



ECONOMY, TRANSPORT AND ENVIRONMENT SCRUTINY COMMITTEE

WEDNESDAY, 15 MARCH 2017

10.00 am COMMITTEE ROOM, COUNTY HALL, LEWES

MEMBERSHIP - Councillor Richard Stogdon (Chair)
Councillors Mike Pursglove (Vice Chair), Claire Dowling, Pat Rodohan,
Judy Rogers, Rosalyn St. Pierre and Barry Taylor

A G E N D A

- 1 Minutes of the meeting held on 9 November 2016 (*Pages 3 - 10*)
- 2 Apologies for absence
- 3 Disclosures of interests

Disclosures by all members present of personal interests in matters on the agenda, the nature of any interest and whether the member regards the interest as prejudicial under the terms of the Code of Conduct.
- 4 Urgent items

Notification of items which the Chair considers to be urgent and proposes to take at the appropriate part of the agenda. Any members who wish to raise urgent items are asked, wherever possible, to notify the Chair before the start of the meeting. In so doing, they must state the special circumstances which they consider justify the matter being considered urgent.
- 5 Scrutiny Review of Superfast Broadband (*Pages 11 - 40*)
To consider the report of the Review Board.
- 6 Review of East Sussex County Council's Dutch Elm Disease Strategy (*Pages 41 - 72*)
Report by the Director of Communities, Economy and Transport.
- 7 Highways Infrastructure Services Contract - Update report (*Pages 73 - 78*)
Report by the Director of Communities, Economy and Transport.
- 8 Climate Change Adaptation (*Pages 79 - 82*)
Report by the Director of Communities, Economy and Transport.
- 9 Reconciling Policy, Performance and Resources (RPPR) 2017/18 (*Pages 83 - 86*)
Report by the Chief Executive.
- 10 Scrutiny Committee future work programme (*Pages 87 - 90*)
- 11 Forward Plan (*Pages 91 - 98*)

The Forward Plan for the period to 30 June 2017. The Committee is asked to make comments or request further information.
- 12 Any other items previously notified under agenda item 4

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7 March 2017

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Agenda Item 1

ECONOMY, TRANSPORT AND ENVIRONMENT SCRUTINY COMMITTEE

MINUTES of a meeting of the Economy, Transport and Environment Scrutiny Committee held at Committee Room, County Hall, Lewes on 9 November 2016.

PRESENT Councillors Richard Stogdon (Chair), Mike Pursglove (Vice Chair), Claire Dowling, Pat Rodohan, Judy Rogers, Rosalyn St. Pierre and Barry Taylor

LEAD MEMBERS Councillors Chris Dowling, Carl Maynard and Rupert Simmons

ALSO PRESENT Rupert Clubb, Director of Communities, Economy and Transport
James Harris, Assistant Director, Economy
Nick Skelton, Assistant Director Communities
Karl Taylor, Assistant Director Operations
Carl Valentine, Head of Transport & Operational Services
Justin Foster, Waste Team Manager
Jonathan Wheeler, Team Manager, Strategic Economic Infrastructure

Councillor David Elkin, Lead Member for Resources

Martin Jenks, Senior Democratic Services Advisor

20 MINUTES OF THE MEETING HELD ON 14 SEPTEMBER 2016

20.1 The Committee RESOLVED to agree as a correct record the minutes of the meeting held on 14 September 2016.

21 APOLOGIES FOR ABSENCE

21.1 There were no apologies for absence.

22 DISCLOSURES OF INTERESTS

22.1 There were no disclosures of interests.

23 URGENT ITEMS

23.1 There were none.

24 REPORTS

24.1 Reports referred to in the minutes below can be found in the minute book.

25 RECONCILING POLICY, PERFORMANCE AND RESOURCES (RPPR) 2017/18

25.1 The Director of Communities, Economy and Transport (CET) introduced the report. Since the Committee discussed the savings identified in the medium term financial plan at the September meeting, additional savings have been identified for 2017/18. The Autumn Statement on the budget settlement for Local Authorities is expected on 23 November. The purpose of this report is to provide the Committee with an opportunity to examine the additional savings outlined in the October Cabinet report; suggest alternative areas of search for savings and; identify any further information needed in preparation for the RPPR Board in December.

Allocation of Additional Savings to the Communities, Economy and Transport department (CET)

25.2 The Committee noted that CET has an additional savings target of £537,000 in 2017/18 and £825,000 in 2018/19, and asked whether the share of additional savings burden had been fairly allocated.

25.3 The Director of CET responded that the financial pressures on services in Adult Social Care and Children's Services are huge. The Council is a corporate organisation and therefore has to act in that manner. The Director views the allocation of additional savings for CET as fair, bearing in mind the overall context of the savings requirement for whole the organisation.

25.4 The Committee commented that although the savings allocation may appear fair, roads and other services that CET provides are as important to residents as the services other departments provide. Everybody uses East Sussex's roads, which support the provision of other services and Council priorities such as the local economy. Year on year, the department has had to find further cuts. The Committee considers the approach to savings is fundamentally wrong where the quality of the Council's assets are degraded leading to a long term negative effect.

25.6 The Director of CET responded that there had been a recognition of the importance of roads through the additional capital funding that has been allocated to highways.

25.7 The Lead Member for Economy outlined that representations had been made either directly to Government, or through the Local Government Association, about the punitive financial settlement for East Sussex. The 'One Council' Policy was agreed in 2013, which set out The Council's corporate priorities. Investment in education is important for the local economy, as is protecting the vulnerable.

25.8 While it may be suggested that all departments are of equal importance, the Committee is uncomfortable with an approach to cost cutting, which fails to recognise the underlying importance of the County Council's road network to every activity carried out by the Council on behalf of East Sussex residents. Year on year cost cutting in relation to the work done by the County's Highways operation has significant long term implications, best illustrated by what has happened in the past in relation to the long term deterioration of County Council's drainage network.

25.9 The Lead Member for Transport and Environment commented that the majority other departments' savings have been planned for 2017/18 and not 2018/19. He acknowledged that CET's services are very visible to all residents and that CET has probably become leaner sooner than other departments. It may be that CET can make the case that it has been quicker to prune back expenditure and adopt a commissioning approach to services whilst minimising the impact on residents. However, all other departments have taken their cuts and the organisation does not want to take a 'silo' approach to savings. CET has got further capital investment for roads and the Council needs to manage public expectations about the condition of the road network. It is important to be honest with members of public about the state of the Council's finances.

25.10 The Committee made clear that it was not criticising the work the department does or the degree of commitment of its staff. The Gradual erosion of expenditure year on year will degrade the asset the department manages. If the Council degrades this asset then it undermines the functioning of other services that rely on decent roads and other services CET provides. The Committee believes savings targets are having a disproportionate effect on CET and maintenance of key assets. The allocation of savings and their cumulative effect needs to be considered in the long term.

25.11 The Director of CET welcomed the support of the Committee for the services that CET provides. However, the department recognises need to make savings and support other service departments.

Transport Plan

25.12 One of the Committee members commented that they had the impression that there was no overall coherent transport plan. The Director of CET replied that the Local Transport Plan (LTP), Transport Asset Management Plan, and work with the Local Economic Partnership (LEP) all aim to take a more strategic approach. The department does not have responsibility for rail transport, but will lobby via Lead Member for improvements (e.g. the reinstatement of the rail line between Lewes and Uckfield).

25.13 The Lead Member for Economy added that the Council has made representations to the Secretary of State and met with the Govia senior management team, to talk about rail services in East Sussex and impact the disruption was having on the economy. The Council does have a rail strategy and is working with all strategic partners. The first priority is the Hastings and Bexhill HS1 link, and the second priority is the improvement of the Uckfield line. Infrastructure improvements have been made to extend the platform and the car park at Uckfield station. The Council is also advancing the case for the Lewes to Uckfield line re-instatement. Priorities have been set for road improvements that include the A21, the Queensway Gateway Road (formerly known as Baldslow link) in Hastings, the A27 and the Newhaven Harbour Port Access Road.

Savings Plan

25.14 The Committee discussed the savings plan in appendix 1 of the report and the points raised in the discussion are summarised below.

Waste Disposal

- The Committee asked for clarification of the sentence “If risks occur and have a permanent effect on the revenue budget, there would need to be a matching increase to the base budget”. The Director of CET replied that should a risk occur, the requirement to move money into base budget will be dealt with by transferring money from the organisation’s reserves. He was confident that reserves are sufficient to cover this eventuality.

Waste Operations - Leachate Disposal

- The proposed savings can be achieved by a change in the way leachate is handled. It has not been possible to make savings earlier as the department needed to develop a new leachate waste handling facility first.

Waste Disposal Service

- The Committee asked how it was proposed to achieve the £800,000 saving in 2018/19. The Director of CET explained that as the waste contract is quite large (£28m for East Sussex) the proposed savings represented a small percentage of the overall contract value. The areas of savings and efficiencies being investigated include: better income share on energy generation; taking

commercial or other waste; working with Borough's and District Councils on recycling rates to reduce waste volumes; more efficient management of the Household Waste Recycling Sites and; how to generate further income.

- The Committee asked if accepting and charging for smaller amounts of commercial waste (i.e. less than the current one tonne minimum) was an income generating opportunity that may also lead to a reduction in fly tipping. The Waste Team Manager outlined that discussions had been held with the contractor about this subject. This type of waste tends to be bulky waste from small businesses such as building waste, and the contractor is not fully equipped to process this type of waste at the transfer stations. It is commercially more beneficial to deal with waste streams from larger contractors than small businesses.

Transport Hub

- The savings under the Transport Hub have been achieved by merging the two teams. The impact on staff will be minimal as the savings represent the final stages of these changes.

Rights of Way and Countryside Management

- The Assistant Director Operations confirmed that the £50,000 savings in 2017/18 related to the Countryside Access Strategy.

Grass Cutting.

- The Director of CET outlined that the current expenditure on highways grass cutting is £950,000 per year and there are opportunities to reduce this in consultation with Borough, District and Parish Councils. This may lead to a reduction in grass cutting, but it will not have impact on road safety and visibility splays. There is enough flexibility in the contract to allow Parish Councils to take over grass cutting, provided the organisation undertaking on work can do it safely (e.g. carry out traffic management requirements etc.).
- The Committee were concerned about impact on Borough Councils as they also have tough savings targets and there was the likelihood that the number of complaints will increase. It will also have a huge impact in rural areas, if 50% reductions in grass cutting go ahead.
- The Committee asked if these savings are deliverable. The Director of CET replied that the department will work carefully on these proposals and will need to test the appetite of other organisations in order to make the savings. Some tough choices may need to be made, which may lead to a reduction or ceasing of grass cutting in some areas. If communities feel strongly Parish Councils have the ability to raise a precept in order to undertake this work.
- The Committee requested that a progress report be brought back to them on this issue.

Planning Service Fees

- The Assistant Director Economy explained that there is a balance to be struck in deciding whether to introduce fees. The department does not want to dissuade development activity as this affects the local economy. The environment and conditions are such that there is now an opportunity to introduce appropriate charges for pre application advice on major schemes and ordinary watercourse consents.

Trading Standards

- The Assistant Director Communities explained that the additional £62,000 of savings will be achieved from three sources:
 - Increases in income through Check a Trade and Trust Mark schemes;
 - Chargeable business advice. This includes bespoke training courses and one to one business advice (e.g. for catering and food production); and
 - Additional income for hosting the National Trading Standards Scams Team.
- The Committee understands that the National Scams Team are having difficulty recruiting staff to vacant posts and asked if officers are confident they can recruit to a full complement of staff. The Assistant Director Communities responded that the department has made adjustments to the recruitment and is confident it will be able to fill the vacant posts.

Departmental Information (Appendix 2).

25.15 The Committee discussed the additional departmental information contained in the pie charts and tables in appendix 2. The main points raised are summarised below.

Depreciation

- Depreciation has been excluded from the financial summary as the department has no control over it and it is essentially a revenue charge on capital borrowed. Finance calculate how much is charged to the CET budget. The Director of CET will ask Finance if they can provide an explanation of the way depreciation charges are calculated for the RPPR Board meeting.

Communities

- Communities has a total of total 88 FTE (full time equivalent) staff, of which 20 are in the Road Safety Team. The gross budget is around £1m and also includes the Gypsy and Traveller Team and Emergency Planning.

Transport Operations

- Transport Operations includes Waste, Rights of Way and Countryside Management, and the Parking team, as well as Transport. The savings appear relatively small due to the distortion created by the size of the Waste Contract. The Parking Management service covers all their staff costs with the income the service generates. The remaining staff costs in Transport Operations are funded from a number of different sources including, internal recharges and revenue funding.

Economic Development

- The Economic Development Team's gross budget is £1,345,000 and the net budget is £766,000. The income comes from variety of sources including a number of capital projects where staff costs are charged. The revenue commitment for Economic Development is relatively modest, and has been cut in the past.
- The Economic Development and Skills team includes the Broadband team; Employability and Skills; the grants and loans programme; devolution; and EU funding. Work with the Local Economic Partnerships (LEP's) has secured £35m of capital investment to date.
- The Cultural Strategy budget is the cost of one post plus income. The Strategy covers cultural assets such as De La Warr Pavilion, Charleston House etc. and other tourist/visitor facilities.

- The Transport Monitoring team (which is part of Strategic Economic Infrastructure team) have adopted a commercial approach and is self-financing with 3.5 FTE posts.
- The Lead Member for Economy commented that the economy of county is important to every single resident and is therefore very important. Officers are doing a really important job and this should be recognised by the other Scrutiny Committees. The productivity of the 22.8 FTE staff is very good, and produces a remarkable return on investment to improve local economy and increase the business tax base.

25.16 The Committee asked if reducing the number of staff will be the next place to look for savings if the department is unable to achieve the additional savings. The Director of CET responded that the department will look to increase income first to offset a savings shortfall. It would then discuss the position corporately to identify other mitigation measures, if delivery of the savings targets looks at risk. The Director of CET added that for the department as a whole, around a third of the staff are funded from income or through capital budgets.

25.17 The Committee commented that the information that had been provided was helpful, but it would be useful to have a further breakdown of individual teams as this was not immediately obvious from the existing information. The Committee asked if it would be possible to provide this for the December RPPR Board.

25.18 The Committee RESOLVED to:

- 1) note the report;
- 2) request a further breakdown of the pie chart information to show individual service areas for the December RPPR Board; and
- 3) request a progress report on the proposed grass cutting savings.

26 WASTE PFI CONTRACT REPORT

26.1 The Assistant Director Operations introduced report. The report outlines two pieces of work on the Waste Contract. The first is the contract review undertaken by the Department for Environment, Food and Rural Affairs (DEFRA), which produced four key recommendations. The fourth recommendation of the DEFRA review was to carry out an in depth savings review of waste contract. The department has engaged Local Partnerships, which is joint venture between the Treasury and Local Government Association to carry out the in depth review of contract. This piece of work will conclude around February or March 2017. The intention is to bring back the outcomes of the review to the Economy, Transport and Environment (ETE) and Audit, Best Value and Community Services (ABVCS) Scrutiny Committees in June 2017.

26.2 The Committee discussed the recommendations of the report and concluded that it was preferable to await the completion of the Local Partnerships review before undertaking further scrutiny work. The Committee considered that having a joint Review Board would be preferable to each Committee looking at this matter individually.

26.3 The Lead Member for Transport and Environment supported this approach and commented that it would provide more continuity by reference to the May 2017 elections.

26.4 The Committee RESOLVED to:

- 1) Note the update on work with the Department for Environment Food & Rural Affairs (DEFRA) and Local Partnerships; and
- 2) Await completion of the work being undertaken with Local Partnerships on the Operational Savings Review before considering whether to undertake further scrutiny work jointly with the Audit, Best Value and Community Services (ABVCS) Scrutiny Committee.

27 A27 ROAD IMPROVEMENTS - UPDATE REPORT

27.1 The Team Manager, Strategic Economic Infrastructure introduced the report and explained the background to current proposals for the A27. The 2013 study of the A27 identified a number of road traffic hotspots and included an assessment of the options to deal with these problems. The outcomes of this study were published in 2014 and £75m of funding was allocated for small scale capacity improvement schemes. Improvement scheme proposals to address traffic problem hotspots around Selmeton, Berwick, Wilmington and Polegate are currently out for public consultation.

27.2 The A27 Reference Group has continued to lobby for a better 'off line' solution, and is looking to include proposals for housing and employment in a revised business case for the 'off line' solution. The preference of the A27 Reference Group is for an 'off line' dual carriageway road to be constructed to the north of the existing line of the A27.

27.3 The Committee discussed the proposals described in the report for small scale capacity improvements and longer term solutions to the congestion along the A27. The main points raised in the discussion are summarised below.

- The Director of CET explained that the off line dualling (construction of a dual carriageway) of the A 27 would not have access to side routes to improve travelling times and to improve safety and road performance. It would also address the negative impact on the north-south movement of traffic that was caused by the poor performance of A27 and the consequent re-assignment of routes as drivers try to find ways to avoid the congestion.
- Although the Committee welcomed any improvement to the A27, it considered that the small scale capacity improvements do not adequately deal with the problem.
- The majority of the Committee supported the off line dualling of the A27 as the best long term solution, especially in view of 9,000 to 10,000 additional new houses identified for construction in South Wealden. This would be the best option for the economy, to stop route diversion and improve road safety. The preferred solution would be to have the off line dual carriageway now rather than the smaller scale capacity improvements, which seem of little long term benefit.
- The Director of CET explained that the A27 Reference Group see the off line dualling of the A27 as the long term solution, but it will take around 10 years to deliver. The localised small scale capacity improvements will be delivered by 2020 and will deal with the problems the road has now. The department considers that the Drusillas roundabout and Polegate junction improvements deliver the most benefit. The Selmeton and Wilmington schemes do not offer much improvement or benefit.
- The department's view is to undertake the two smaller improvement schemes with the most benefit (Drusillas roundabout and Polegate junction) and then focus work on the longer term solution. The department considers that the plans for the additional South Wealden housing improves the business case for the off line dualling of the A27.
- One of the Committee members commented that many of the villages are opposed to the dual carriageway, but would support smaller improvements. Other Committee members supported the improvements to the Polegate junction and the Drusillas roundabout, but think village communities would benefit from a new road as it will reduce traffic going through them.

- The A27 will be overcapacity by 50% by 2021. If the off line solution is delivered, the existing A27 would be de-trunked. Communities along the route will benefit from reduced through traffic, reduced congestion, improved travel time and improved road safety. The Highways England (HE) estimated cost of an off line dual carriageway, including changes to the Cophall roundabout, is £410m.

27.4 The Lead Member for Economy stated that Team East Sussex and all District and Borough Councils see this as the highest priority for transport improvement. The business case is based on the value of connectivity, with a supplementary benefit to economy. Therefore, the A27 Reference Group is pursuing this through the Department for Transport rather than the Department for Business Innovation and Skills.

27.5 The Lead Member for Resources added that the A27 Reference Group is absolutely still fighting for an off line solution. All the local Members of Parliament are pressing for this longer term solution. In the meantime there is an opportunity for some small scale improvements, which will not affect business case for the longer off line solution. The off line solution also has the full support of South Downs National Park.

27.6 The Committee RESOLVED to note the progress that is being made by Highways England on their smaller scale proposals for the A27 between Lewes and Polegate, and for making the case for a more comprehensive offline solution that supports economic growth specifically in the Eastbourne/South Wealden areas as well as the rest of the county.

28 SCRUTINY COMMITTEE FUTURE WORK PROGRAMME

28.1 The Committee discussed the future work programme and agreed to move the Highways Drainage update report to June 2017 to allow time for the outcome of the capital programme review to be known.

28.2 The Committee also agreed to have a report on Climate Change Adaptation in March 2017; a report on the outcome of the Waste Contract review in June 2017 and; a progress report on the Grass Cutting savings in September 2017. The Assistant Director Operations is to confirm the timing for a report back to the Committee on the Countryside Access Strategy.

28.3 The Committee RESOLVED to amend the work programme as outlined in minute 28.1 and 28.2 above.

29 FORWARD PLAN

29.1 The Committee RESOLVED to note the Forward Plan.

30 ANY OTHER ITEMS PREVIOUSLY NOTIFIED UNDER AGENDA ITEM 4

30.1 There were none.

The meeting ended at 12.48 pm.

