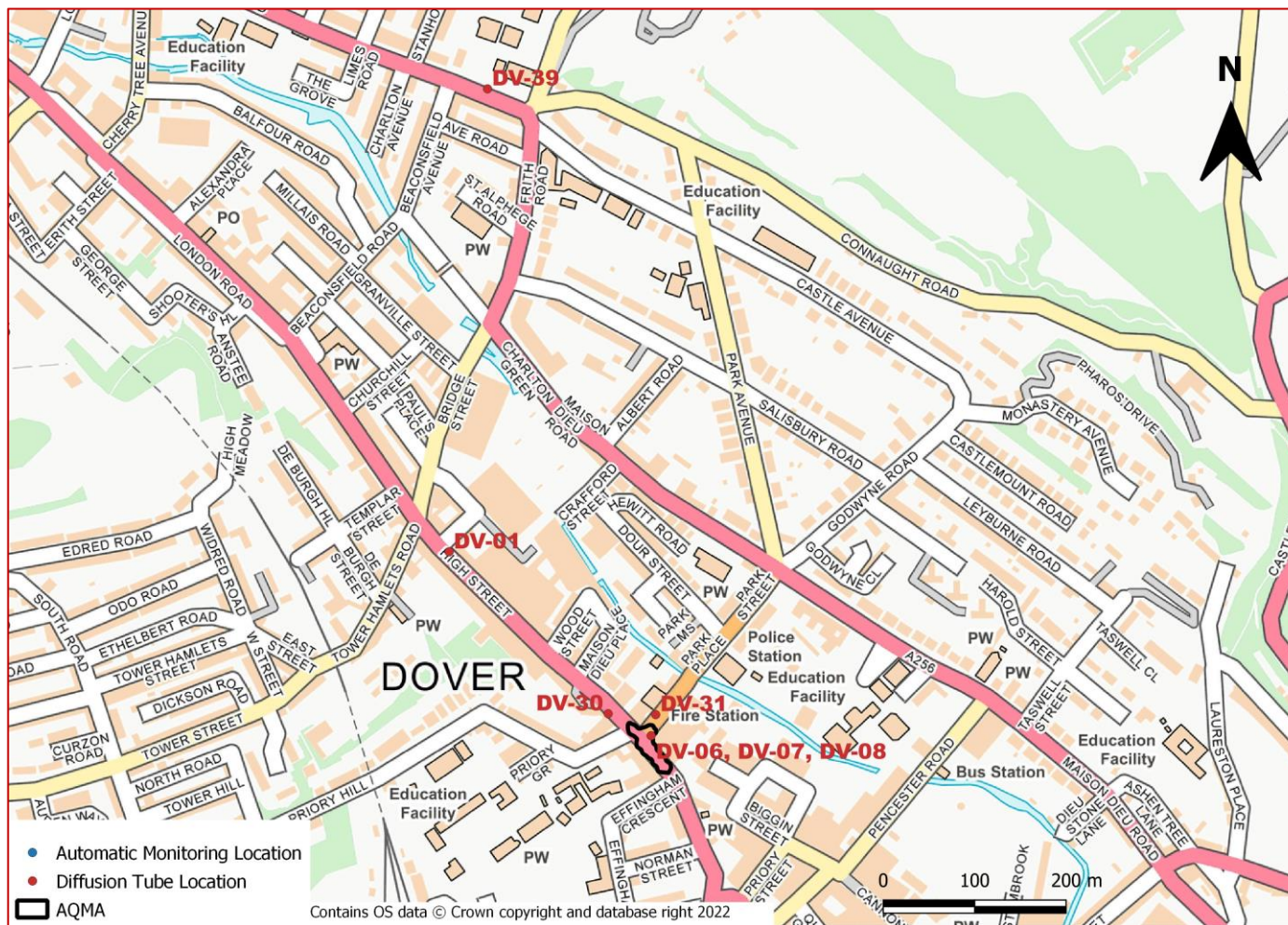


Figure D.4 – Map of Non-Automatic Monitoring Site: Buckland Valley