Councillor Richard Stogdon
Chair

Agenda Item 5

Report to: Economy, Transport and Environment Scrutiny Committee

Date of meeting: 15 March 2017

By: Chair of the Review Board

Title: Scrutiny Review of Superfast Broadband

Purpose: To present the outcomes of the scrutiny review and make recommendations.

RECOMMENDATION: That the Committee considers and endorses the report of the Review Board, and makes recommendations to Cabinet for comment, and County Council for approval.

1. Background

1.1 As many services go on-line, having good internet access is becoming essential to daily living. As part of a Government initiative, East Sussex County Council (ESCC) is taking part in the national Superfast Broadband Programme, which aims to increase access to superfast broadband services. ESCC set up the Broadband Project to deliver the investment in infrastructure necessary to enable wider access to superfast broadband services in East Sussex.

1.2 The Economy, Transport and Environment Scrutiny Committee established the Scrutiny Review of Superfast Broadband in East Sussex to consider a number of issues concerning the delivery of the Broadband Project, brought to its attention by ESCC Councillors and residents in the County. These were:

- Broadband speeds have not improved for some residents and small businesses, despite being connected to fibre enabled services;
- Broadband speeds are slow at peaks times of demand;
- Coverage has not reached all residents and premises, and some have been left with slow or no broadband;
- In a number of cases, provision of information concerning the timing and availability of superfast broadband has been poor, and precise information about when or whether superfast broadband will be provided to particular premises is not available.

1.3 The Review examined a number of lines of enquiry to explore these issues, which are reflected in the report. The lines of enquiry were:

- What has been delivered so far under the first contract with British Telecom (BT Group);
- Whether the roll out of the second contract will address residents' concerns about broadband speeds;
- Future coverage and whether there any other measures that can be taken to improve broadband coverage and speeds;
- Residents' expectations of the project; and
- Communication about the project.

1.4 In undertaking the review, the Review Board examined the delivery of the Contract 1 with BT Group to establish if the outcomes specified in the contract had been achieved. The Board took evidence from officers, BT, and an independent commercial advisor on the performance of the contract. The Board also spoke to ESCC Councillors, representatives from community organisations and businesses about the delivery of the project.

2. Summary

2.1 The members of the Review Board are Councillors Richard Stogdon (Chair), Claire Dowling, Michael Pursglove, Pat Rodohan, and Barry Taylor.

2.2 The attached report (appendix 1) contains the findings and recommendations of the Review Board. Copies of evidence papers listed in the report and other support documentation are available on request from the contact officer.

2.3 The Committee is recommended to receive the Review Board's report for submission to Cabinet and County Council on 18 April 2017 and 23 May 2017 respectively.

3. Recommendation

3.1 The Committee is requested to consider and endorse the report of the Review Board for submission to Cabinet and Full Council.

RICHARD STOGDON
Chair of the Review Board

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LOCAL MEMBERS: All.

BACKGROUND DOCUMENTS: None.

Scrutiny review of Superfast Broadband in East Sussex

Report by the Review Board

of the Economy, Transport and Environment Scrutiny Committee

Councillor Richard Stogdon (Chair)

Councillor Claire Dowling

Councillor Michael Pursglove

Councillor Pat Rodohan

Councillor Barry Taylor

March 2017

Economy, Transport and Environment Scrutiny Committee – 15 March 2017

Cabinet – 18 April 2017

Full Council – 23 May 2017

East Sussex
County Council



Report of the scrutiny review of Superfast Broadband in East Sussex

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Introduction by the Chair of the Review Board

Councillor Richard Stogdon

On 6 March 2012 the Cabinet of East Sussex County Council resolved to spend from its capital budget the sum of £15m in conjunction with Broadband Delivery UK (BDUK) and suppliers to roll out superfast broadband throughout East Sussex.

While the decision of the Cabinet received a broad welcome in the debates at both Cabinet and Full Council, some of the potential difficulties in providing superfast broadband to some of the more remote areas of East Sussex were then noted. At meetings of the Cabinet subsequent to that at which the initial decision was made, the Director of Economy, Transport and Environment referred Members to alternative solutions, which might be required, where roll out of the project was to prove more difficult.

Welcome though the County Council's decision was and indeed remains, by the summer of 2016, a number of issues requiring review had come to the notice of the Economy, Transport and Environment (ET&E) Scrutiny Committee. At its quarterly meeting in March 2016, the Committee received representations from County Councillors for some of the County's rural divisions. The issues requiring review were:

- a) Broadband speeds have not improved for some residents and small businesses, despite being connected to fibre enabled services;
- b) Broadband speeds are slow at peaks times of demand;
- c) Coverage has not reached all residents and premises and some have been left with slow or no broadband;
- d) In a number of cases, the provision of information concerning the timing and availability of superfast broadband to particular premises was not available.

Thereafter, the Committee set up a Scrutiny Review Board to investigate the concerns expressed. The Board has met on six occasions since July 2016 and has taken evidence from a number of County Councillors and other witnesses.

The Board's focus has been to gain a proper understanding of the engineering and technical issues encountered as part of the implementation of the first contract (Contract 1) with BT. It was found that the information contained in Appendix 2 of this report was particularly helpful in assisting the Board's understanding.

As the Scrutiny Review progressed, the extent to which the scope of the Broadband Project had been misunderstood became evident. Both officers and witnesses alike referred to the difficulty in successfully communicating complex technical information to a wide audience, particularly in the context of some of the "hype" surrounding the announcement of the original decision to implement the project.

The Board heard that for some, at least, the expectation was that all premises in the County would be provided with superfast broadband by the time Contract 1 was completed. There were a number of other misconceived expectations referred to in the Report, highlighting the considerable difficulty in communicating complex technical information, without a great deal of officer time and sophisticated resource.

Some County Councillors and other witnesses strongly represented the absolute requirement for fairness and equity concerning the way in which the Broadband project has been implemented. The Board found that criticism relating to the equity principle was and is largely connected with timing. The Board concluded:

- (1) From the outset, the County Council's intention was to provide a greatly improved broadband service to as many premises in the County as possible within the technical, engineering and financial constraints applicable;
- (2) While at the completion of Contract 1, full roll out was not achieved, the intention referred to at (1) above remains the firm ambition of the Council; and

(3) There remains every possibility that full roll out shall be achieved, if not at the conclusion of Contract 2, then, in all probability, at the conclusion of Contract 3, if there is sufficient funding.

It is, of course, desirable that every resident and business in the County should receive the same benefit at the same time under the roll out of the Broadband Project. However, in the context of widely differing conditions obtaining in different areas and divisions of the County, the achievement of parity/equity/fairness is necessarily elusive. For that reason the Board rejected the criticism that the roll out has been “unfair and inequitable”. The Board’s thinking is that at the completion of Contract 3, concerns relating to equity may well have been significantly dissipated.

Considerable criticism was levelled at the County Council concerning the quality of the information contained on the County Council’s website and information provided generally as to “availability” of improved broadband connection by reference to postcodes. It was also suggested that insufficient emphasis had been given to the publication of certain consultations and information relating thereto on the County Council’s website. Behind that criticism lay the suggestion that officers had failed to communicate as fully as certain critics would have wished in regard to a wide range of detailed questions.

Against the background of the hugely complimentary evidence provided by other witnesses from both rural and urban divisions of the County regarding the very helpful levels of service and communication provided by the County Council’s Officer Team, the Board found the criticism referred to in the preceding paragraph very difficult to reconcile.

The Board heard praise for the professionalism of County Council’s officer team from independent witnesses and other sources. Further, the Board found that the roll out of the Broadband project in East Sussex is one of the most successful in Britain. Due to that success it has been possible for the County Council to benefit from “Gainshare” (see paragraph 15) arising from Contract 1, to implement Contract 3. These are achievements not contemplated when the original County Council decision was made.

The advice provided to the Board both by County Council officers and BDUK indicates that at the conclusion of Contract 3, there is every possibility that the County Council’s original ambition may well have been achieved.

However that may be, the Board could not fail to be positively impressed:

- (a) by the dedication and professionalism of the very small team of East Sussex County Council officers charged with rolling out the East Sussex Broadband project and
- (b) by the very positive and enthusiastic feedback provided by a number of key witnesses in relation to the success of the project to date. Most particularly, the attention of Members is drawn to the evidence kindly provided to the Board by Sound Architect/ ENGage of Hadlow Down. This was a remarkable contribution, which has relevance for every part of East Sussex.

It is clear from the “Gainshare” achievements under the Contracts that the County Council has enjoyed significant value for money bonuses. The Board considered that it is too early to assess the overall “value for money” impact of the Broadband Project, which remains, as yet, incomplete. Indeed the Board believes it may be some years before the overall value can be properly appraised.

The Review Board is particularly grateful to the Officers of the County Council’s Communities Economy & Transport Department, County Councillors and the County Council’s Scrutiny team in assisting with the Board’s Review.

Councillor Richard Stogdon
Chair

Recommendations		Page
1	Further steps are taken to: a. Communicate when faster speeds are available as the project rollout continues; b. Provide additional advice to residents and businesses about checking speeds, selecting an Internet Service Provider (ISP) and information on other factors that affect broadband speeds; and c. Make it easier for residents and businesses to check for themselves the broadband coverage and the speed they can receive.	11
2	Details of coverage, including maps, are published at the end of Contract 2 and further information is provided to explain how and why finite funding levels may prevent the project from enabling superfast broadband access for some harder to reach premises.	14
3	Information is provided at the earliest opportunity outlining those premises that may not be 'connected' to superfast broadband and that the survey results are made available to communities and smaller suppliers to encourage the development of alternative delivery methods.	16
4	Once the total cost of providing superfast broadband to the remaining premises is known (or can be estimated), the Broadband Team clarifies how those premises receiving the slowest speeds will be prioritised in the context of the remaining available budget.	16
5	When, and if necessary, a 'community match' type funding programme is established for communities to bid into to pay for community based broadband schemes, in order to provide access for some of the hardest to reach premises not covered by the project, and a 'toolkit' is developed for communities who wish to implement their own broadband schemes.	16
6	Councillors, business organisations, and Parish Councils are encouraged to contact the Broadband Team with details of any Business Parks that do not have access to superfast broadband, so they can be included in the project rollout.	16
7	Lessons are learnt about the management of expectations when embarking upon complex projects of this nature, and to avoid "hype" at the outset, so that there is a careful distinction between aspirations or vision statements and the actual projected outcomes.	19
8	A phased communication plan is developed to address the expectations of residents and businesses in the County regarding the Broadband Project and recommendations 1, 2 and 3 of the review. The plan should include enhancement of information available, including: a. A revision of the web site design and information so that project rollout information, frequently asked questions, and other project information is provided more clearly on the Go East Sussex, e-Sussex and ESCC web sites; b. An information pack (including information sources to check speeds, ISP service offers and availability etc.) produced to assist ESCC Councillors, Parish Councils and Community Leaders when dealing with broadband issues in their Division or area; and c. A fact sheet created to address misconceptions about the Broadband Project and some of the frequently asked questions.	19

1. Overview

1. Before considering the effectiveness of the Broadband Project, it is necessary to understand that:
 - the Project is now embarking on a third phase of delivery where originally only one stage was envisaged; and
 - the aspirations of the programme in terms of both speed and coverage have been updated over this period.
2. In 2009 the UK Government announced an intention coupled with funding to move the UK to a better place for broadband services when compared to European neighbours. County Councils up and down the country made enthusiastic commitments to support this aspiration and were encouraged to produce Broadband Development Plans. Many of these aspired to 100% availability of superfast services. East Sussex shared that aspiration. A delivery unit was established within the Department of Media and Sport (BDS) to establish how this might best be achieved and to manage the allocation of funding. It quickly became apparent that, while significant funding was being promised (circa £1.2billion), this would fall short of the funding required to deliver a superfast service to all premises in the UK. Estimates at the time suggested £20billion would be needed for full coverage, using best available technologies.
3. Against this background, a UK-wide target of 90% superfast coverage by 2015 was set and East Sussex County Council embraced that target. The project was set the task of delivering 90% superfast coverage as opposed to previous statements referring to 100% coverage. Moreover, the project was funded to deliver this 90% outcome and not 100%. The impact of this confusion in terms of percentages is fundamental in understanding some of the complaints about equity and fairness and the difficulty in correcting misconceptions regarding what would be achieved by Contract 1.
4. It is recommended that lessons are learnt about management of expectations when embarking upon significant projects of this nature. Specific issues have been:
 - Understandable concern with residents and businesses seeking to identify if they are within or outside the 90% coverage areas;
 - An inequality in provision;
5. A flexible approach has been needed to ensure best value. It requires permitting the supplier flexibility to substitute cheaper premises where unexpected engineering problems emerge in the delivery stage. The aim of this approach is to build the superfast broadband infrastructure at minimum cost. The downside is the difficulty in telling people if and when they are included in delivery plans, until after the installation work has completed.
6. However, this flexible approach has enabled superfast broadband services to a greater number of unserved premises for the least amount of public funding. This ensures that the limited funding goes further, allowing the Broadband Project to connect a maximum number of premises by following an engineering based approach. This has demonstrably worked. Contract 1 with BT (the first phase of the project) was completed on time, and exceeded the coverage targets.

7. There is a trade-off between maximising coverage and the provision of robust, publicly available information. While the Board noted the concerns expressed about this approach in the course of the Scrutiny Review, it considered that the Officer Team acted reasonably in its application.
8. Inequality of service availability is a direct consequence of funding (and affordable technical solutions) to reach 90% superfast coverage before the end of 2015. Fortunately, during Contract 1, Government identified additional funding. This enabled the outcome target for the UK to be revised to 95% coverage by the end 2017. For East Sussex, under Contract 2, this has meant that an additional 7,000 premises will have access to superfast broadband.
9. Besides exceeding coverage targets and being completed on time, Contract 1 is exceeding the expected take up levels. This has resulted in around 40% of connected premises choosing to make use of the newly available superfast services. Additional revenue has thereby been generated for the supplier and a proportion returned to the County Council as State Aid clawback and Gainshare.
10. The clawback and Gainshare funding is now being invested in a third phase of delivery through Contract 3. Through changes in engineering methods and technology, as close to 100% superfast coverage is being sought. It is not yet clear how close this funding will get to 100% coverage. However, the Board noted that the magnitude of the challenge has been considerably reduced by the open access infrastructure that Contracts 1 and 2 have built in most parts of County. This reflects the underlying strategy of the programme to build fibre infrastructure across the County whenever and wherever possible, rather than relying on alternative technologies.

2. Background

11. The UK Government published the Digital Britain Report in June 2009, which set the national policy framework for improving the digital economy. It envisaged that a third of the country, predominately in rural areas, would not have access to superfast broadband (24Mbps or above), if left to market forces alone.
12. The Department for Culture, Media and Sport (DCMS) is responsible for the Government's broadband policies. Broadband Delivery UK (BDUK), which is a unit within the Department, runs several programmes to provide superfast broadband and better mobile connectivity in the UK. The Superfast Broadband Programme (formerly the Rural Broadband Programme), is designed to provide superfast broadband across the UK in 3 phases:
 - Phase 1 - to extend superfast broadband coverage to 90% of UK premises by December 2016.
 - Phase 2 - to extend superfast broadband coverage to 95% of UK premises by December 2017.
 - Phase 3 - to test options for rolling out superfast broadband past 95% coverage, with pilot projects completed by March 2016 (no date was set for providing access to the remaining premises).
13. East Sussex County Council (ESCC) took up the offer of BDUK funding and developed a combined project with Brighton & Hove City Council. A Local Broadband Plan was agreed by ESCC's Cabinet on 6 March 2012, which included the aspiration of providing superfast broadband to everyone (100% of homes and small business) in East Sussex.
14. An Open Market Review (OMR) was undertaken in October 2012 to determine the Intervention Area, in which the Broadband Project would operate. It needs to be carefully noted that the Intervention Area covers the predominantly rural parts of East Sussex, where commercial providers such as British Telecom (BT), Virgin Media etc. were not planning to provide services.
15. ESCC used a national framework contract, developed by BDUK, to undertake the work. The contract requires the supplier to provide a network infrastructure that is open access and capable of being used by a number of Internet Service Providers (ISP's). The contracts also contain a "Gainshare" mechanism whereby, if the supplier makes additional income above expected levels, funding is returned by the supplier and retained in the contract for further investment.
16. The ESCC Broadband Project is one of 44 across the UK. Three quarters of the projects (75%) used the BDUK framework, whilst 25% of contracts were procured independently, but all first round contracts were signed with BT Group. ESCC has entered into two contracts with BT Group to provide superfast broadband infrastructure:
 - Contract 1 (signed in May 2013) to deliver a 3 year programme of infrastructure improvements funded by ESCC £15m, BDUK £10.64m and BT £4.4m.
 - Contract 2 (signed in June 2015) to deliver an infrastructure programme to provide superfast broadband coverage to a further 5,000 premises (recently increased to 7,000). The work related to this contract is taking place during 2016 and 2017, and is funded by ESCC £3m (re-invested from the first contract) BDUK £3m and BT £265,000.

17. At the time of the Cabinet report in March 2012, funding from BDUK had not been announced. It was, therefore, impossible to predict whether or not there would be sufficient funding to provide superfast broadband to 100% of premises in East Sussex.
18. When Contract 1 was signed, there were no plans for further contracts (Contract 2 and Contract 3) and coverage was only intended to reach 90% of premises in East Sussex in Phase 1 of the BDUK Superfast Broadband Programme. Given that 100% coverage was merely an aspiration, it is unsurprising that public expectation had interpreted some of the “hype” surrounding initial announcements, as committed goals.
19. Councillors and residents expressed concerns centred around broadband speeds and coverage achieved under Contract 1 delivered by BT Openreach, namely:
 - Broadband speeds have not improved for some residents and small businesses, despite being connected to fibre enabled services;
 - Broadband speeds are slow at peaks times of demand;
 - Coverage has not reached all residents and premises and some have been left with slow or no broadband;
 - In a number of cases, provision of information concerning the timing and availability of superfast broadband has been poor and precise information about when or whether superfast broadband will be provided to particular premises is not available.
20. The Review Board developed a number of lines of enquiry to explore the issues raised by Councillors and residents. The lines of enquiry reflected in this report are:
 - What has been delivered so far under Contract 1 with BT;
 - Whether the roll out of Contract 2 will address residents' concerns about broadband speeds;
 - Future provision, including and whether there any other measures that can be taken to improve broadband coverage and speeds;
 - Residents' expectations of the project; and
 - Communication about the project.
21. In undertaking the review, the Review Board examined the delivery of the first contract (Contract 1) with BT Group to establish if the outcomes specified in the contract had been achieved. The Board took evidence from officers, BT, and an independent technical advisor on the performance of the contracts. The Board also spoke to ESCC Councillors, representatives from community organisations and businesses about the delivery of the project.

3. Broadband Speeds

22. The Broadband Project is an infrastructure project, investing in the telephone network, to enable residents and businesses to have access to superfast broadband. The definition of '**connected**' means that users have the facility to get faster broadband speeds, when they are physically connected to the fibre enabled telephone network infrastructure. However, it needs to be clearly understood that users have to subscribe to the right package from an Internet Service Provider (ISP) to get faster broadband speeds. Users may also need to subscribe to a different broadband package, if they regularly need to send large data files over the internet (e.g. files containing technical drawings, film, music and other multimedia content).
23. The Board heard that network infrastructure built in Contract 1 has been designed with sufficient capacity for peak times of demand (committed data rate). It is often the capacity of the ISP's equipment and network, which is the cause of slower speeds at peak times of demand. Some ISP's also actively restrict speeds in order to manage data traffic on their network. Users' computer networking equipment can also be responsible for slower speeds (e.g. router, WiFi etc.). These are factors outside of the control of the project.
24. The actual broadband speed users experience depends on:
 - the type of cabling used to connect them to the telephone network and the distance away from the cabinet if connected using fibre to the cabinet (FTTC);
 - the broadband package the user subscribes to and the capacity of their ISP's network;
 - the nature of the equipment they are using to connect to the internet e.g. router, WiFi, internal wiring, the age of equipment and the currency of the web browser used etc.

It is worth noting that the Broadband Project has control over the first of these issues, but all have an impact on user perceptions.

25. The use of fibre to the cabinet (FTTC) as a method of providing superfast broadband means a fibre optic cable is used to connect the telephone exchange to the cabinet in the street. The existing telephone wires are used to make the final part of the connection between the cabinet and the users' premises. The length of telephone cabling varies, and sometimes the most direct route has not been used. The telephone cable may have joints and other junction boxes in it. These factors affect the eventual broadband speed and reliability that can be achieved due to the natural degradation of signal strength.

Findings

26. The FTTC method of delivery, proposed by BT, is used because it offers a way of 'connecting' as many premises as possible for the funding available. FTTC typically delivers a speed uplift to superfast (over 24Mbps) for at least 80% of 'connected' premises. A further 10% will see a significant speed increase but not to superfast. The remaining 10% will see a negligible increase. It is unusual for any premises to see a speed reduction. Higher up-lift figures are typically seen in areas where there is a higher density of premises.
27. The length and quality of the existing telephone line varies between the FTTC fibre enabled cabinets and premises. This can reduce speeds because broadband speeds become slower with increased length of telephone cabling. Consequently, some premises have not benefited from faster speeds, although they are '**connected**' to fibre enabled cabinets, leading to confusion among residents as to whether the project roll out has been successful.

28. The Broadband Team confirmed that only those able to access superfast speeds count towards contractual outcomes. The Team is tackling the effect of long lengths of telephone cabling, and providing solutions for those affected. The implementation of the Contract 2 includes installing additional cabinets and re-arranging the telephone lines to shorten the length of telephone cabling. Fibre cabling to the premises (FTTP) is also being used to connect some of the more remote, harder to reach properties. The planning and procurement of Contract 3 further addresses these issues.
29. Although contract outcomes are measured by the number of properties that can achieve superfast broadband speeds (24 Mbps), many others have benefitted from an increase in broadband speeds below this level.
30. The evidence provided to the Board suggests some residents and even businesses are not aware of improved broadband access in their areas. Internet Service Providers (ISP's) have not so far consistently informed potential customers when faster broadband speeds become available. The Broadband Team do not have the resources to notify premises directly when faster speeds are available. Therefore, consideration should be given to finding a way to notify residents when broadband improvements have been completed in their area. Residents and businesses would also benefit from being able to check more easily for themselves, the broadband coverage and the speed they can receive.
31. In the past, when the Broadband Team has provided information about service availability, they have received negative feedback from those people who cannot yet access faster broadband. Account has to be taken of popular misconceptions when plans are devised to improve levels of communication in connection with the Broadband Project. Future communication should include a fact sheet to address misconceptions and tailor information so that it addresses the needs of those who do not have superfast broadband, as well as those who have.
32. Users need to choose their Internet Service Provider (ISP) carefully and subscribe to the right package in order to achieve the speeds and performance that they require. Actual broadband speeds (as opposed to advertised speeds) and performance at peaks times of demand can vary between different providers and the broadband packages they offer. The choice of router, use of WiFi in the home or office, and other factors outside of ESCC's control also contribute to the eventual broadband speed.

Recommendations

The Board recommends that:

- 1. Further steps are taken to:**
 - a. Communicate when faster speeds are available as the project rollout continues;**
 - b. Provide additional advice to residents and businesses about checking speeds, selecting an ISP and information on other factors that affect broadband speeds; and**
 - c. Make it easier for residents and businesses to check for themselves the broadband coverage and the speed they can receive.**

4. Broadband Coverage

Contract 1

33. Contract 1 focussed on the provision of superfast broadband to as many premises as possible using BT's delivery method of fibre to the cabinet (FTTC). The Review Board established this approach to be the most cost effective way of improving broadband speeds to the greatest number of premises across East Sussex.
34. At the end of Contract 1 (July 2016), 70,443 premises in the Intervention Area (defined in paragraph 14 above) had been physically '*connected*' to the fibre enabled telephone network infrastructure by the project, of which 57,755 (82%) had access to superfast speeds. This was 6% more connections than had been planned for in Contract 1, which equates to an additional 3,550 premises. This raises the overall superfast broadband coverage in the County to 90% (made up of existing coverage including ESCC Broadband Project delivery, and planned commercial rollout).
35. Contract 1 provided around £20m of public funding to provide additional superfast coverage, over and above the suppliers' commercial plans. This is an average of around £350 per additional superfast premises served. Exceeding this figure as an average in Contract 1 would mean that the target number of premises would not have been reached.
36. Some premises are inherently difficult to reach on a cost effective basis. For that reason, a 'premises cap', set for the UK at £1,700, is applied. While that is not an allocation per premises, it is a maximum figure beyond which alternative approaches need to be investigated. Therefore, the project manages expensive premises to '*connect*' using a 'premises cap' concept. Residents and businesses need to understand the implications of this, which are that for every premises costing £1,700 to '*connect*', a further 9 premises needed to be '*connected*' at less than £200 to remain within the contract targets.
37. The take up of fibre based services in the Intervention Area has been 40% (as at March 2017) compared with the national average of 30.2% for similar broadband projects. The take up is in excess of the 20% forecast in the business case. The Board heard evidence that the ESCC contract is arguably the second best performing contract of this type nationally in terms of superfast coverage outcomes and represents good value for money.
38. If the Broadband Project had not been implemented, 50% of premises in East Sussex would have been left without access to superfast broadband services.

Contract 2

39. Contract 2 aims to enable a further 7,000 premises to access superfast services by re-routing telephone cabling and installing more fibre enabled cabinets to reduce the length of telephone cabling connecting premises to the cabinet. It will also use more fibre to the premises (FTTP) as an alternative way to connect properties to the network. This is now commercially more attractive because:
 - It is cheaper to install because of an agreement with power companies that allows the shared use of power supply poles;
 - There now exists a widespread fibre network that was not available before;
 - Higher confidence in levels of end-user service take-up of superfast services.

Project delivery information

40. The Board heard evidence that Ofcom require BT Openreach to inform all Internet Service Providers (ISP's) at the same time when new services are available. Currently, rollout information is updated at the end of every quarter at postcode level to comply with this requirement. The Board heard that some residents believe the rollout information on the e-Sussex web site is insufficiently detailed concerning when and where superfast broadband will be available.
41. A number of technical and operational difficulties faced on the ground result in either delays, or a need to substitute for easier (cheaper) premises, meaning that it is difficult to be precise about when faster broadband services will be available e.g.
 - The provision of new power supplies needed for the fibre enabled cabinets;
 - Difficulties in obtaining the necessary wayleaves from landowners for new cable routes;
 - Objections to the siting of some of the new cabinets;
 - The condition of existing ducts and cables being unsuitable for use;
 - Inability to share the use of power supply poles to install new fibre cables in Contract 1, thereby making the installation of fibre to the premises unfeasible for widespread use.

The Broadband Project Team have been instrumental in overcoming these operational and technical difficulties.

Findings

42. The delivery of Contract 1 has achieved and exceeded its objectives (see para 34) and has enabled access to superfast broadband speeds for as many premises as possible, within the funding available. Had the County Council used the fibre to the premises (FTTP) delivery method instead of fibre to the cabinet (FTTC), far fewer premises would have obtained access to superfast broadband speeds. In that context, the Review Board takes the view that the correct policy was pursued in setting the objectives in Contract 1.
43. The Review Board found that the broadband coverage delivered by the project in Contract 1 met and exceeded the target for the number of premises enabled to receive superfast broadband. Despite this achievement, there were a number of areas in the county at the end of Contract 1 that did not have access to superfast broadband. At the mid-point of Contract 2 (March 2017) the percentage of premises that had been enabled to access superfast broadband were: Lewes District 92%; Rother District 82%; Wealden District 89%; Eastbourne 98%; Hastings and Rye 94%. However, those who do not have superfast access wish to know when superfast broadband shall become available.
44. The Board heard that the Broadband Project had had a positive impact on businesses in East Sussex, increasing productivity, enabling expansion into new areas and improving employment. In general, businesses stated that they found superfast broadband coverage was good across the County (information about the projects such as the Swift Project operated by Sound Architect/Engage can be found in appendix 3).
45. Good contract management by the Broadband Team has ensured that value for money and coverage targets have been achieved. However, it has not been possible to provide superfast broadband to some of the hardest to reach premises.

46. Evidence from the project rollout tables for Contract 2 indicates that additional premises are able to access superfast broadband speeds. However, due to the technical and operational issues involved in the project, ESCC will not know exactly how many premises will be left without access to superfast speeds until the end of Contract 2 in December 2017, or until a survey is completed as part of Contract 3.
47. It is unlikely Contract 2 will resolve all of the concerns raised by residents and Councillors after the completion of Contract 1. The plans for Contract 3 are encouraging, although there is no certainty at this stage of the project that it will be possible provide superfast broadband access to all remaining premises.

Recommendations

The Board recommends that:

2. Details of coverage, including maps, are published at the end of Contract 2 and further information is provided to explain how and why finite funding levels may prevent the project from enabling superfast broadband access for some harder to reach premises.

5. Coverage for remaining premises

Contract 3

48. The Board heard that, as part of Contract 3, it should be feasible to examine what may help solve the challenges that exist for the remaining (hard to reach) properties, as there are now fewer of them. It is proposed to include the requirement in Contract 3 to carry out a survey to identify:
 - precisely where the estimated 20,000 remaining properties are located;
 - the nearest network connection point and;
 - an estimate of how much it would cost to provide superfast broadband access to each of the remaining properties.The provision of this information will enable communication with residents and businesses in relation to the cost and delivery of feasible superfast broadband services.
49. The Board also heard that Contract 3 will prioritise those that are experiencing speeds less than 15 Mbps and the service provision to any remaining business parks. The right environment for alternative technologies and smaller suppliers shall be available under Contract 3, although the overall outcomes will still be impacted by a finite level of available funding and the most expensive premises may still need to rely on alternative solutions or funding.
50. Identification and location of business parks can be difficult. After considerable effort, the project team has identified only two remaining business parks that are not yet able to order superfast services and these are now planned to be addressed. Given the importance of business connectivity to the local economy, it is recommended that a direct line of communication is established between ESCC Councillors, Parish Councils (or community leaders) and the project team to notify of any business parks that do not yet have connectivity. These will then be prioritised (subject to overall value for money checks) within either the current or subsequent delivery contracts.

51. It may also be possible to develop community based solutions to provide access to superfast broadband for the remaining hard to reach premises. However, the current Broadband Team does not have sufficient staff resources to work on and implement individual community based schemes, which are not part of Contract 3.

Alternative technologies and delivery methods

52. The Board explored a number of alternative technologies and methods to provide access to superfast broadband speeds.

Wireless to the Cabinet

53. BT can deploy this solution, but do not use this technology as part of the current contracts with ESCC, due to the cost of using point to point wireless as part of their delivery method. The Board heard that this could be used in the short term if it is the only option to 'connect' a property.

Satellite

54. There is a government funded voucher scheme offering up to £350 to offset the installation cost of satellite broadband, and other solutions such as wireless, for those premises that cannot receive a basic (2Mbps) broadband service. The Board heard that there have been some technical advances in superfast broadband satellite schemes, which may overcome some of the limitations of satellite and offer a short-term solution for those experiencing slow broadband speeds.

Universal Service Obligation (USO)

55. Government is consulting on the introduction of a Universal Service Obligation (USO) that would require providers to provide a minimum broadband speed of 10Mbps. However, this may be subject to an affordability cap above which subscribers would have to contribute towards the cost of providing the service. This is unlikely to be introduced until 2020 at the earliest, but could provide a way of providing broadband access to premises not covered by the Broadband Project.

Community based solutions

56. There is evidence that residents in areas where there is no superfast broadband provision, are beginning to club together to find alternative solutions to meet their broadband needs. In some cases, approaches are being made to BT's Community Fibre Partnership and options are being explored to pool funding allocated under the subsidised voucher scheme. There are also other providers offering community based solutions.

Findings

57. The requirement to undertake a survey of the remaining properties without superfast broadband, as part of Contract 3, will enable ESCC to target funding effectively. It will also enable ESCC to be clear about which properties will not have access to superfast broadband at the end of the project. This will enable other providers or community organisations, who may wish to set up projects, to fill gaps in coverage.
58. The priorities agreed for Contract 3 will focus on those premises experiencing slower speeds (less than 15Mbps). The Board also observed that the cost will always restrict the number of hard to reach properties that can be given access to superfast broadband.

59. In order to address the issue of fairness and equality of access, some match funding may be required for community based solutions for those premises that will not be covered by the project, and where people wish to work together to provide their own solutions. An approach similar to the existing 'community match' scheme could be adopted where ESCC provides some funding towards the cost of provision, matched by contributions from the community. ESCC funding could be provided by using some of the Gainshare income from Contracts 1 and 2 if this proves necessary.
60. In order to support community based solutions, ESCC should develop resources such as a toolkit or self-help guide, to help communities who want to implement their own broadband schemes. It will be important to provide information on the technology options available to them (e.g. satellite, fixed WiFi, wireless to the cabinet etc.) and how to go about delivering these solutions.

Recommendations

The Board Recommends that:

- 3. Information is provided at the earliest opportunity outlining those premises that may not be 'connected' to superfast broadband and that the survey results are made available to communities and smaller suppliers to encourage the development of alternative delivery methods.**
- 4. Once the total cost of providing superfast broadband to the remaining premises is known (or can be estimated), the Broadband Team clarifies how those premises receiving the slowest speeds will be prioritised in the context of the remaining available budget.**
- 5. When, and if necessary, a 'community match' type funding programme is established for communities to bid into to pay for community based broadband schemes, in order to provide access for some of the hardest to reach premises not covered by the project, and a 'toolkit' is developed for communities who wish to implement their own broadband schemes.**
- 6. Councillors, business organisations, and Parish Councils are encouraged to contact the Broadband Team with details of any Business Parks that do not have access to superfast broadband, so they can be included in the project rollout.**

6. Residents' Expectations and Project Communications

Expectations

61. The vision statement contained in the Broadband Plan agreed by ESCC's Cabinet at the beginning of the project stated:

"Our ultimate vision is for the competitive provision of superfast broadband (both fixed and mobile), offering typical speeds of 100Mbps, to everyone (100% of homes and small businesses) in East Sussex by 2017."
62. As many services go on-line, having good broadband speeds is becoming essential to daily living. Many people regard broadband as the fifth utility service. For school children, having decent internet access to complete homework and to carry out research is becoming increasingly important. Most Doctors Surgeries encourage patients to order repeat prescription on-line.

63. The Board heard evidence that some residents expected:
- an automatic upgrade to faster broadband speeds without having to subscribe to faster services; and
 - the project funding would be sufficient to enable all properties in East Sussex to have superfast internet access, no matter how remote they are.
64. However, the funding from central government was initially provided to enable 90% of premises *to have access* to superfast broadband under Contract 1. None of the broadband projects nationally, including East Sussex, were given enough funding to provide access to all premises.
65. There is also evidence that that there is a perception that the project has finished, when in fact Contract 2 is half way through delivery (as at March 2017) and Contract 3 has not yet started. Consequently, some people are unaware of the steps that are still being taken to increase coverage and speeds.
66. The issue of fairness and equality of access for all residents, particularly those living in rural communities, was raised in evidence given by ESCC Councillors. It was put to the Board that some consider it inequitable that the occupiers of some premises are enabled to access superfast broadband while others are not. The Review Board recognises (as indeed the County Council recognised, when the decision was made to provide substantive funding for Contract 1) that the eventual aim of the project would be to enable as many premises in East Sussex to be connected to superfast broadband as possible.
67. The Board also noted that 100% coverage is not possible given limited funding and was not an objective of the project at outset. The Board recognises that in the nature of the three Contracts, delivery of broadband access is, of necessity, a staged process because of the technical requirements of the project. However, the eventual achievement of parity has not been ruled out, given the current success of the programme and now increasingly relates to the timing of provision.

Findings

68. The Board considers there have been a number of misunderstandings and misconceptions about the purpose of the project, which has contributed to unrealistic expectations by the public of what the project can deliver. It also appears that some have misunderstood that they need to subscribe to the right broadband package to get faster speeds.
69. The information on the e-Sussex web site, and particularly the rollout information in the News section, addresses people's expectations and common misunderstandings about the project. However, this information is not very prominent and does not explain how the coverage statistics are derived. This may account for why some residents contest the figures and statistics referred to.
70. ESCC needs to communicate clearly that:
- the project may not provide superfast broadband access for all premises with the funding it has available;
 - the project is still ongoing with details of what is being done when;
 - the options available to get better broadband for those who may find themselves without superfast services once the project is completed; and
 - there are other factors that affect broadband speed, beyond the control of the project.

71. It is recommended that lessons are learnt about management of expectations when embarking upon significant projects of this nature. Specific issues have been:

- Understandable concern with residents and businesses seeking to identify if they are within or outside the 90% coverage areas;
- An inequality in provision;

Project Communications

72. The Project Team, with support from the Corporate Communications Team, has:

- provided communications throughout the Broadband Project; and
- provided updates on the progress of the project through the internet site and press releases.

The web site contains up to date rollout information on both Contracts delivered by BT Group. The Project Team has also delivered presentations and briefings to various community and business groups.

73. The Board heard from representatives of the business community that they were well informed about the Broadband Project and project progress. The quality of the information provided by the Broadband Team was considered very good. However, some considered that once premises were enabled to receive superfast broadband, there was still a need to inform businesses that they have to change broadband package in order to benefit from faster speeds.

74. The Board heard that Parishes need to know when and where broadband will be delivered in their area, together with information about the speeds available. Officers explained that information can be provided on where and when broadband will be delivered at post code level on a quarter by quarter basis. However, it is not possible to obtain information on speeds until services are live. Once live, broadband speed information is publicly available from a number of sources (e.g. BT broadband checker, Ofcom broadband app etc.).

Findings

75. The evidence presented to the Board indicates that there is a need to undertake an additional phase of communication activity now that first contract of the project has been completed. There are a number of communication messages that would help:

- address expectations about the project;
- enable residents and businesses to understand what they can do to get faster broadband speeds; and
- enable better understanding what the project is delivering.

76. Councillors have been kept informed about the project delivery. Some Councillors may find it helpful to have an information sheet, or access to other resources about broadband, to assist them with community engagement when dealing with issues in their respective Division.

Recommendations

The Board recommends that:

7. Lessons are learnt about the management of expectations when embarking upon complex projects of this nature, and to avoid “hype” at the outset, so that there is a careful distinction between the actual projected outcomes and aspirations or vision statements.

8. A phased communications plan is developed to address the expectations of residents and businesses in the County regarding the Broadband Project and recommendations 1, 2 and 3 of the review. The plan should include enhancement of the information available, including:

a. A revision of the web site design and information so that project rollout information, frequently asked questions, and other project information is provided more clearly on the Go East Sussex, e-Sussex and ESCC web sites;

b. An information pack (including information sources to check speeds, ISP service offers and etc.) produced to assist ESCC Councillors, Parish Councils and Community Leaders when dealing with broadband issues in their Division or area; and

c. A fact sheet created to address misconceptions about the Broadband Project and some of the frequently asked questions.

7. Concluding comments

77. Overall, the project has achieved good levels of superfast broadband coverage in East Sussex with 90% of premises being enabled to access superfast services. The Broadband Project Team are now planning to exceed this original target through the delivery of the Contract 2 with BT Group and a third procurement underway. Efficient and effective contract management has enabled Gainshare income to be used to fund Contract 3 to provide superfast broadband access to as many of the remaining premises as possible.
78. While there may be some concern by those residents and businesses in the County that superfast broadband may not be achieved in their area, it needs to be understood and communicated that the task of superfast broadband provision is being continued by East Sussex County Council. A second phase of communications activity is needed to address expectations, explain the work that is in progress, and the proposed action to increase superfast broadband coverage to as near to 100% as possible.
79. There may be a minority of premises, at the end of the project, which will be unable to access superfast broadband. In these circumstances information, advice, and some match funding should be provided to help people to find solutions to meet their broadband needs.

Appendix 1

Scope and terms of reference

The Economy, Transport and Environment Scrutiny Committee understands the important role that broadband, and in particular superfast broadband, plays in developing the economy of East Sussex, in support of one of the County Council's Key Priorities.

The scope of the review is to examine the background to the establishment of the project and what has been achieved so far. The review examined the areas of work to be covered by the Contract 2 delivered by BT Openreach, together with the constraints imposed by the Contracts. The review also examined whether the Contract 2 will address the concerns of residents and businesses.

The review included an examination of the information available about the project and how people find out whether and when they will be able to access superfast broadband services.