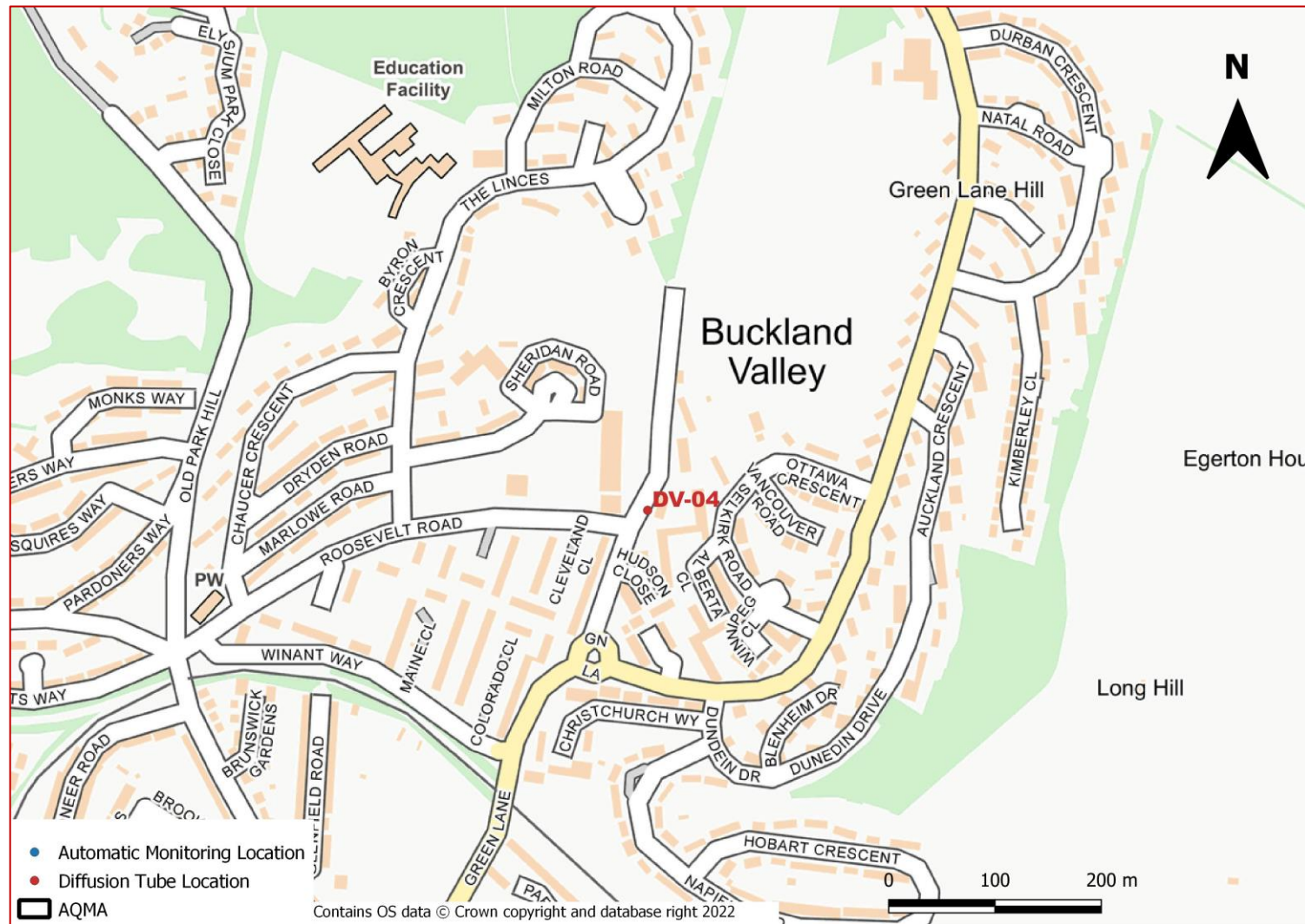


Figure D.5 – Map of Non-Automatic Monitoring