Review Board Members

Councillors Richard Stogdon (Chair), Claire Dowling, Michael Pursglove, Pat Rodohan and Barry Taylor

Support to the Board was provided by the following officers:

James Harris, Assistant Director, Economy
Katy Thomas, Team Manager Economic Development

Witnesses

Stephen Frith, Independent Advisor to BDUK and ESCC on Broadband
Stephen Edwards, Director, Next Generation Access – BT Commercial
Parish Councils

Jerry Phillips, Isfield Parish Council
Andrew Wedmore, Brightling Parish Council

County Councillors:

Councillor John Barnes
Councillor Angharad Davies
Councillor Kathryn Field
Councillor Roy Galley
Councillor Rupert Simmons, Lead Member for Economy
Councillor Bob Standley

East Sussex Businesses

Christina Ewbank, Association of Chambers in East Sussex (ACES)
Rachel Lewis, Managing Director, Sound Architect/ ENGage
Jeremy Woolger, President & Chairman, Crowborough & District Chamber of Commerce

Review Board meeting dates

**26 July 2016
26 October 2016
11 January 2017
1 February 2017
23 February 2017
1 March 2017**

List of evidence papers

Item	Date
ESCC Cabinet papers – reports and minutes	December 2011
ESCC Cabinet papers – reports and minutes	March 2012
ESCC Cabinet papers – reports and minutes	December 2012
ESCC Cabinet papers – reports and minutes	November 2016
The Superfast (Rural) Broadband Programme: update - National Audit Office Memorandum	January 2015
Members Briefing	October 2015
Rural Broadband and digital only services – Environment, Food and Rural Affairs Committee	November 2015
Members Briefing	December 2015
Emerging Findings from the BDUK Market Test Pilots, DCMS	February 2016
Oral evidence to the Culture Media and Sport Select Committee	April 2016
Digital Economy Bill - Queen's Speech	May 2016
New Broadband Universal Service Obligation consultation Summary of responses and Government response, DCMS	May 2016

Contact officers for this review:

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Appendix 2 Glossary of Terms

ADSL – Asymmetric Digital Subscriber Line is a type of digital subscriber line (DSL) technology, a data communications technology that enables faster data transmission over copper telephone lines rather than a conventional (voiceband) modem can provide. It is ‘asymmetric’ because the line is designed to provide faster download speeds (up to 8 Mbps) than upload speeds.

BDUK - Broadband Delivery UK. BDUK is the Government department located within the Department for Culture Media and Sport (DCMS) responsible for delivering superfast broadband and better mobile connectivity for the nation.

Broadband – A high speed internet connection, distinct from the old dial-up internet ('narrowband') which had a maximum speed of 56Kbps. Broadband is not a particular type of technology and there is no one official definition, so in terms of speed it may be classified differently by governments and regulatory bodies across the world.

Cloud / Cloud technology - Cloud computing is a kind of Internet-based computing that provides shared processing resources and data to computers and other devices on demand. Cloud based applications store data and software on remote computer servers ('the cloud'), rather than on an individual's computing devices.

Contention ratio - Your contention ratio tells you the potential maximum demand on your broadband connection from yourself and other customers. Once your broadband signal leaves your home it joins a line connecting your neighbours and others to the web; so the more people using it at once, the slower it can become. A contention ratio of 50:1 (typical for ADSL broadband) means there are up to 50 people on one connection. This is often why you experience slower speeds during peak usage times.

DSL - Digital Subscriber Line. DSL is a wireline transmission technology that transmits data faster over traditional copper telephone lines already installed to homes and businesses. DSL-based broadband provides transmission speeds ranging from several hundred Kbps to millions of bits per second (Mbps).

With DSL, a different frequency can be used for digital and analog signals, which means that you can talk on the phone while you upload data. For DSL services, two types of systems exist: Asymmetric Digital Subscriber Line (ADSL) and High-Rate Digital Subscriber Line (HDSL).

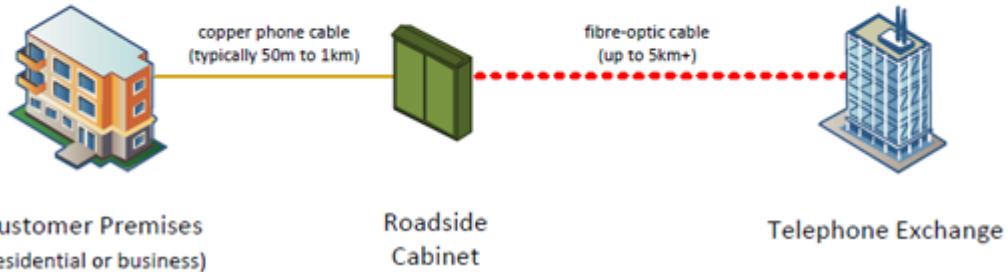
FLAN – Fixed Line Access Network. This is the copper cable telephone network originally developed by BT to provide telephone (voice communication) services.

FTTC – Fibre To The Cabinet. A type of broadband service which uses fibre optic cables to street cabinets then regular telephone or cable lines to reach homes. This is cheaper and quicker to deploy, but speeds are more limited than a full fibre solution like FTTH/FTTP (though still much faster than ADSL). If you sign up for fibre broadband now it is most likely to be FTTC, using either the BT Openreach or Virgin Media networks.

Fibre-the-cabinet (FTTC)

(also known as 'fibre-to-the-kerb')

FTTC broadband means that most of the 'local loop' (the phone line from your premises to the telephone exchange) is using fibre-optic cable, with the last few metres being copper. This means you get faster speeds as the short copper line can run VDSL rather than ADSL technology.

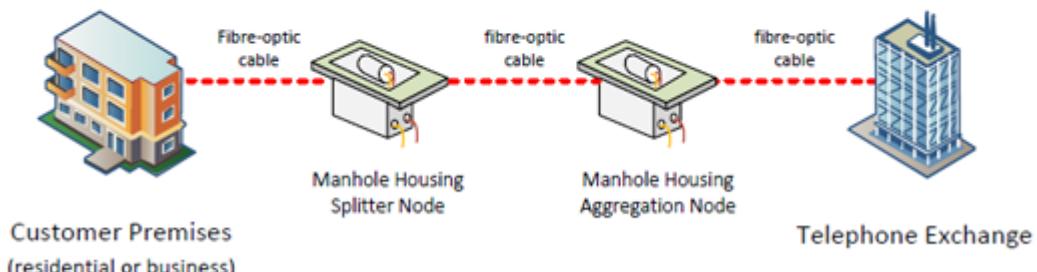


FFTP – aka FTTH – Fibre to the Premises/Home - Fibre To The Home/Fibre To The Premises. These are different terms for the same thing: a full fibre optic broadband connection. The connection speed of such a link is far greater than either ADSL or FTTC. Some FTTH services are now available in the UK and offer home users an incredible 1Gb speed. Vitally, this is not the limit of fibre so it's a future proof technology.

Fibre-the-home (FTTH)

(also known as 'fibre-to-the-premises' / FFTP)

FTTH or FFTP means that your broadband connection is delivered as a fibre-optic service all the way from your home to the telephone exchange. Fibre-optic cabling can deliver the fastest speeds.



(Source: Think Broadband.com)

Fixed Wireless – This is a technology used to provide broadband services, particularly in remote or sparsely populated areas. As the term suggests, broadband access is provided by radio signals (or other wireless link) via a transmitter, rather than a cable, in a similar way to public Wifi hot spots.

ISP – Internet Service Provider. ISP's are the commercial companies and organisations that provide internet and broadband services e.g. BT, Virgin, TalkTalk, PlusNet etc.

NGA – Next generation Access. A term used to describe broadband and mobile communication technologies capable of superfast speeds i.e. greater than 24 Mbps.

Satellite broadband. This is where broadband services are provided via a satellite dish, rather than through a cable network. The signal is sent up to a receiving satellite, and therefore there can be some delay (or latency) in the signals being received. This can mean

that satellite services are not so good for streaming films, videos or other high data capacity applications such as on-line video gaming. There is also often a higher charge or cap for data use, compared with cable based solutions.

Speed - Broadband speed is measured in megabits per second, commonly written as Mb or Mbps (as in 24Mb, or 24Mbps). Megabytes (which is shortened to MB, or GB when referring to gigabytes) - ... denote memory capacity and file size, not speed. There are eight bits in a byte, so, if your download speed is eight megabits per second (8Mb), then that's actually shifting 1 megabyte per second (1MB).

It's an important distinction, because file sizes (such as songs, pictures and movie clips) are described in megabytes, as are download allowances.

Superfast Broadband – 'superfast' broadband is any broadband deemed to run at 24Mb or above. This essentially rules out any service running on old BT lines (ADSL) or any mobile broadband up to and including 3G: leaving us in the UK with 4G (potentially), fibre and cable as 'superfast'. The UK government has made a commitment to have superfast broadband available to 95% of the UK by the end of 2017.

USC – Universal Service Commitment / USO – Universal Service Obligation. These terms tend to be used interchangeably to refer to the minimum statutory service that broadband providers are required to provide. The current USC/USO is 2Mbps and the Government is currently consulting on proposals in the Digital Economy Bill to raise this to 10Mbps.

For example if a USO of 10 Mbps were to be introduced, BT, Virgin and other providers would have to provide access to broadband services of a minimum speed of 10Mbps. However, this may be subject to a reasonable cost threshold above which subscribers would have to pay for access.

VDSL – Very-high-bit-rate Digital Subscriber Line. A digital subscriber line (DSL) technology providing data transmission speeds faster than an asymmetric digital subscriber line (ADSL). VDSL offers speeds of up to 52 Mbit/s download and 16 Mbit/s upload, over a single flat untwisted or twisted pair of copper wires using the frequency band from 25 kHz to 12 MHz. These rates mean that VDSL is capable of supporting applications such as high-definition television, as well as telephone services (voice over IP) and general Internet access, over a single connection.

4G Mobile Communications. This refers to 'Fourth Generation' mobile telephone networks that are capable of providing superfast or Next Generation Access (i.e. greater than 24Mbps) data services. Hence they are seen as alternative to superfast broadband in areas where there is no fixed line network (copper or fibre).

Appendix 3 The SWIFT Project case study from Sound Architect/ ENGage

The Board heard evidence from Sound Architect / ENGage who are a charity that delivers the Swift Project and other projects that promote digital access.

Full details of their work can be found on their web sites <http://www.swiftproject.org.uk/> and www.soundarchitect.org.uk

Some quotes about broadband in East Sussex from Swift Programme participants:

“I have to say that as a potential customer I wasn’t particularly looking forward to our Skype session today but I am now feeling very modern and delighted to have been a Swift Skype pioneer.” BN

“The Skype technology worked, it was very successful and I think we all got a lot out of it. For me it will never completely replace actual meeting up but I can see it is another very useful tool to use in addition or to replace some face to face meetings.” ST

“As a non-digital person at the start of the course, I do feel more confident about trying out things such as social media and I have a much better grasp of how the digital world can affect a small business.” AC

“In all reality, we wouldn’t have been able to run this project without good Broadband connectivity as a lot of publicity was circulated online, all participant arrangements were made online and in order to run courses on Social Media (our most popular course) it was essentials to have good connectivity.” RM Swift Project Manager

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Agenda Item 6

Committee:	Scrutiny Committee for Communities, Economy and Transport
Date:	15 March 2017
Report By:	Director of Communities, Economy and Transport
Title of Report:	Review of East Sussex County Council's Dutch Elm Disease Strategy
Purpose of Report:	To review progress in delivering the Dutch Elm Disease Strategy, which was adopted in 2013

RECOMMENDATION: It is recommended that Scrutiny Committee continues to support the Dutch Elm Disease sanitation programme.

1. Background

1.1 A Scrutiny Committee review of trees and woodland policy took place in March 2012. In March 2013 Scrutiny Committee endorsed a new strategy for managing Dutch Elm Disease (DED), based on evidence that this would provide the most effective means of maintaining a significant population of English Elm at least cost to the County Council. In March 2015 Scrutiny Committee reviewed progress in meeting the objectives of the strategy and agreed to continue to support the approach being taken to managing DED. This report provides the second progress report as to whether the objectives of the strategy are being met and whether continuing the DED sanitation programme remains a better option than stopping the programme.

2. Supporting Information

2.1 The strategy, which is set out in Appendix 1, sets out the objectives of the DED sanitation programme. These are to:

- 1) Ensure the long-term survival of a significant population of mature English elm, as this population makes an important contribution to the local landscape, provides a habitat to a number of threatened species, and is considered by Natural England to be of regional importance.
- 2) Assist in managing the health & safety risk of DED on the highway and schools;
- 3) Ensure the most cost effective approach is taken.

2.2 The 2013 strategy was largely based on modelling work carried out for the County Council by the University of Cambridge. The modelling report is set out in Appendix 2. This work concluded that controlling DED should be less costly in the short and medium term than stopping the sanitation programme because fewer trees would need to be felled than if DED was allowed to spread unchecked.

2.3 The table below provides a comparison between:

- 1) The number of trees felled and the cost of felling to the County Council if the sanitation programme was stopped (row 2, called 'no control');
- 2) The number of trees felled and the cost of felling to the County Council predicted by the Cambridge model (row 3);
- 3) The number of trees felled between 2012-16 and forecast to be felled over the next 20 years, and the associated costs to the County Council (row 4).

Table 1.

Approach	Elm numbers after 10 years	Elm Numbers after 25 years	Number of elms felled in 10 years	Number of elms felled in 25 years	Cost of control 10 years	Cost of control 25 years
No control	7000	6000	5210	5210	£1,228,000	£1,228,000
Model predictions	14000	14500	6500	16250	£705,800	£1,764,500
Actual & forecast	14000	14500	8150	9520	£814,900	£1,318,500

The main conclusions from table 1 are similar to the conclusions presented to Scrutiny in 2015, namely that:

- 1) Stopping the sanitation programme would be more costly to the County Council over the short and medium term than continuing the programme, because stopping the programme would lead to the rapid spread of DED and, therefore, the need to fell a large number of diseased trees on the highway and on ESCC land to manage the Health & Safety risk;
- 2) Continuing the sanitation programme becomes more expensive than stopping it over the longer term, because the programme is an open-ended financial commitment, as DED currently cannot be eradicated;
- 3) Continuing the sanitation programme enables a larger population of healthy mature elm trees to survive than stopping the programme because fewer trees would become infected.

2.4 As was highlighted in the reports of 2013 and 2015, it is important to note that there is considerable uncertainty with forecasting the effectiveness of the DED sanitation programme. This is because the rate of spread of infection is not well understood, which means that the Cambridge model includes a number of simplifying, and possibly inaccurate, assumptions. In addition, there are a number of other variables that we cannot take into account, for example the effect of climate change and water stress, or the predicted effects of other tree diseases. Consequently, whilst independent experts in the field (e.g. the Forestry Commission) conclude that the sanitation programme is based on the most up-to-date knowledge of DED and is the best approach to managing DED, the figures used in this report should be taken as an indication of the direction of travel rather than firm estimates of what will happen in future.

3. Conclusion and Reason for Recommendation

3.1 It is recommended that Scrutiny continues to support the DED sanitation programme, as the evidence continues to indicate that this provides the most effective means in the short and medium term of maintaining a significant population of English Elm at least cost to the County Council.

RUPERT CLUBB
Director of Communities, Economy and Transport

Contact Officer: Andy Arnold
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LOCAL MEMBERS

All

BACKGROUND DOCUMENTS

None

Appendix 1 – ESCC Dutch Elm Disease Strategy (2017)

Background

In 2012 ETE Scrutiny Committee carried out a review of the Dutch Elm Disease (DED) sanitation programme to decide whether to continue or stop the programme. The recommendation was to maintain the programme, as long as it continues to:

- 1) ensure the long-term survival of a significant population of mature English elm, as this population makes an important contribution to the local landscape, provides a habitat to a number of threatened species, and is considered by Natural England to be of regional importance.
- 2) Assist in managing the health & safety risk of DED on the highway and in schools;
- 3) Be delivered in the most cost effective way.

This strategy was developed in 2013 to set out how these objectives are being met. ETE Scrutiny Committee reviewed a progress report against this strategy in March 2015. This is a further review of progress between 2012-16 against the objectives of the strategy.

What is DED and how can it be managed?

DED is estimated to have killed approximately 25 million elms in the UK since the late 1960s. ESCC established a DED control programme in 1971. The South Downs Joint Committee managed the programme for the area between Brighton and Eastbourne for most of its existence, on behalf of ESCC. ESCC subsequently took over the delivery of the programme from April 2011 when the South Downs National Park Authority came into being.

The East Sussex DED control zone holds the world's largest known population of English elm. Together with other varieties of elm, it's estimated that the total population of mature trees in East Sussex in 2016 was approximately 16,000, which is about 2% of the total number of trees found outside woodland in East Sussex.

Elm trees are concentrated in particular areas, notably the coastal towns and relatively low-lying clay soils behind the Downs and along the valleys running through the Downs, due to factors such as soil and climate. Consequently, whilst the total number of Elm trees is relatively small, they often make up a significant percentage of the tree species within the areas in which they are found. Elms have survived in these areas due to natural protection from the sea and the Downs and as a result of the DED control programme.

DED is caused by a fungus which is transmitted from tree to tree by two types of elm bark beetle, or via interconnecting roots between two or more trees. The fungus causes elms to block their own water conduction system in an attempt to cut off the spread of infection, resulting in wilting and death of the foliage and the slow death of infected limbs. Symptoms first appear in early spring/early summer (depending on

the weather) and last until the trees shed their leaves in the autumn. The beetles tend to move between trees when the temperature is between 16-20°C, hence the spring-autumn period has tended to be the operational DED ‘season’. Trees that are suitable for beetles to breed in need to be of a suitable size (about 15 years old) and condition.

Currently, there are no means to eradicate DED which means that a programme to manage the spread of DED is an open-ended financial commitment. The most effective means of containing the disease is through a combination of methods to minimise the beetle population. The main action is to fell infected trees, or parts of trees, and burn these to prevent further spread of the disease. Trunk girdling can also prevent the spread of the disease via the roots, and a new vaccine has been developed which is believed to protect elms from the fungus.

The DED Order 1984 empowers, but does not require, Local Authorities to serve notice on owners of diseased trees, to fell them and dispose of them appropriately. Should this not happen in the time period advised, the Order permits an appropriate officer to serve notice, to enter private land and to organise felling or other work necessary to control the spread of DED, with the costs recoverable from the landowner. ESCC has not yet chosen to invoke this Order.

What is the best way to manage DED?

In 2012/13 ESCC worked with DEFRA’s Food and Environment Research Agency (FERA) and the Department of Plant Sciences at the University of Cambridge to compare whether the objectives set out above are best met by stopping or continuing the DED sanitation programme. The modelling report produced by the University of Cambridge is included as Appendix 1. It concludes that:

- 1) the sanitation programme would enable a larger population of healthy elm trees to survive;
- 2) the cost of the sanitation programme should gradually reduce as the spread of DED becomes more contained.

This conclusion was accepted by Scrutiny Committee in March 2013. The progress report to Scrutiny in March 2015 indicated that the number of trees that were being felled each year reduced between 2012-14. This further update report shows that the number of trees felled between 2014-16 has reduced further. This has enabled an 11% cut in the DED budget between 2012-16. Table 1, and figures 1 and 2 below, provide a comparison between what has happened in practice between 2012-16, what was modelled by the University of Cambridge, and what was estimated would happen if the sanitation programme was stopped.

Table 1 compares the costs and effectiveness, over a 10 year and a 25 year period since 2012, of:

- 1) stopping the sanitation programme, which would lead to the rapid spread of DED and the need to fell diseased trees on the highway and ESCC land for perhaps 7 years (estimated by the model produced by the University of Cambridge);

- 2) the number of trees that would need to be felled, and the associated costs, if the spread of DED occurred in the manner predicted by the Cambridge model;
- 3) the actual number of trees felled and the associated costs to date (ie. between 2012-16) and an extrapolation of these figures over the remaining 20 years (ie. from 2017 to 2037).

Table 1.

Approach	Healthy elm population after 10 years	Healthy elm population after 25 years	Number of elms felled in 10 years	Number of elms felled in 25 years	Cost of control 10 years	Cost of control 25 years
No control	7000	6000	5210	5210	£1,228,000	£1,228,000
Model predictions	14000	14500	6500	16250	£705,800	£1,764,500
Actual & forecast	14000	14500	8150	9520	£814,900	£1,318,500

These figures are based on similar assumptions to those included in the reports to Scrutiny in 2013 and 2015, to ensure consistency over time. The key assumptions are:

- 1) the percentage split between where diseased trees are located, which dictates most of the costs (ie. 6.5% of diseased trees are street trees, 16% are on the highway, 3% are on ESCC's estate and 74.5% are on private land);
- 2) the costs to the County Council of felling diseased trees (ie. £420 per street tree, £60 per tree on the highway and ESCC estate, and £33 per tree on private land). The much higher cost for street trees is mainly because of the need to grub out stumps, as well as the additional health & safety requirements for working on the highway.

The main conclusions from table 1 are that:

- 1) stopping the sanitation programme is more costly over the short and medium term than continuing the programme, because stopping the programme would lead to the rapid spread of DED and, therefore, the need to fell large number of diseased trees on the highway and on ESCC land for perhaps 7 years to manage the Health & Safety risk;
- 2) continuing the sanitation programme becomes more expensive than stopping it over the longer term, because it's an open-ended financial commitment as DED currently cannot be eradicated;
- 3) continuing the sanitation programme enables a larger population of healthy mature elm trees to survive than stopping the programme because fewer trees would become infected.

Therefore, continuing the sanitation programme would meet two of the main objectives of the DED programme more effectively than if the programme is stopped.

Figure 1 provides a visual comparison of the number of trees:

- 1) felled in practice between 2012-16 and forecast to be felled over the next 20 years ('actual and forecast');
- 2) that were predicted that would need to be felled by the Cambridge model ('expon. (model)').

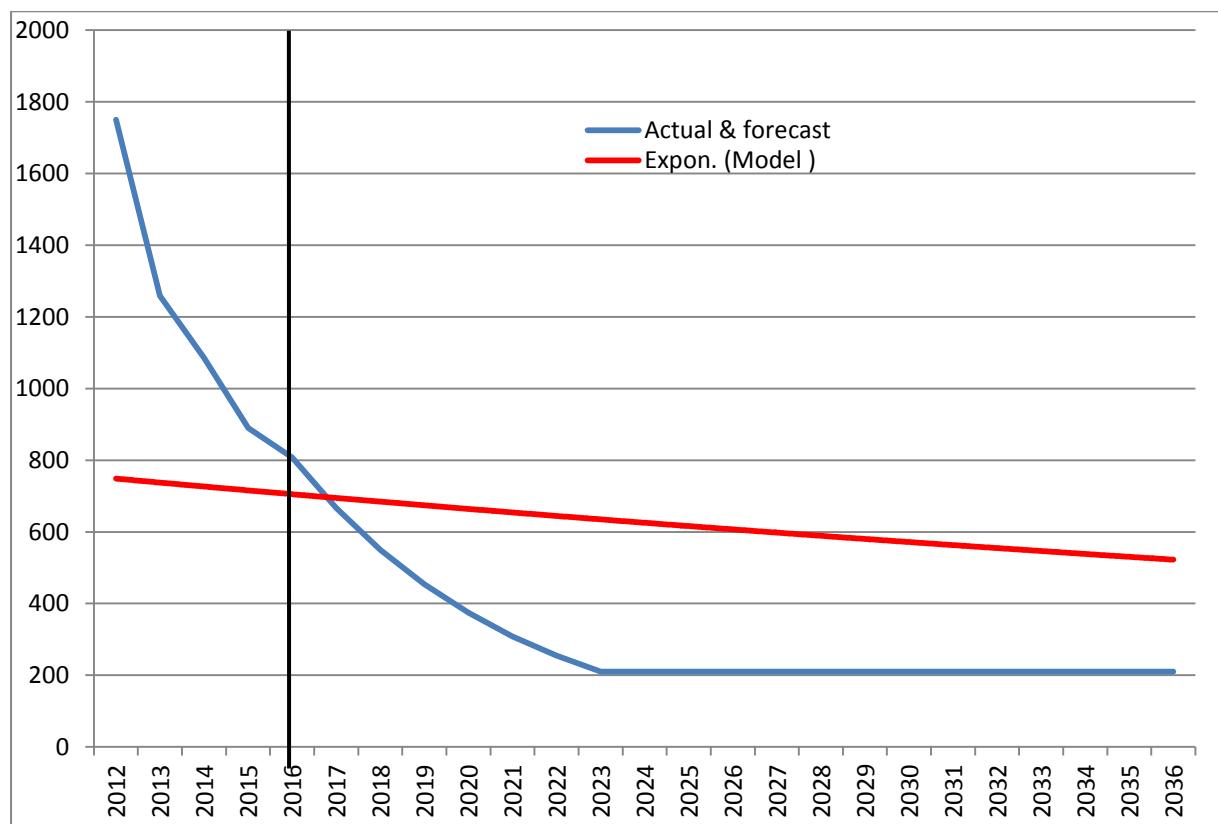


Figure 1.

The black line shows where we are in 2016. The main conclusion from figure 1 is that there has been a large reduction every year for the last 4 years in the actual number of trees that have become infected and have been felled, which is broadly in line with the conclusion from the Cambridge model.

The main assumptions underlying figure 1 are that:

- 1) the number of trees that will need to be felled in practice will continue to reduce for about a further 5 years, though the rate of reduction will gradually slow down;
- 2) we will reach a more stable level of felling, which is guesstimated at about 1.5% of the total health elm population. This is based on the long-term experience of the sanitation programme in Amsterdam, where approximately

0.5% of the total population is felled every year. A higher percentage has been assumed for East Sussex because it's more difficult to manage DED in a rural area where most of the elm trees are on private land.

It is important to note that there is considerable uncertainty with forecasting the effectiveness of the DED sanitation programme. This is because the rate of spread of infection is not yet well understood, which means that the Cambridge model includes a number of simplifying, and possible inaccurate, assumptions. In addition, there are a number of other variables that we cannot take into account, for example the effect of climate change and water stress, or the predicted effects of other tree diseases. Consequently, whilst independent experts in the field (eg. the Forestry Commission) conclude that the sanitation programme is based on the most up-to-date knowledge of DED and is the best approach to managing DED, the figures used in this report should be taken as an indication of the direction of travel rather than firm estimates of what will happen in future.

The vaccination programme

In 2016 funding from the Conservation Foundation enabled ESCC to trial a DED vaccine used in Amsterdam and parts of the USA. The vaccine was cleared for use in the UK in early 2016 and appears to have a 99% success rate. Due to the late availability of the vaccine, it was trialled on several street elms in Seaford, all of which have survived to date in an area where DED is prevalent. In spring 2017 ESCC will trial the vaccine in Eastbourne, where there are a number of street elm trees. As with all vaccines, it works by triggering an immune response in the tree, which lasts one season. Should the tree become infected with DED, the immune response to the fungi is much faster, causing it to be trapped within the infected limb rather than being able to spread through the entire tree, which kills the tree. A cost analysis will be carried out to see whether vaccinating the street elms of Eastbourne and carrying out remedial pruning each year is more cost effective than felling and removing mature diseased elms each year.

The DED control strategy 2017 onwards

1. The key objective of the sanitation programme will continue to be the reduction of the beetle population by continuing to fell trees with beetles in them within the existing control zone. This will entail:

- 1) Removing trees containing grubs (brood trees) or in condition to contain grubs (host trees).
- 2) Using host trees spotted late in the season as trap trees, which will be felled during colder weather.

2. Costs: the cost of the programme will continue to be assessed every year and reduced incrementally, at appropriate stages. This will include reducing the current full time DED Officer role to a part time role, to reflect the reduction in the number of trees felled, balanced against the additional time that may be required if the vaccination programme proves successful. The contribution of 75% of the felling

costs by private landowners when trees are on their land will continue, as will efforts to secure further external funding contributions.

3. The control zone: elm trees on the periphery of the control zone will be inspected to avoid 'flare-ups' within the control zone. This may entail felling trees that pose a significant threat to important areas on the edge of the control zone.

3. Contractors:

- 1) We will continue to use a number of local and/or regional contractors, procured in accordance with Standing Orders to ensure value for money, to ensure continuous work can occur across the control zone.
- 2) Contractors work is monitored routinely, including burn sites/yards to ensure that they are not increasing the risk of spreading DED. Currently 6 contractors have yards within the control zone.

4. Felling process:

- 1) Prioritise the felling of trees:
 - a. currently being used as a beetle breeding habitat within the shortest period of time possible.
 - b. able to be used as a breeding or over-wintering habitat during that season within the shortest period of time possible (unless trees can be used as 'trap trees' (i.e. to 'trap' breeding beetles).
 - c. depending on the risk they pose, for instance in reducing the risk of infection to healthy Elm populations in Eastbourne and Brighton & Hove.
- 2) Assess any site risks before work is commissioned and monitor hazards (e.g. before and after photos, photos of buildings or other risks, check contractors risk assessments).

5. Surveying and mapping: continue to survey and map trees between the B2124 and A27 to decide if boundary readjustment is necessary.

6. Communications:

- 1) actively promote the control programme through the media through press releases linked to key messages.
- 2) Engender a sense of personal and community responsibility and encourage residents and staff to get involved with protecting the elm population of East Sussex by:
 - a. Promoting the ESCC DED webpage and Facebook page;
 - b. Promoting the Highways contact centre;
 - c. Using the intranet and departmental newsletters;
 - d. supporting Parish Tree Wardens.
- 3) Key spokespeople:
 - a. East Sussex County Council Lead Cabinet Member for Transport and Environment, for messages relating to policy.
 - b. DED Officer, for technical messages.

7. Partnership working:

- 1) Work with ESCC's external funding team to seek additional funding for sanitation and replacement planting.

- 2) Work closely with the South Downs National Park Authority, for assistance regarding the use of volunteers and staff, and potential sources of funding. Work closely with key landowning organisations and individuals (eg. the National Trust, Firle Estate). 4) Work in partnership with BHCC and Eastbourne BC (eg. on the vaccination programme).

8. Monitoring & reporting:

- 1) Maintain the existing database with information on each infection site (e.g. land owner name, address, number of trees, quotes, etc).
 - 2) Continually assess and monitor the work of contractors throughout season.
- Provide a brief annual report on progress on implementing this strategy, covering:
- a. Numbers of trees felled and at what cost;
 - b. Changes in the total elm population;
 - c. Review of the assumptions made above, to incorporate relevant new evidence;
 - d. comparison with the Cambridge model.

9. Other tree diseases:

- 1) Continue to work with Kent County Council's Ash Die-Back Strategic Coordinating Group.
- 2) Update ESCC departments with strategic policies formed by DEFRA.
- 3) Acute Oak Decline and Sudden Oak Death are not prevalent in East Sussex but are being managed further north (Suffolk, Norfolk, Midlands).

10. Key risks:

Risk	Potential impact	Measure to address risks
Beetle population increases as elm population increases.	A larger beetle population will increase the amount of infection.	The prioritised approach aims to reduce elms that are host or brood trees.
Length of season increases (eg. due to climate change).	Earlier springs and later autumns could increase the number of beetle breeding cycles, increasing the beetle population and subsequent spread of infection.	Ensure adequate budget to clear all priority trees, to manage beetle numbers.
Disease spread by storing and transporting diseased wood.	Unknown beetle breeding sites cause unpredictable 'flare ups', by storing brood wood or transporting brood wood from areas of high infection to areas of low infection. Increases costs.	Monitoring of burn sites & wood yards. Awareness-raising amongst contractors, key landowners and the public.

11. Replanting: a pilot replanting scheme was carried out in 2015 using elm that may be disease-resistant. Their progress will be monitored to determine its effectiveness before deciding whether to allocate any budget to re-planting.

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Modelling control of Dutch elm disease in East Sussex

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1 Introduction

1.1 What is being compared?

Control of Dutch elm is investigated, comparing three potential control strategies.

- **Historical.** Cut down known infected trees that are still alive, but ignore any infected trees that have died.
- **Prioritised.** Cut down any known dead infected trees if they are judged to have died recently enough to be suitable for beetles to breed in, but ignore trees that have been dead for longer than this.
- **None.** Do not cut down any trees.

1.2 How are the strategies compared?

A spatially-explicit stochastic compartmental model of Dutch elm disease in East Sussex is built and parameterised. This mathematical model is used to investigate how the different control strategies fare over ten and twenty-five year time scales, and how key outputs such as the total number of trees lost to disease or control respond to changes in key parameters.

2 Methods

2.1 Host landscape

The host landscape is taken from the GIS data sent by Anthony Becvar on 17th Jan 2013. This is a map showing the position of all known semi-mature, mature and over-mature elms within the East Sussex control zone (see Figure 1), together with metadata detailing whether trees are known to be infected and/or are in “woodland”. There are approximately 16000 trees across the region, of which approximately 4000 are in woodland locations, and of which nearly 700 are known to be infected.

2.2 Host demography

The GIS data set the initial configuration of hosts in the model. However, Dutch elm disease and control both lead to removal of elm trees, and the historical rate of control (≈ 1200 trees removed per year) suggests the current elm population would be totally depleted well within the timescales considered here, even if the only source of tree death were control by East Sussex Council. A simple representation of demography is therefore included in the model, mainly to ensure the pathogen can persist. In particular, every time a host is removed, either because it has been removed by control or because it was killed by the disease long enough ago that it would have become epidemiologically inert, a new host appears as the daughter of a randomly chosen woodland “mother” tree. The position of the daughter tree is chosen uniformly within a circle of radius R_d metres centred on the position of its mother (see also Table 1, in which all parameters are summarised). The mother of this “replacement” tree is chosen randomly out of the set of tree located in woodland across the entire landscape. This means that the local

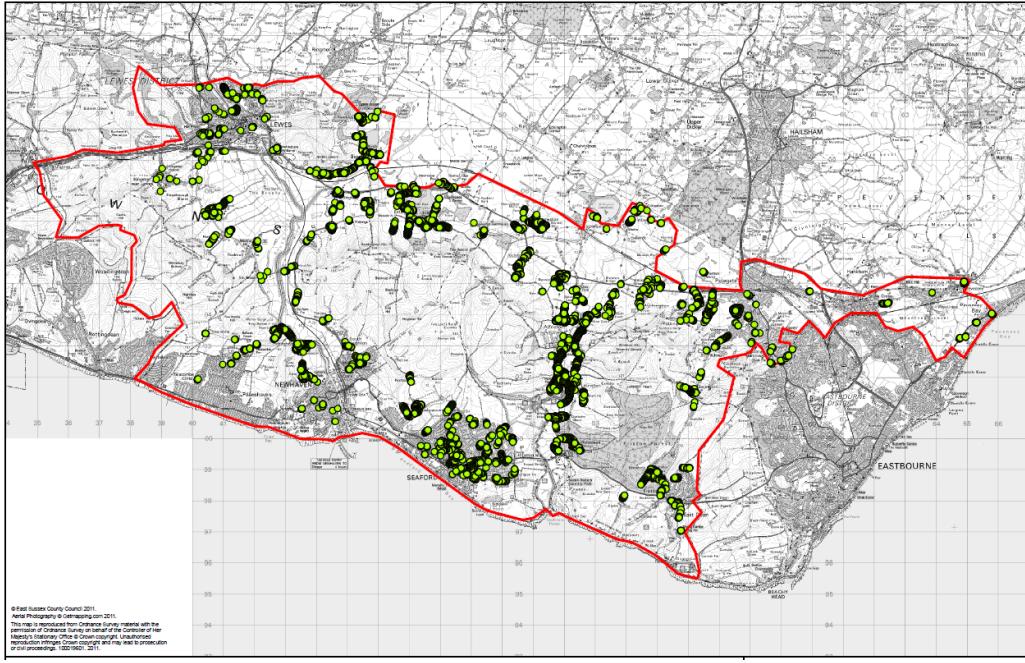


Figure 1: The East Sussex Dutch elm control zone: note this region excludes a number of nearby areas in which Dutch elm disease is present, e.g. Brighton and Eastbourne, although note that Lewes is included in the zone.

density of elms across East Sussex changes over time and in each run of the model. However it also avoids the immediate re-infection that would almost certainly follow putting the new tree near the dead tree it replaced. To avoid unrealistically high rates of elm replacement, only up to a maximum of N_{max} rebirths per year are permitted.

2.3 Epidemiological modelling

The modelling concentrates exclusively on semi-mature, mature and over-mature elms. At any time, any single tree can be categorised into one of the following five disjoint epidemiological classes (see also Figure 2)

1. **Susceptible (S).** Healthy elms that have not been infected.
2. **Exposed (E).** Very recently infected elms that are still alive, do not show symptoms, and have not yet become infectious.
3. **Live infected (LI).** Recently infected elms that are still alive, do show symptoms, and are able to infect other trees.
4. **Dead infected (DI).** Infected elms that have been killed by the pathogen, show extensive symptoms (since they are dead), and are able to infect other trees, primarily by acting as breeding sites for the beetles that vector the spread of the fungus.
5. **Removed (R).** Elms that have been killed by the pathogen but have been dead for so long that they are no longer a potential beetle breeding ground, and so are epidemiologically inert.

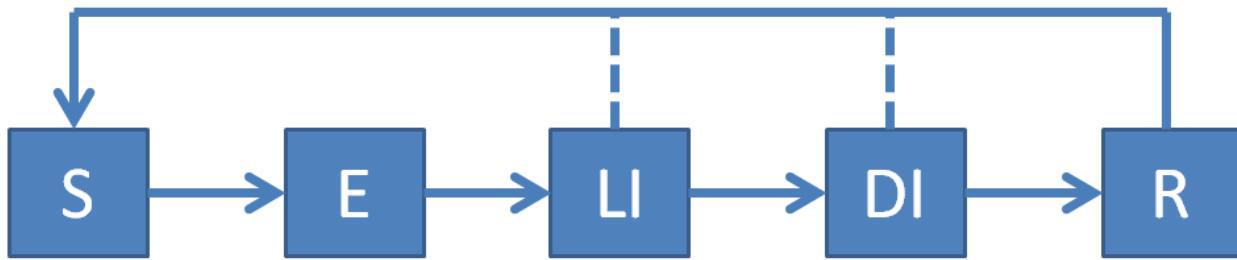


Figure 2: *The structure of the epidemiological model.* Lines linking compartments show transitions that can be made by an individual host. Note the influx into the (S)usceptible compartment: this corresponds to a new replacement tree appearing when a tree is removed by entering the (R)emoved compartment (i.e. long dead and epidemiologically inert). The dotted lines indicate that tree replacement may also occur when a detected and infected tree from either of the LI (i.e. live infected) or DI (i.e. dead infected) compartments is cut down, at least when certain types of control are performed.

In essence the epidemiological modelling fixes the rates of the following transitions between these classes.

1. $S \rightarrow E$. This corresponds to infection, and occurs at a rate which depends on the time of year and on the number and relative positions of other trees that are infected (see below).
2. $E \rightarrow LI$. This corresponds to the onset of infectivity, and takes 50 days on average.
3. $LI \rightarrow DI$. This corresponds to tree death, and takes 400 days on average.
4. $DI \rightarrow R$. This corresponds to trees becoming unsuitable for beetle breeding, and takes 365 days on average.

The rates of the $E \rightarrow LI$, $LI \rightarrow DI$ and $DI \rightarrow R$ transitions are taken directly from Harwood (2011). Note that sojourns are additive, so on average a tree takes approximately 2 years, 3 months or so (i.e. $50 + 400 + 365$ days) from the time it first becomes infected to the time at which it is no longer suitable for beetles to breed in. However, because the model is stochastic, the exact time spent in any class varies from tree to tree and from run of the model to run of the model.

2.3.1 Susceptible to exposed transition (i.e. $S \rightarrow E$)

This transition controls how fast infection spreads. There are three distinct ways in which a susceptible tree can become newly infected (i.e. “exposed”)

1. **LI transmission.** Live trees transmit infection to nearby trees.
2. **DI transmission.** Dead trees transmit infection widely since they act as a home for breeding beetles which go on to infect other trees when they emerge.
3. **External transmission.** Susceptible trees can be infected by beetles that fly in from outside the control zone carrying the pathogen.