Site: Dover Road

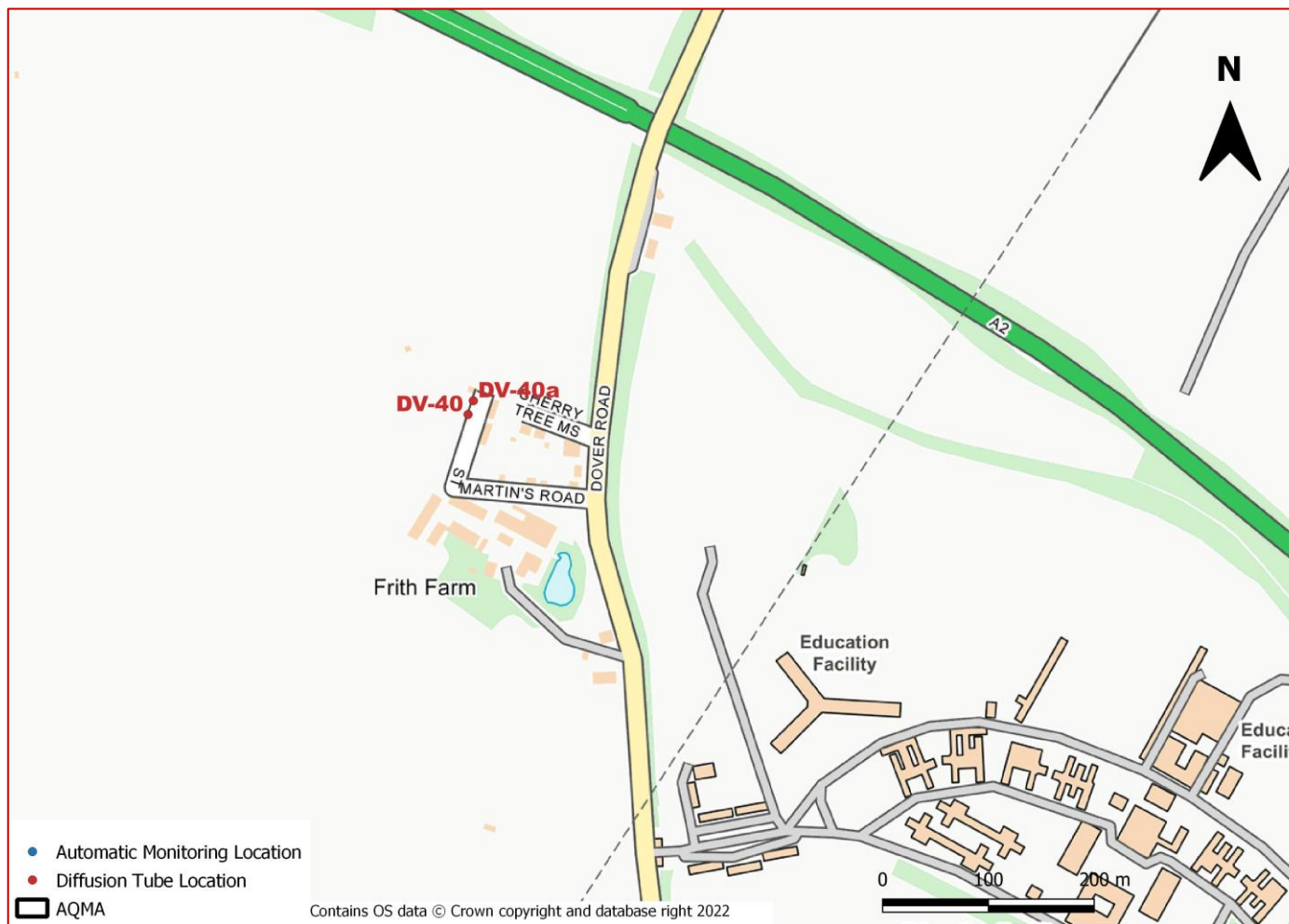
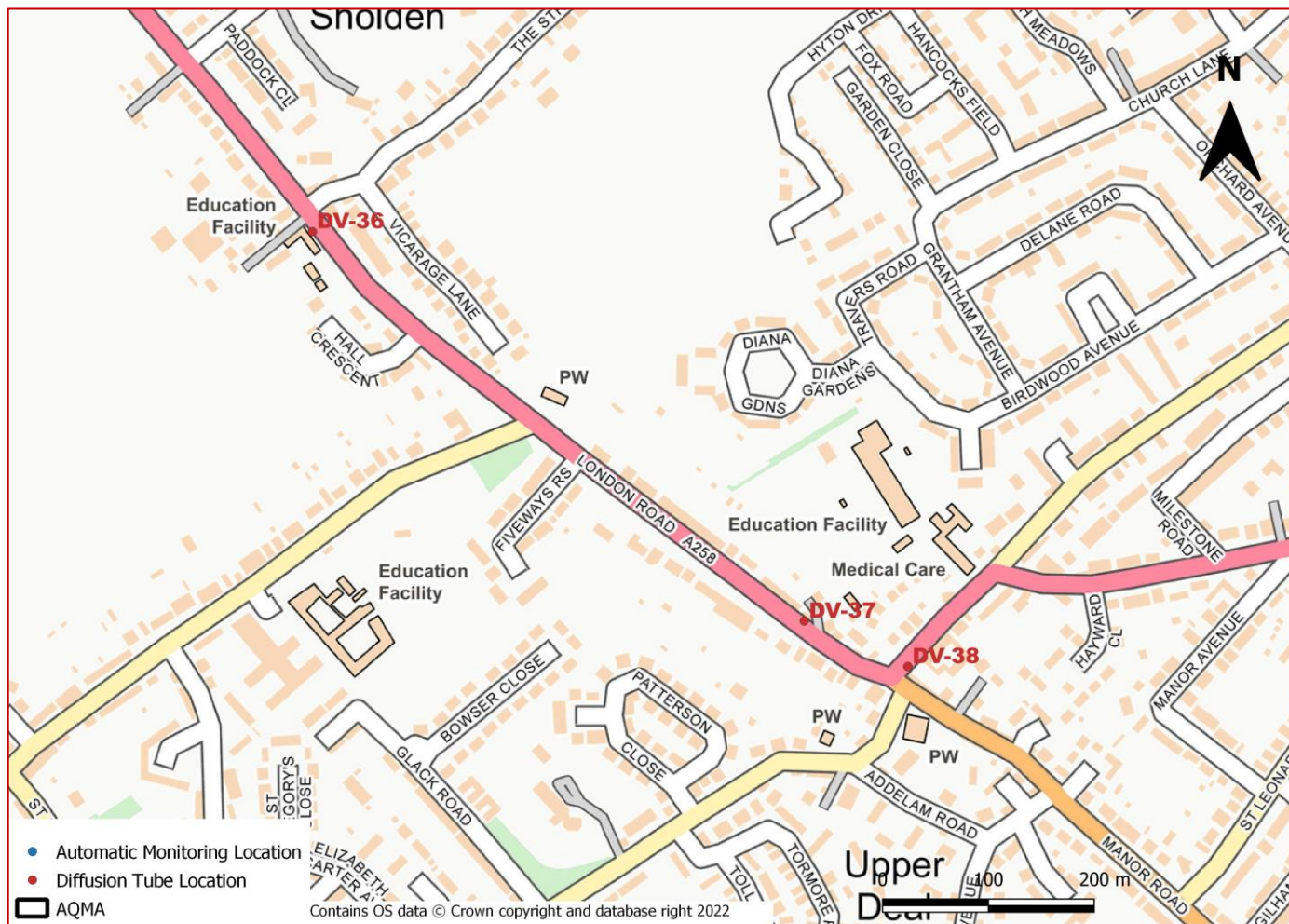


Figure D.6 – Map of Non-Automatic Monitoring Site: Sholden and Upper Deal



Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England¹⁴

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO ₂)	200µg/m ³ not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO ₂)	40µg/m ³	Annual mean
Particulate Matter (PM ₁₀)	50µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM ₁₀)	40µg/m ³	Annual mean
Sulphur Dioxide (SO ₂)	350µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO ₂)	125µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO ₂)	266µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean

¹⁴ The units are in microgrammes of pollutant per cubic metre of air (µg/m³).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
EU	European Union
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide
DDC	Dover District Council

References

- Local Air Quality Management Technical Guidance LAQM.TG16. April 2021. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Local Air Quality Management Policy Guidance LAQM.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Dover District Council Annual Status Report 2021. Published by Dover District Council
- Dover District Council Annual Status Report 2020. Published by Dover District Council
- Dover District Council Annual Status Report 2019. Published by Dover District Council
- Dover District Council Annual Status Report 2018. Published by Dover District Council

National air quality objectives and European Directive limit and target values for the protection of human health

Pollutant	Applies	Objective	Concentration measured as	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved (by and maintained thereafter)
Particles (PM ₁₀)	UK	50 µg/m ³ not to be exceeded more than 35 times a year	24 hour mean	31 December 2004	50 µg/m ³ not to be exceeded more than 35 times a year	1 January 2005
	UK	40 µg/m ³	annual mean	31 December 2004	40 µg/m ³	1 January 2005
	Indicative 2010 objectives for PM ₁₀ (from the 2000 strategy and Addendum) have been replaced by an exposure reduction approach for PM _{2.5} (except in Scotland – see below)					
	Scotland	50 µg/m ³ not to be exceeded more than 7 times a year	24 hour mean	31 December 2010	50 µg/m ³ not to be exceeded more than 35 times a year	1 January 2005
	Scotland	18 µg/m ³	annual mean	31 December 2010	40 µg/m ³	1 January 2005
Particles (PM _{2.5})	UK (except Scotland)	20 µg/m ³	annual mean	1 January 2020	Stage 1 Limit - 25 µg/m ³	1 January 2015
	Scotland	10 µg/m ³		31 December 2020	Stage 2 Limit - 20 µg/m ³	1 January 2020
Exposure Reduction	UK urban areas	Target of 15% reduction in concentrations at urban background			Between 2010 and 2020	Target of 20% reduction in concentrations at urban background.