In my model the rate at which susceptible tree i becomes exposed is given by

$$\lambda_i = \omega(t) \left(\beta \left(\rho \sum_{j \in \Omega_{LI}} K_{LI}(d_{ij}) + \sum_{j \in \Omega_{DI}} K_{DI}(d_{ij}) \right) + \epsilon \right), \quad (1)$$

where d_{ij} is the distance between tree i and a particular infected tree j , Ω_{LI} is the set of indices of live infected (LI) trees, Ω_{DI} is the set of indices of dead infected (DI) trees and β is the global rate of infection. Note that the infection rate β is the parameter varied to match the historic rate of infection, and so to make my model “match” the spread of the pathogen in East Sussex (see “Estimating the rate of infection”, below). The function $\omega(t)$ is equal to one between the start of April and the end of October and zero otherwise; this ensures that infection only occurs during this part of the year. The parameter ϵ controls the rate at which trees are infected from sources outside the control zone: based on discussions with Anthony, this was set such that an average of 200 trees are infected by this pathway per year¹. This parameter does not vary spatially (e.g. with distance from the edge of the East Sussex control zone) in the model, since I did not have data to parameterise the fall off in rate according to the distance from the edge of the control zone that is almost certainly present in practice.

The two functions K_{LI} and K_{DI} are “dispersal kernels” associated with live and dead trees, respectively, and control how the probability of transmission drops off according to the distance between a pair of hosts. I use the Cauchy kernel to model transmission from DI trees, with

$$K_{DI}(d; \alpha_{DI}) = \frac{1}{1 + \left(\frac{d}{\alpha_{DI}}\right)^2}, \quad (2)$$

and where α_{DI} is a measure of median distance of disease spread (equivalently a median distance of beetle flight), which I take to be 150 m. Although half of all dispersal is within 150m, the Cauchy kernel is a member of the broader class of so-called “thick tailed” power law kernels, and permits occasional dispersal over far longer distances (up to several kilometres). Both the form of this kernel and median dispersal come from Harwood. Transmission from live infected trees is dominated by transmission through a shared vascular system: I model this root to root pathway using the exponential kernel

$$K_{LI}(d; \alpha_{LI}) = \exp\left(-\frac{d}{\alpha_{LI}}\right). \quad (3)$$

Transmission by this route is more spatially restricted, since only nearby pairs of trees are joined by their roots. I take $\alpha_{LI} = 5$ m as a typical scale for root to root transmission (based on discussions with Anthony).

The final parameter δ controls the relative infectivity of a live vs. a dead infected tree. Again I follow Harwood in setting this so that dead infected trees lead to twice the rate of infection compared to live infected trees (i.e. I take $\delta = 0.5$). However the sharp drop off in the infection kernel of LI trees means that DI trees have many more chances to infect over the entire landscape of trees, and if this is not accounted for the infectivity of LI trees is greatly

¹Strictly speaking, ϵ is a per capita rate set such that 200 trees would be infected if the population were entirely susceptible. Assuming the disease is circulating in East Sussex, there would therefore actually be slightly fewer than 200 primary infections per year (since infection of a tree cannot occur twice in the model).

understated to the extent that LI trees would barely infect at all. I therefore normalise for this by interpreting δ as the relative rate of infection averaged across the entire landscape, and set the parameter ρ in Equation (1)

$$\rho = \delta \left(\frac{\sum_i \sum_{j,j \neq i} K_{DI}(d_{ij})}{\sum_i \sum_{j,j \neq i} K_{LI}(d_{ij})} \right). \quad (4)$$

Note the double sum itself averages over all possible interactions between all pairs of trees.

2.4 Modelling detection, control and the budget

2.4.1 Detection

The “average” tree is examined approximately yearly, and this is ensured in the model as follows.

- At the start of each year the set of all trees is randomly divided into 12 equally-sized groups².
- Trees in group n are examined on day $30(n - 1)$ of the year, i.e.
 - trees in the first group are examined after 0 days;
 - trees in the second group are examined after 30 days;
 - ...
 - trees in the twelfth group are examined after 330 days.

Note that a “year” in the model is actually 360 days long, for simplicity.

- Infected trees are detected with probability $p = 0.9$ on any single round of examination (note the probability of detection is independent of whether the tree is still alive or has died, based on Anthony’s input).

While the mechanism used is admittedly rather simple, it does ensure that all trees are visited every year, and at roughly the correct rate.

2.4.2 Control

Whenever an infected tree is detected as described above, an element is added to the model’s “control list”. This is a list of known infected trees flagged to potentially be removed at some date in the future, kept sorted by date of potential removal. The model continuously checks the earliest element of the control list (i.e. the next control that could be performed). There are three scenarios to be considered.

- **No Control.** Although the control list is checked, it is otherwise entirely ignored, and so no infected trees are cut down.
- **Historic.** Whether or not a particular detected infected tree is added to the control list depends on its status at the time of detection (t_{detect})

²Note the model uses a different partitioning on each year and in each run of the model.

- If the tree has already died by t_{detect} it is ignored and not added to the control list.
- If the tree is still alive at t_{detect} then it is added to the control list.
 - * The tree is flagged to potentially be cut down at some later date;
 - * A delay t_{delay} is chosen according to a sample from the probability distribution shown in Figure 3.
 - * The time of potential control, $t_{control}$, is set to be

$$t_{control} = t_{detection} + t_{delay}. \quad (5)$$

- * If the tree is still alive at $t_{control}$ it is actually removed.
- * If it has died by $t_{control}$ it is ignored.

- **Prioritised.** Here detected trees are not cut until they have entered the DI class.

- Both living (LI) and recently dead (DI) trees are added to the control list on first detection
 - * For a LI tree the historical distribution of delay times (see Figure 3) is used to set the time at which it is first considered for potential control.
 - * For a DI tree, control is set to potentially occur at a random time within one month of detection.
- In either case, at the time of potential control the tree is only cut down if it is dead (i.e. is in class DI).
- This means that known infected LI trees are not controlled until they die.
- In particular, after the first examination of a tree that remained LI, it is revisited monthly to check whether it has entered the DI class. Control actually occurs in the first month the tree in question is noticed to be dead.

2.4.3 Budget

The model can represent a fixed budget for cutting trees. In particular, it keeps a running count of the number of trees that have been cut down since the start of January of the current year (say n). This number is reset (i.e. $n = 0$) at the start of each year. The budget then controls the maximal number of trees that can be cut within any single year, say C . At any time a tree would be cut in either the historical or prioritised approach then the following procedure is followed.

- If $n < C$ (i.e. if budget remains)
 - Control happens.
 - The running count n is increased by one.
- If $n = C$ (i.e. if the budget is exhausted)
 - Control does not happen.
 - The running count n is unchanged.

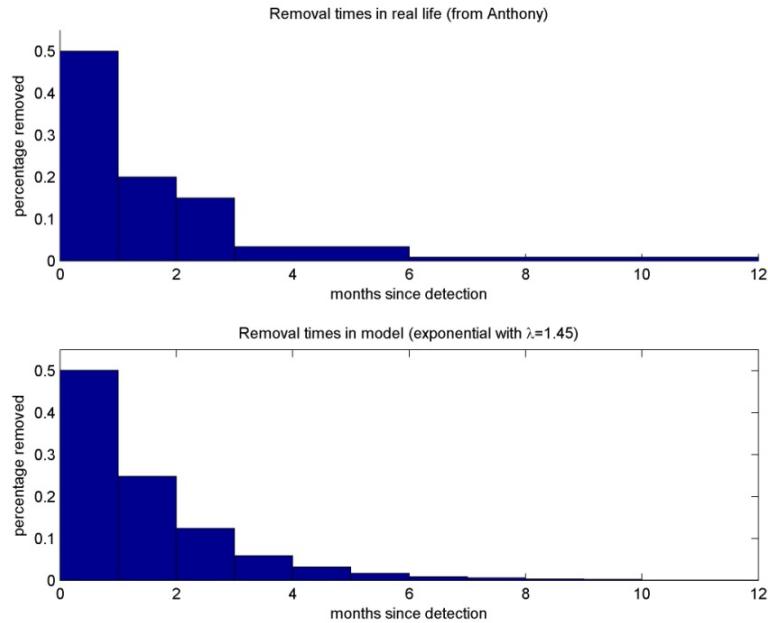


Figure 3: The distribution used to model the delay between detection and control: the top panel shows the distribution extracted from the data given to us by Anthony; the bottom panel shows the fitted exponential distribution. The inverse scale parameter, $\lambda = 1.45$ is given in months.

- The tree is added back to the control list with $t_{control}$ some time within the first month of the following year.

Note the consequence of this is that if the budget is wildly inadequate compared to disease spread, control becomes progressively far behind itself, and more and more trees from previous years are accumulated. Note also that detection is unaffected by the budget, which in fact only affects the number of trees that can be removed by control each year.

2.5 Estimating the rate of infection

The single disease spread parameter that is impossible to estimate by looking in the literature is the underlying rate of secondary infection, (i.e. β in Equation 1, the rate at which a single infected tree would infect a susceptible tree at a distance of zero). Data on the number of removals between 2000 and 2011 indicate that approximately 1200 trees were removed per year, and this was used to fit the model. The model was repeatedly run for different values of the parameter β , simulating control under the historical approach, and searching for the value of β that lead to the correct number of tree removals due to control. The best estimate of the infection rate according to this process is $\beta \approx 3.95 \times 10^{-5}$ (see Figure 4). Unless stated otherwise, this value of β is used in all model simulations. Note that this infection rate was estimated in the absence of any budgetary constraint, since if the budget rather than the underlying disease dynamics were responsible for setting the historical rate of removal, it would be impossible to use these data to set a unique value for β (in particular, increases to larger values of β would have no effect on the apparent rate of removal if control were limited, and so

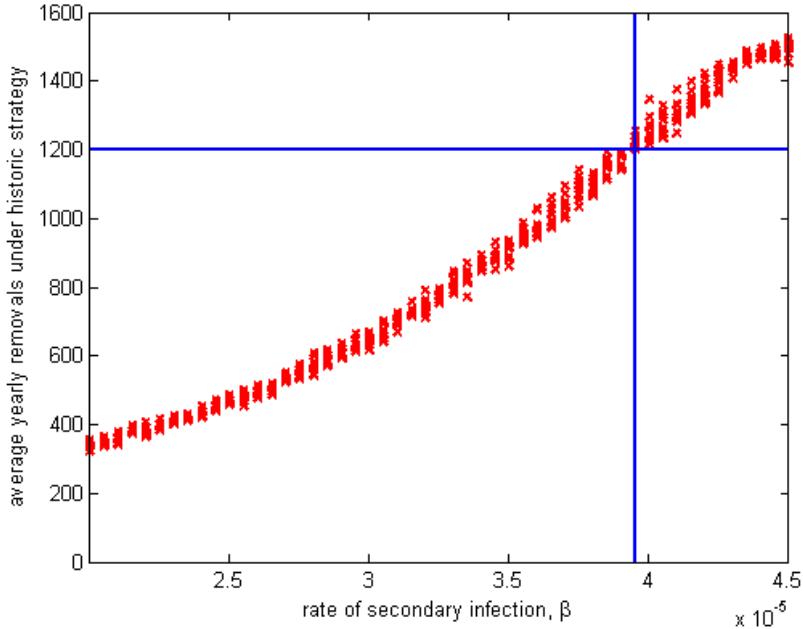


Figure 4: The average number of trees removed by control per year over twenty-five years under the historical control strategy, showing ten replicates for each value of β . Since records indicate approximately 1200 trees were removed yearly between 2000 and 2011, the best estimate of the infection rate is $\beta \approx 3.95 \times 10^{-5}$.

it would only be possible to put a lower bound on the parameter's value).

3 Results

The model is used to predict disease dynamics and spatial spread over ten and twenty-five year timescales, after seeding the model with the location of known infected trees.

3.1 Future disease progress

Predictions over ten and twenty-five year timescales under all three control strategies are shown in Figures 5 and 6. These predictions were obtained by averaging over 100 independent replicates of the model for each control. As well as the numbers of trees in each epidemiological compartment, a graph showing the time evolution of $p(\text{Original Alive})$ is presented. This is defined as the probability that any tree from the original cohort has not yet died by any particular time, allowing our attention to be restricted to those trees currently present (i.e. not to any replacement trees included to keep the elm population size constant).

The most striking conclusion is that the prioritised approach leads to a better outcome than the historical control strategy, and a far better outcome than no control whatsoever, over both timescales considered. Focusing on $p(\text{Original Alive})$ at ten years, an estimate of the

Symbol	Biological meaning	Value	Source
R_d	<i>Regeneration distance.</i> A daughter tree is created within a circle of this radius around a randomly chosen woodland tree whenever a tree is removed.	10m	Anthony
N_{max}	<i>Maximum number of replacements per year.</i> No more than this many replacement trees may be created in a single year.	3000	Fitting
$1/\gamma$	<i>Latent period.</i> (Average) time taken for an exposed tree to first become infectious.	50 days	Harwood
$1/\sigma$	<i>Lifetime of infected tree.</i> (Average) time taken from a tree becoming infectious to it dying.	400 days	Harwood
$1/\mu$	<i>Post-mortality infectious period.</i> (Average) time taken for a dead tree to become unsuitable for beetle breeding.	365 days	Harwood
β	<i>Rate of secondary infection.</i> Sets the rate at which new infections are created.	3.95×10^{-5}	Fitting
ϵ	<i>Rate of primary infection.</i> Sets the rate at which new infections are imported from outside the control zone (≈ 200 per year).	7×10^{-5}	Anthony
δ	<i>Relative infectivity.</i> Controls how much less infective a live tree is compared to a dead elm.	0.5	Harwood
$\omega(t)$	<i>Infection seasonality.</i> Restricts new infections to occur between April and September.	0 or 1	Anthony
$K_{DI}(d; \alpha_{DI})$	<i>Dispersal kernel from dead infected trees.</i> Sets how the probability of infection drops off with distance from dead infected trees.	$\frac{1}{1 + (\frac{d}{\alpha_{DI}})^2}$	Harwood
α_{DI}	<i>Scale for dispersal from dead infected trees.</i> Median distance of beetle flight, although occasional infection is possible over much greater ranges.	150m	Harwood
$K_{LI}(d; \alpha_{LI})$	<i>Dispersal kernel from live infected trees.</i> Sets how the probability of infection drops off with distance from infected trees that have not yet died.	$\exp\left(-\frac{d}{\alpha_{LI}}\right)$	Anthony
α_{DI}	<i>Scale for dispersal from live infected trees.</i> Typical scale of root to root transmission.	5m	Anthony
p	<i>Detection probability.</i> The probability of detecting the pathogen on a single visit to an infected tree.	0.9	Anthony
C	<i>Control budget.</i> Sets how many trees can be cut down per year.	n/a	Anthony

Table 1: Table of parameters, symbols and default values used in the simulations.

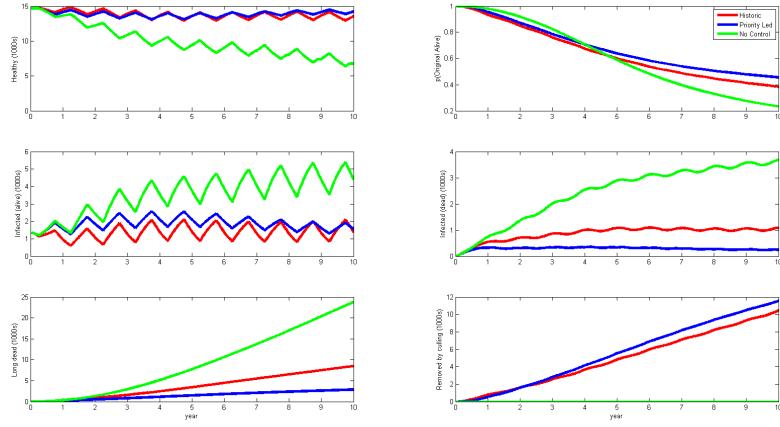


Figure 5: Predictions from the model for the next ten years, showing the number of trees in each of the epidemiological compartments (note that “Infected (alive)” corresponds to the sum $E + LI$). The probability that a single tree from the original cohort remains alive by a given time, $p(\text{Original Alive})$, is shown in the panel on the top right. The “saw tooth” pattern in the graph showing the number of healthy trees is because infection only happens for six months in the year (when there is a net loss of susceptibles due to infection, and so S goes down), while control and so replacement of susceptibles occurs year round (and so with no new infection there is a net gain in S). These fluctuations in the number of healthy trees then go on to drive smaller oscillations in the numbers in all compartments.

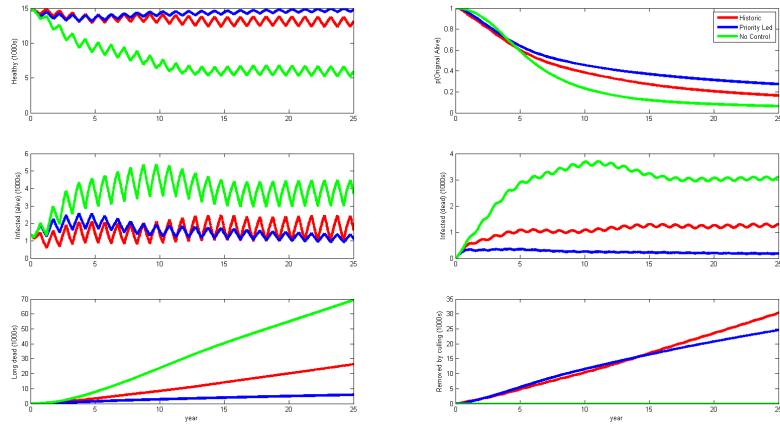


Figure 6: As Figure 5, but showing predictions over a twenty-five year timescale. Note the relative orderings of the success of the three controls remain unchanged.

probability of a randomly-chosen individual tree from the original cohort surviving the next ten years is 0.46 for the prioritised approach, 0.38 for the historic control, and 0.23 if control is not attempted. One way of interpreting this result is to say that a randomly chosen tree is $\frac{0.46 - 0.38}{0.38} \times 100\% \approx 20\%$ more likely to survive the next ten years if the prioritised approach is adopted instead of the historic control strategy. A similar calculation indicates a tree is 100% more likely to survive under the prioritised approach than with no control: i.e. its chance of survival exactly doubles. The total number of removed trees (i.e. the sum of the number of trees removed by control and the numbers of dead but still infectious and long dead trees) is approximately 5400 fewer using the prioritised approach than under the historic approach, and approximately 12800 fewer than with no control whatsoever. Note that this last calculation uses a slightly different definition of “removed” when compared to the graphs in Figures 5 and 6, since it includes infectious trees (which are dead but not epidemiologically inert), but using either definition of removed leads to the same conclusion.

These calculations can be repeated over the twenty-five year timescale, with broadly similar conclusions. However, as a consequence of the representation of demography in the current version of the model (i.e. immediate replacement of trees up to a hard limit per year, with no regard for the number of mother trees, time of year, any lag before maturity or instantaneous rate of replacement), the calculations over the ten year horizon are potentially much more reliable. I therefore prefer to emphasise results over the ten year timescale, and do so in what follows.

3.2 Maps of disease spread

GIS maps showing the spatial variation in the probability of infection are given in Figures 7 to 12. Note that the maps do not show the probability of infection for individual trees, but instead are a rasterised version of the model’s results. In particular, the average probability of infection within 25m by 25m or within 250m by 250m squares is shown. This was done for two reasons (i) to make the maps easier to interpret (showing individual trees would lead to a huge number of dots on each map, each of which would have to be interrogated to understand the results and would be impossible to assimilate on a hard copy) and (ii) asking the model to correctly predict the disease status of each individual tree ten or even twenty-five years from now is simply asking a little too much and presenting the results in this fashion is misleading; amalgamating the results in space does not overstate the predictive power of the model to the same extent. Effectively, while it is fair to say that the model does a good job of predicting disease status in the future when averaged over the entire ensemble of trees and/or at the 25m by 25m scale, in the light of the paucity of data to parameterise the model, predictions on an individual tree by individual tree basis are probably best avoided. Note that the estimates of infection density are calculated using the infection status of only the original cohort of trees; i.e. replacement trees are ignored in this calculation. This is because maps showing the infection status of trees that do not yet exist are unlikely to be plausible.