National air quality objectives and European Directive limit and target values for the protection of human health

Pollutant	Applies	Objective	Concentration measured as	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved by (and maintained thereafter)
Nitrogen dioxide	UK	200 µg/m ³ not to be exceeded more than 18 times a year	1 hour mean	31 December 2005	200 µg/m ³ not to be exceeded more than 18 times a year	1 January 2010
	UK	40 µg/m ³	annual mean	31 December 2005	40 µg/m ³	1 January 2010
Ozone	UK	100 µg/m ³ not to be exceeded more than 10 times a year	8 hour mean	31 December 2005	Target of 120 µg/m ³ not to be exceeded by more than 25 times a year averaged over 3 years	31 December 2010
Sulphur dioxide	UK	266 µg/m ³ not to be exceeded more than 35 times a year	15 minute mean	31 December 2005	-	-
	UK	350 µg/m ³ not to be exceeded more than 24 times a year	1 hour mean	31 December 2004	350 µg/m ³ not to be exceeded more than 24 times a year	1 January 2005
	UK	125 µg/m ³ not to be exceeded more than 3 times a year	24 hour mean	31 December 2004	125 µg/m ³ not to be exceeded more than 3 times a year	1 January 2005
Polycyclic Aromatic Hydrocarbons	UK	0.25 ng/m ³ B[a]P	as annual average	31 December 2012	1.0 ng/m ³	31 December 2012

National air quality objectives and European Directive limit and target values for the protection of human health

Pollutant	Applies	Objective	Concentration measured as	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved by (and maintained thereafter)
Benzene	UK	16.25 µg/m ³	running annual mean	31 December 2003	-	-
	England and Wales	5 µg/m ³	annual average	31 December 2010	5 µg/m ³	1 January 2010
	Scotland, Northern Ireland	3.25 µg/m ³	running annual mean	31 December 2010	-	-
1,3-butadiene	UK	2.25 µg/m ³	running annual mean	31 December 2003	-	-
Carbon monoxide	UK	10 mg/m ³	maximum daily running 8 hour mean/in Scotland as running 8 hour mean	31 December 2003	10 mg/m ³	1 January 2005
Lead	UK	0.5 µg/m ³	annual mean	31 December 2004	0.5 µg/m ³	1 January 2005
		0.25 µg/m ³	annual mean	31 December 2008	-	-

National air quality objectives and European Directive limit and target values for the protection of vegetation and ecosystems

Pollutant	Applies	Objective	Concentration measured as	Date to be achieved by (and maintained thereafter)	European Obligations	Date to be achieved by (and maintained thereafter)
Nitrogen oxides	UK	30 µg/m ³	annual mean	31 December 2000	30 µg/m ³	19 July 2001
Sulphur dioxide	UK	20 µg/m ³	annual mean	31 December 2000	20 µg/m ³	19 July 2001
	UK	20 µg/m ³	winter average	31 December 2000	20 µg/m ³	19 July 2001
Ozone: protection of vegetation and ecosystems	UK	Target value of 18,000 µg/m ³ based on AOT40 to be calculated from 1 hour values from May to July, and to be achieved, so far as possible, by 2010	Average over 5 years	1 January 2010	Target value of 18,000 µg/m ³ based on AOT40 to be calculated from 1 hour values from May to July, and to be achieved, so far as possible, by 2010	1 January 2010

DOVER DISTRICT COUNCIL

NON-KEY DECISION

EXECUTIVE

CABINET – 3 APRIL 2023

EXCLUSION OF THE PRESS AND PUBLIC

Recommendation

That, in accordance with the provisions of the Local Authorities (Executive Arrangements) (Access to Information) (England) Regulations 2000, the public be excluded from the remainder of the meeting for the following items of business on the grounds that they involve the likely disclosure of exempt information as defined in the paragraph of Schedule 12A of the 1972 Act set out below:

<u>Item Report</u>	<u>Paragraph Exempt</u>	<u>Reason</u>
Dover Beacon Project	3	Information relating to the financial or business affairs of any particular person (including the authority holding that information)
Award of Contract for Provision of Heating, Servicing, Installation and Maintenance Works to Council Properties	3	
Your Leisure Additional Funding	3	
Future Provision of Council's Out-of-Hours Service	3	

By virtue of paragraph(s) 3 of Part 1 of Schedule 12A
of the Local Government Act 1972.

Agenda Item No 7

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Agenda Item No 8

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Agenda Item No 10

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