3.3 Parameter scans

The model is used to scan over the values of certain epidemiological parameters, to investigate how the different control strategies behave when parameters are altered. This allows the robustness of the predictions to be tested. In each case, for each value of the parameter,

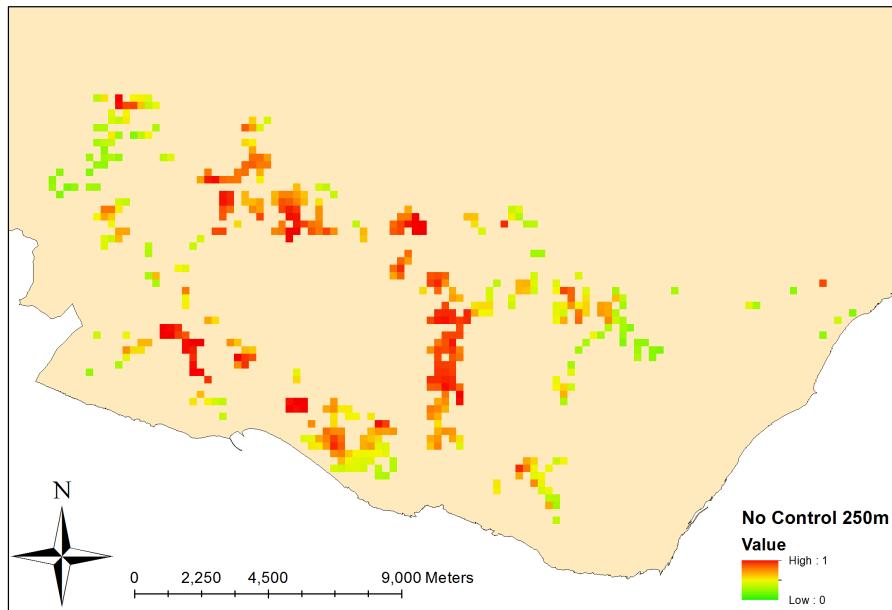


Figure 7: Map showing probability of infection at the 250m by 250m scale after 10 years when there is no control.

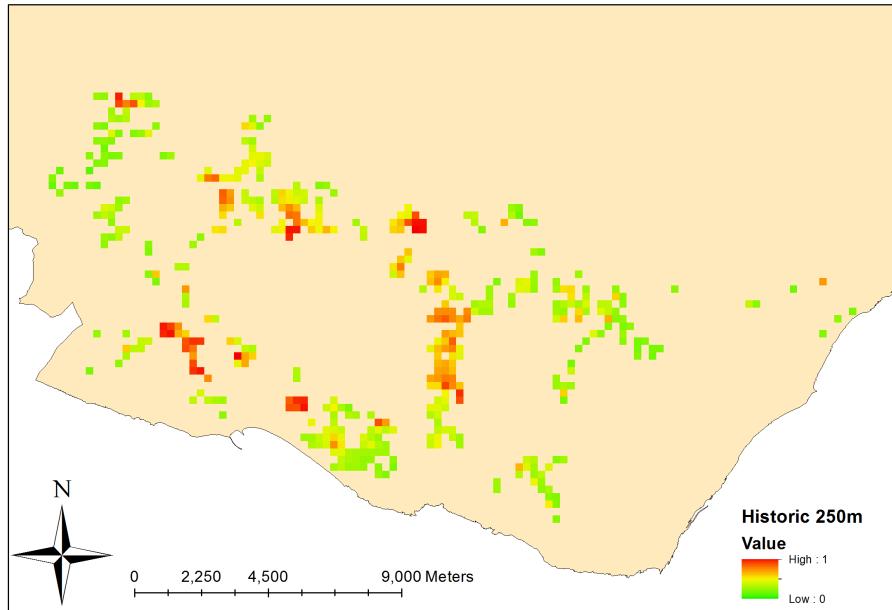


Figure 8: Map showing probability of infection at the 250m by 250m scale after 10 years using the historical approach.

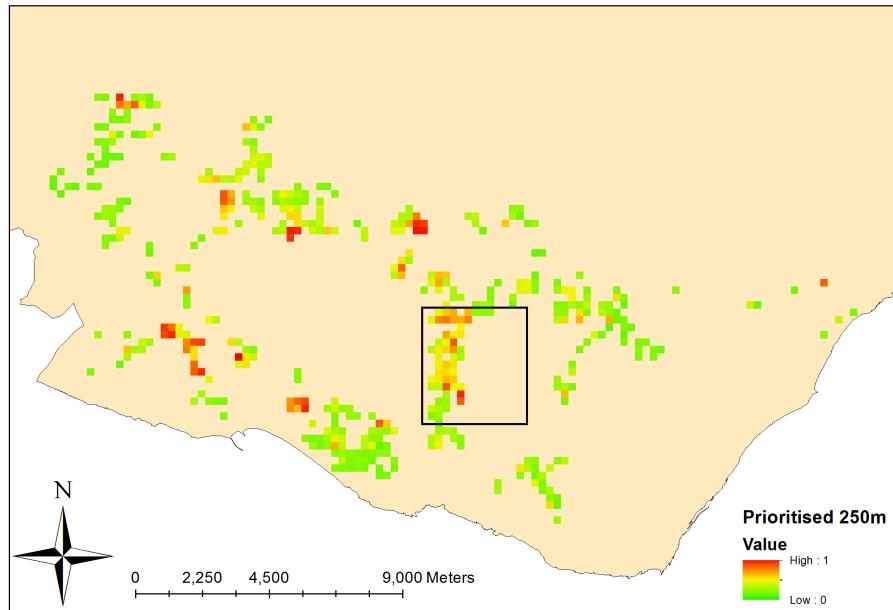


Figure 9: Map showing probability of infection at the 250m by 250m scale after 10 years using the prioritised approach. The black box shows the smaller region that is focused upon at the 25m by 25m scale in Figures 10 to 13

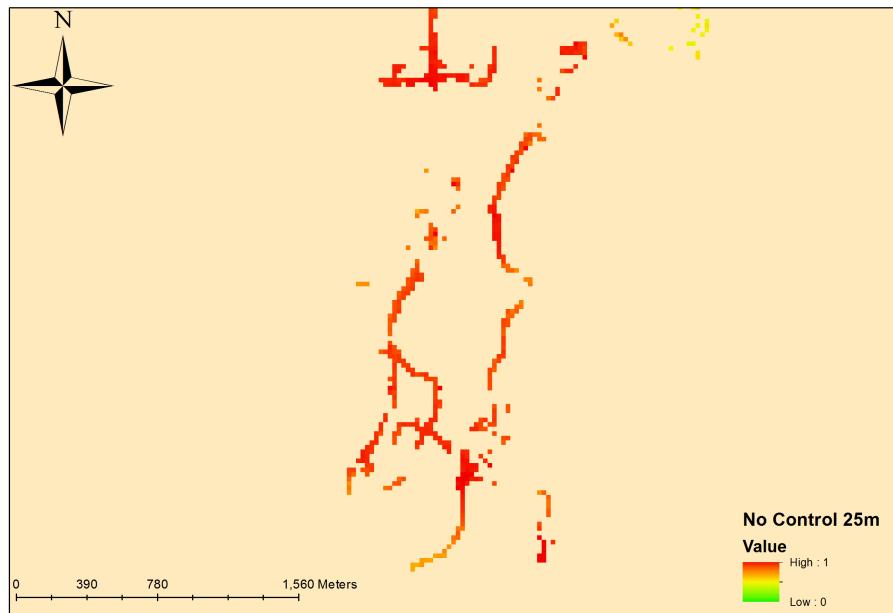


Figure 10: Higher resolution map showing the probability of infection at the 25m by 25m scale for the region highlighted by the black box in Figure 9, after 10 years and when there is no control

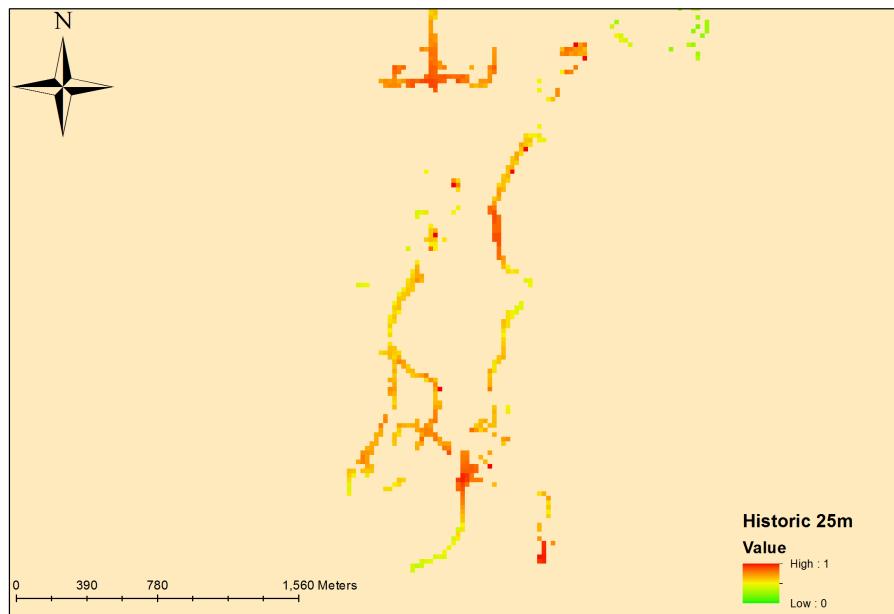


Figure 11: Higher resolution map showing the probability of infection at the 25m by 25m scale for the region highlighted by the black box in Figure 9, after 10 years using the historic approach

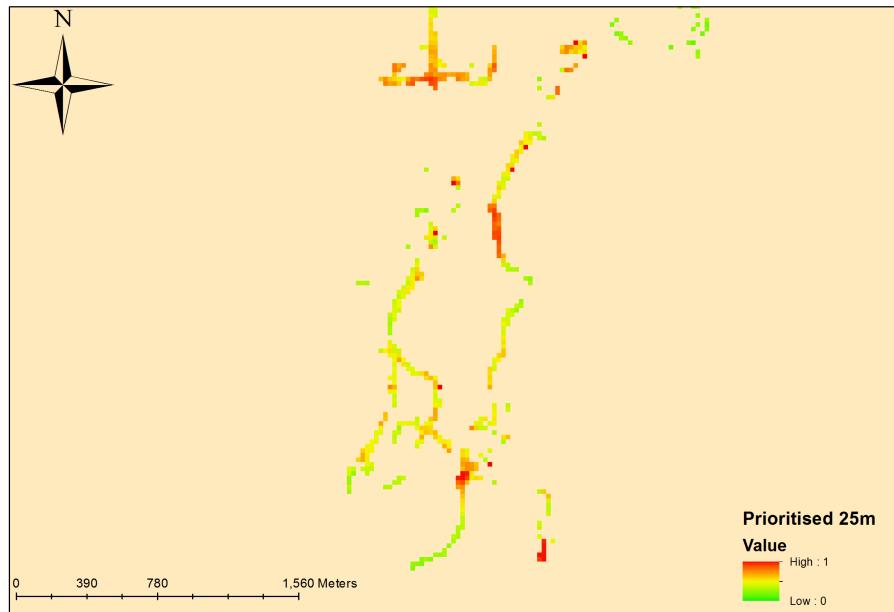


Figure 12: Higher resolution map showing the probability of infection at the 25m by 25m scale for the region highlighted by the black box in Figure 9, after 10 years using the prioritised approach

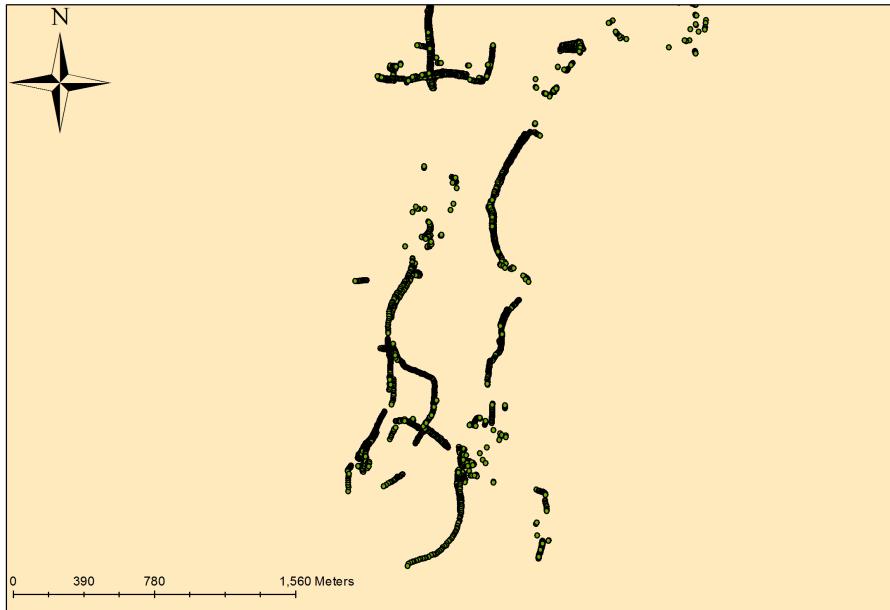


Figure 13: Map showing the location of individual trees in the zoomed in area.

replicates of the model for each control strategy were performed. The results presented focus on the number of tree removals and $p(\text{Original Alive})$, both over the ten year timescale. Note that all other parameters were fixed at the default values, and this means that the effect of one parameter changing in isolation is investigated. This is why the number of removals due to control per year diverges from 1200 in these runs; the model is not refitted each time it is run for each parameter. Instead how any alteration to one epidemiological mechanism can affect the results is considered.

3.3.1 Rate of primary infection (i.e. influx from outside)

The results in Figure 14 show the performance of the control strategies for values of ϵ between $\epsilon = 0$ (i.e. East Sussex is not subject to any influx of infected beetles) and $\epsilon = 14 \times 10^{-5}$ (i.e. there would be approximately 400 infections from outside sources per year). The prioritised approach consistently outperforms the other two control strategies across this entire range of parameters. Comparing $p(\text{Original Alive})$ after ten years for the prioritised approach at $\epsilon = 7 \times 10^{-5}$ and at $\epsilon = 14 \times 10^{-5}$, indicates that if the force of infection from outside the region is doubled from the original value, the probability of a randomly chosen infected tree within the control zone surviving the next ten years is reduced by about 20%. In turn this indicates that the control (or otherwise) adopted outside the East Sussex control zone can have a big impact on disease spread within it, even when intensive control is done inside the zone. Note too that in the absence of the budgetary constraint, the effects of these increases may even be understated. In particular, if it were the case that 400 new infections occurred every year, then up to 1400 removals would be required, and since the budget does not in fact allow this level of intervention, more infection would presumably eventually be present in the long term, since

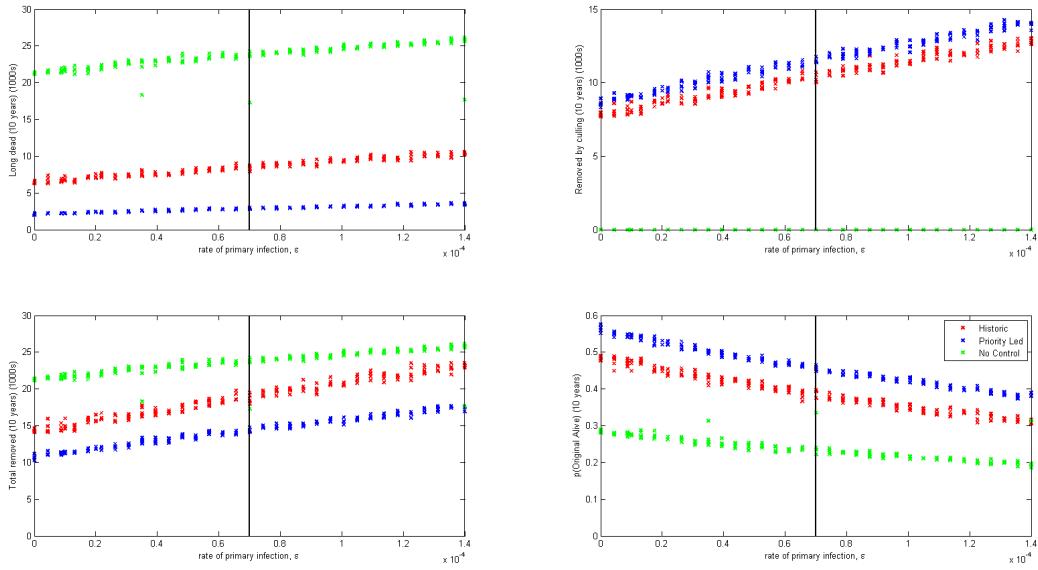


Figure 14: Performance of the model for different values of ϵ , the rate of primary infection (note the parameter is changed to give between 0 and 400 infections from outside sources per year). The black line shows the default value of this parameter (i.e. $\epsilon = 7 \times 10^{-5}$, approx 200 infections per year) as used in all other simulations. The individual graphs show the total number of tree removals of both types after ten years (top row), the total number of removals after ten years (bottom left) and the probability that a randomly chosen tree from the original cohort is alive after ten years (bottom right).

in practice control would not keep up with rates of disease spread.

3.3.2 Rate of secondary infection (i.e. rate of disease spread in East Sussex)

The results in Figure 15 show the performance of the control strategies for values of β between $\beta = 0$ (i.e. infected trees are not at all infectious to other trees within the zone) and $\beta = 8 \times 10^{-5}$ (i.e. the rate of infection between pairs of trees is double the best fitting value). Again the prioritised approach outperforms the other control strategies. The large variation in the number of removals and $p(\text{Original Alive})$ across even this relatively restricted range of values of β indicates this is an important parameter to “get right”, since the rate of disease spread can have a large effect on dynamics. This is of course unsurprising, but does focus our attention on obtaining more concrete data on disease spread to parameterise the model. Note there is still some loss of trees to disease when the secondary infection rate is set to zero. This is due to (i) primary infection from outside, (ii) the loss of those trees which are initially infected at the start of the simulation.

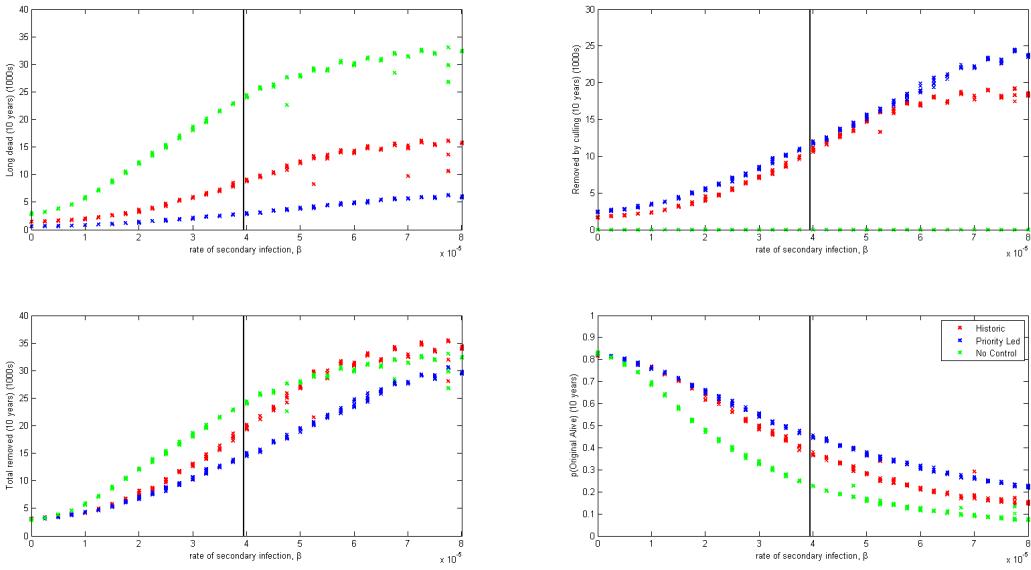


Figure 15: Performance of the model for different values of β , the rate of secondary infection. The black line shows the default value of this parameter (i.e. $\beta = 3.95 \times 10^{-5}$) as used in all other simulations. The individual graphs are as described in Figure 14.

3.3.3 Relative infectivity (i.e. how infectious a living tree is compared to a dead one)

The results in Figure 14 show the performance of the control strategies for values of the relative infectivity δ between 0 (i.e. live trees are not infectious) to $\delta = 1$ (i.e. live trees are just as infectious as dead trees). As before the prioritised approach performs best, with the difference between strategies increasing as δ becomes smaller (i.e. as live trees become less infectious in relative terms). This is reassuring, since the only source of information on this key parameter is Harwood, and intuitively the value $\delta = 0.5$ taken in that paper seems rather large, indicating that live trees are half as infectious as dead ones (note the value of this parameter comes from fitting the Harwood model to data rather than due to input from a biologist). For small values of δ ($\delta < 0.3$ or so) even the number of removals by culling is smaller under the prioritised approach than the historic one (for the default parameters the historic approach leads to slightly fewer removals by control intervention, but far more deaths of trees overall). Again this is expected; if live infected trees are in fact relatively unimportant epidemiologically-speaking, focusing efforts on dead trees becomes an even better idea.

3.3.4 Maximum number of trees that can be cut down per year (i.e. the budget)

Note that scans over the first three parameters were performed assuming no budgetary constraint. This allows us to focus on the underlying result, avoiding the difficulties in interpretation associated with a parameter changing and the budget being exceeded. However here the effects of a restricted budget are assessed. Figure 17 shows the results, in particular examining what happens if the number of removals per year is restricted. The most

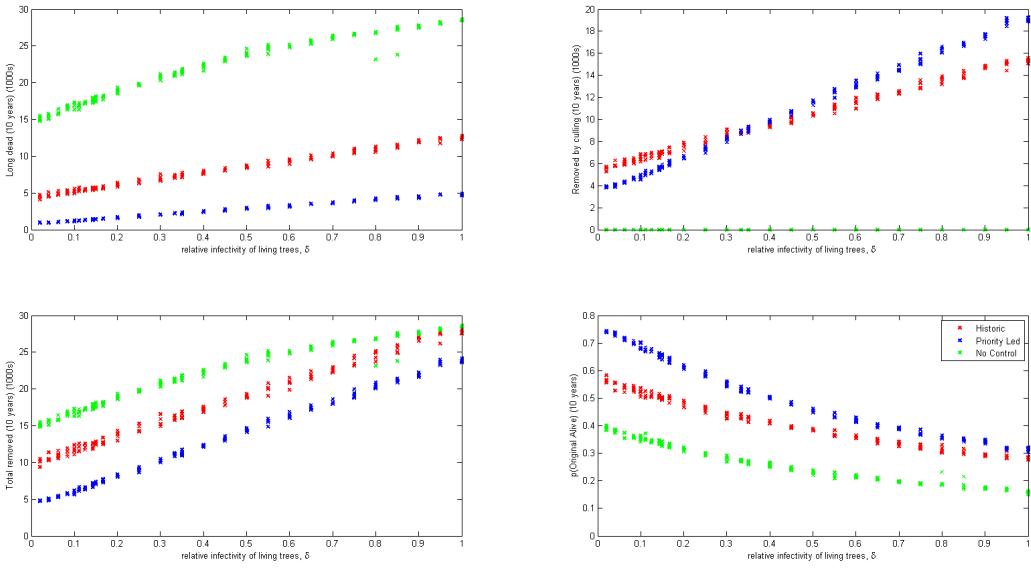


Figure 16: Performance of the model for different values of δ , the relative infectivity of live vs. dead infected trees. The black line shows the default value of this parameter (i.e. $\delta = 0.5$, i.e. live trees are half as infectious as dead ones) as used in all other simulations. The individual graphs are as described in Figure 14.

striking conclusion is that, in effect, “you get what you pay for”: if the budget is reduced then more trees die. Note that the manner in which the responses flatten off for $C > 1200$ is because of how the model is fitted.

For the default parameters no more than 1200 trees to remove under either strategy are actually found across the landscape per year, and so even if the budget is increased, it cannot be used. We know that this does not happen in reality, and so these results do not necessarily indicate that an increased budget would be of no use. Indeed as I understand it, the budget was prematurely exhausted last year, perhaps due to an additional influx of disease from outside the control zone and/or more new susceptibles being born and leading to faster spread because there are more host trees to spread through and/or environmental conditions causing faster spread. However, since none of the effects were explicitly included in the model, nor in the model fitting, which concentrated on matching a “steady state” of disease spread, consequence(s) cannot be felt in the model’s results. In reality a backlog in infection would lead to more secondary infection in the next year, and this in turn would lead to even more detections the year after, leading to an ever bigger backlog, and with insufficient budget the disease would probably increasingly get out of control. However, we did not have sufficient data to allow us to fit the model to this situation.

4 Discussion

Clearly the most important result is that the prioritised approach to control leads to fewer losses of trees overall than the historic strategy, and far fewer losses than not controlling at

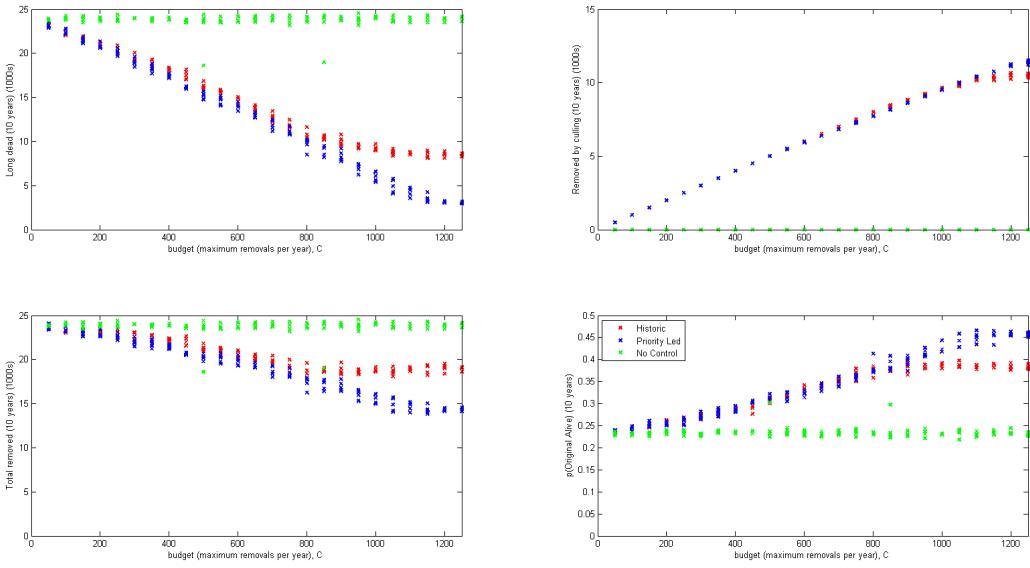


Figure 17: Performance of the model for different values of C , the maximum number of removals allowed per year by the budget. There is no black line, since other simulations assume the budget is unlimited. The individual graphs are as described in Figure 14.

all. Confidence in this is undoubtedly increased by the robustness of this conclusion to changes in epidemiological parameters. It is therefore fair to say – inasmuch as it is supported by the results of a relatively simple model of the type presented here – that the prioritised approach is sensible.

Nevertheless, it should be noted that there are a number of potential sources of error that could mean the conclusion is incorrect. They are summarised in the following section, in estimated order of importance. Improving these aspects of the model, together with investigating any elements of the results presented here that are particularly interesting to stakeholders in East Sussex, would form the basis of any future work.

4.1 Potential sources of inaccuracy

4.1.1 Host demography

Fundamental to any prediction of epidemiological dynamics over long time scales or when there is a large number of tree deaths is the replenishment of susceptible hosts that is necessary for pathogen persistence. However, here the treatment of this has been very simple. Certainly the predicted number of tree removals is almost certainly too large, particularly when no control is attempted. This is because our demographic assumption leads to an excessively large rate of tree replacement over East Sussex, and in turn a very fast cycling of disease. However, elm demography is complex, and data to parameterise a more realistic model (e.g. involving a juvenile class) are few. A careful consideration of demography was therefore not possible in this project. Epidemiological intuition suggests this is the most important omission.

4.1.2 Lack of data

The data available to parameterise the model was extremely limited, and basically boiled down to a table showing the number of removed trees between 2000 and 2011. There were no quantitative data concerning the spatial scale of disease spread, the times taken to transit the various epidemiological compartments, the density of beetles or influx rates of disease from outside the system. This meant we were forced to parameterise with information taken from the literature, and often these numbers were not finely resolved or were not directly applicable to the situation in East Sussex. This lack of data had a particular effect on how our model behaved when the budget was increased, as described in Section 3.3.4. Given the aims of the project, our lack of knowledge surrounding the relative infectivity of live and dead trees was also very concerning. It may in fact be useful to use the meetings planned via project partners at York and FERA to try to establish a consensus among stakeholders concerning this key parameter before going forward with the modelling.

4.1.3 Treatment of vector behaviour and density

The model does not track the density of beetle vectors, instead effectively assuming the density is proportional to the number of infected trees. This simplifies the modelling, and the same assumption was made in both the Harwood paper and the Swinton and Gilligan papers, but it presumably restricts the model's predictive power. It also means the treatment of environmental drives is necessarily in turn itself rather simple (in the model disease can spread between April and September, but between these months it is always spreading at the same rate, independent of e.g. temperature). The main reason this assumption was made was lack of concrete data on vector density. However, were more data available, it would be interesting to include it in the next iteration of the model.

4.1.4 Treatment of detection and control

Although the model faithfully represents the fundamental principles underlying both detection and the two types of control (i.e. trees are visited approximately once per year and the prioritised and historical approaches target dead and live trees, respectively), what actually happens in East Sussex is undoubtedly “richer” than the simple approach adopted in the model. This may be a fertile area of future study. Particularly interesting might be a “mixed” strategy which targets the two classes of infectious hosts to different extents (which could of course depend on the current status of the epidemic and/or the budget remaining and/or the position over the landscape). However, to do this would probably require a more careful treatment of what happens when the budget is exceeded, together with a better understanding of what causes this to happen as well as extensive discussions with staff members to better understand their behaviour, so was outside the scope of this initial investigation.

Acknowledgements

I thank Anthony Becvar for the benefits of his extensive insight into the biology of Dutch elm disease and past and present controls adopted in East Sussex, James Elderfield for assistance

with programming, Ben Price for assistance with initial literature review and data processing, and James Cox and Matt Castle for assistance with GIS.

References

- Harwood, T.D., Tomlinsons, I., Potter, C.A. and Knight, J.D. (2011) "Dutch elm disease revisited: past, present and future management in Great Britain". *Plant Pathology*. 60:545-555.
- Swinton, J.A. and Gilligan C.A. (1996) "Dutch elm disease and the future of the elm in the U.K.: a quantitative analysis". *Philosophical Transactions of the Royal Society London, Series B*. 351:605-615.
- Swinton J.A. and Gilligan C.A. (1999) "Selecting hyperparasites for biocontrol of Dutch elm disease in stochastic spatially-extended epidemics" *Proceedings of the Royal Society, Series B*. 266:437-445.
- Swinton J.A. and Gilligan C.A. (1999) "A modelling approach to the epidemiology of Dutch elm disease" in The Elms: Breeding, Conservation and Disease Management (Editor C Dunn).

Agenda Item 7

Report to:	Economy, Transport and Environment Scrutiny Committee
Date of meeting:	15 March 2017
By:	Director of Communities, Economy and Transport
Title:	Update on the new Highways Infrastructure Services Contract
Purpose:	A report to update the Scrutiny Committee following mobilisation and implementation of the new Highways Infrastructure and Services contract 2016-2023.

RECOMMENDATION: Scrutiny is asked to consider this update report and requirements for future updates.

1 Background Information

1.1. On 15 December 2015 Cabinet approved the award of a new seven year, £300m Highways Maintenance contract to Costain who formed a joint venture with CH2M (the JV), which commenced on 1 May 2016. A new East Sussex County Council (ESCC) Contract Management Team was created to oversee the management of the new contract including commercial management, compliance and performance, asset management and service development. The contract management team is led by a Contract Manager (Head of Service) for the Highway Services.

1.2. The new contract with Costain replaced three separate maintenance contracts for highways, street lighting and traffic signals. A key advantage of the new contract was the introduction of efficiencies and savings delivered by the Joint Venture's (JV's) ability to control end to end processes and specifically in the JV's bid were promises to introduce innovative systems and technology to improve the efficiency of highway works, visibility of data and customer communication.

1.3. Mobilisation of the new contract commenced following award of the contract on 6 January 2016. The JV's mobilisation and management team were based locally at the Ringmer highways office and worked closely with the new contract management team, existing highways staff, and the incumbent contractors' teams to ensure a smooth transition. This included engaging with all transferring staff and running joint workshops to develop the culture and behaviours of the new organisation, in line with ESCC outcomes. In keeping with the ethos of the contract model and industry best practice the JV and ESCC teams work in a spirit of mutual trust and co-operation as East Sussex Highways (ESH) and have developed a genuinely open and honest approach to managing the Highways service.

1.4. The contract commenced on 1 May 2016 with the successful Transfer of Undertakings Protection of Employment (TUPE) transfer of 150 staff with new services commencing immediately over the bank holiday weekend.

1.5. Over the following months there was an intense period of training for staff on new systems, processes and organisation culture presenting a number of challenges to the delivery of services as new ways of working were introduced. This did result in some customer service challenges, but these early challenges have now largely been addressed through recruitment and training. A process of learning and improvement is still ongoing, as staff and the organisations continue to fully embrace the new ethos and the new service delivery model that is required. The contractor's senior team has met with the Chair of the Economy, Transport and Environment (ET&E) Scrutiny Committee and with Scrutiny Members to hear first hand their concerns, and for Members to hear the JV's proposed improvement plan.

1.6. In moving to the new service model, Members were very keen that there was appropriate management and scrutiny of the service with robust client commercial and performance regimes in place. The first full contract year will be completed on 30 April 2017 and the final contractual performance outturns will be determined in early July 2017. However, there is early evidence that the new contract and new way of working is delivering genuine service improvements compared to previous

arrangements. The contract is required to deliver against the specific outcomes requested by members of the Scrutiny Members Reference Panel: namely, to have the best road network condition for the funding available; to improve network condition; promote economic growth; reduce the level of third party claims; provide value for money; promote local engagement; and improve customer satisfaction. Despite some early hiccups, there is already evidence that the new contract is beginning to deliver against these outcomes.

1.7. Specific performance measures were developed for the contract to ensure the contract provides the level of service required, and can incentivise or penalise the contractor as necessary. These are linked to wider business measures to show delivery against the desired outcomes. The new Contract Performance and Compliance Team ensure measurement of performance is combined with contract compliance checks to ensure the level of service and the requirements of the contract are being delivered. A robust performance and compliance framework has been developed to support this (please see Appendix 1).

2 Progress against the contract outcomes

2.1 The new highways contract is designed to deliver a number of outcomes with the principal outcome to have the best road network for the funding available. After 10 months of service delivery there is already evidence of some significant progress towards achieving these outcomes.

Improve Asset Condition

2.2 Our progressive asset management approach to managing the network has meant overall road condition continues to improve with the 2016/17 network condition surveys showing further improvement in the condition of rural roads, with a reduction from 22% to 19% of the unclassified roads requiring maintenance. The condition of the principle and non-principle roads has also been maintained at the previous levels of 5% and 6% respectively.

2.3. Improved systems and data collection combined with the use of other asset intelligence has already helped us develop a proactive approach to managing the drainage network. A targeted approach to reducing winter flooding has been introduced by identifying the flooding hotspots through intelligence collected from the Highway Stewards, customers and our defect data, meaning we are proactively clearing gullies and grips where the network is liable to flood when heavy rain is forecast. We have identified a range of remedies for our flooding hotspots, which include both planned drainage infrastructure improvements and increased maintenance frequency of gullies, ditches, grips and soakaways. This will reduce the impact, longer term, of damage to the network caused by water on the highway.

Ensuring a Safe Network (reduce third party claims)

2.4. The County Council's Asset Management Policy and Highway Inspection guidance set out the intervention levels and response times, which enable us to maintain a safe road network. The introduction of new hand-held field data devices for both Highway Stewards and the maintenance crews directly linked to the defect recording and work scheduling systems enables more effective repair times and clear instructions for crews. This means work can be undertaken right first time and better evidence of a repair being carried out within the timescales required. By ensuring we adhere to the inspection regime and defect rectification timescales the County Council has been able to successfully repudiate 91% of third party claims since the start of the contract, and increase from circa 60%.

2.5. The packaging of County Council core maintenance services (pothole repairs, winter gritting, grass cutting and gulley emptying) as annual lump sum arrangements provided the County Council with revenue savings of £1.4m at contract award, compared to previous contract arrangements. In addition, some of the core service requirements have been enhanced in the new contract to provide improved service standards (e.g. routine ditching works and road marking replacement). Since the start of the contract improved systems and information have also enabled a more planned approach to minor works to be developed providing further service efficiencies and resulting in an increase in the volume of minor works that will be undertaken in the first contract year. This has included the introduction of a full hedge cutting programme, full cut back of the rural grass verges, additional ditching works, additional lining works, and sign cleaning and replacement.

2.6. There is also early evidence that the procurement efficiencies suggested in the detailed business case of circa 10-18% for capital works are beginning to be delivered through effective packaging of works. These efficiencies have been reinvested in the capital programme through additional and accelerated works enabling approximately an additional 50 planned highway resurfacing schemes to be delivered this year. The total value of these efficiencies will be determined at the end of the contract year when a full assessment of the cost and performance outturn is completed.

Promoting the Local Economy

2.7. There is a specific requirement for the contract to promote the local economy by supporting local businesses. The JV has successfully partnered with local contractor Hailsham Roadway who have successfully won further work on the contract thus contributing to an increased turnover for this successful Hailsham business.

2.8. The JV have also supported local contractors Gorringe Plant Ltd, based at Uckfield, by providing Site Supervisors training, introducing start of shift safety briefings and ensuring all operatives have appropriate Construction Skills Certification Scheme (CSCS) safety cards. This has enabled the JV to offer an increased workload to Gorringe through the contract.

2.9. Both companies are keen to continue to work and expand their businesses through their work with East Sussex Highways and introduce innovation and new ideas into service.

Promoting Local Engagement

2.10. Since the commencement of the contract East Sussex Highways has carried out a number of parish council road shows to introduce the new contract and establish clear communication with parish councils. ESH have also re-launched an enhanced community match programme including a clear process to support parish councils with applications. ESH are also supporting parishes to develop winter plans and have recently begun work to help parishes develop their own ability to undertake minor services, but while working in a safe environment. These services include local sign cleaning, grass cutting and footway siding (the cutting back of vegetation overgrowing footways). This proactive engagement has been very positively received by parish councils.

Improving Customer Satisfaction

2.11. The new contract has enabled the introduction of a world leading and innovative customer relationship management system to improve the way we manage and communicate with residents and local businesses. This includes a brand new dedicated ESH website with a web team who provide up to date information about services and an extended call handling centre to deal with customer queries. The use of the website to log issues and search for information about our services is increasing in popularity, with customer web usage considerably increased since the start of the contract. The ESH website also includes a Member log-in area that provides County Councillors with additional information and access to case histories. At the same time the use of social media like Twitter and Facebook is also an increasingly popular way for the public to communicate with us about services like grass cutting, winter gritting and our planned road works. In 2016 ESH won the SalesForce Global Innovation Award in the Public Sector category for the use of this technology in this environment.

2.12. However, the introduction of new systems and processes for handling customer queries led to some customer service challenges in the early months of the contract and this part of the service continues to be an area of important focus for improvement. The JV has put in place an improvement plan, and additional customer service advisers have been recruited and the customer contact centre restructured to provide a quicker response to customers. Customer advisors now retain ownership of a customer case from beginning to end, and deal with customers on an individual basis to provide timely updates and information about their issue. In addition, innovative analytical software enables live monitoring of queue times of customer phone calls and case progress. Despite the early challenges there is clear evidence of continued improvement with over 55% of calls answered immediately, 80% of calls answered within the 90 second target and an overall average wait time of 63 seconds (the best 100 companies target 90 seconds).

3 Conclusion

3.1. The wholesale changes to the contract arrangements that have been undertaken since May 2016 have presented a number of challenges, not least in continuing to deliver day to day services, every day. The scale of the handover from three out-going maintenance contractors, the TUPE transfer of a large number of ESCC and contractor staff, and the seamless mobilisation of the new contract should not be underestimated. The introduction of new systems and processes has also presented a number of challenges, but the required change in culture to deliver a new service has presented perhaps the biggest challenge. However, there is genuine evidence that this innovative contract has started well and is delivering real benefits to the residents of East Sussex by providing improved services, value for money and support to local communities. These early successes suggest that with continued effort and focus on improvement there is no doubt that further benefits can be realised as the contract progresses through the next 6 years.

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LOCAL MEMBERS

All

BACKGROUND DOCUMENTS

None

Highways and Infrastructure Services Contract



ESCC priorities
 Driving economic growth
 Keeping vulnerable people safe
 Helping people help themselves
 Making best use of resources

SPI No.	Measure	Direction of travel May 16-Jan 17	Contract service outcomes	Contractor's current indicative performance	Target average
SPI 10	Percentage of precautionary treatments delivered within the target treatment time for each route as stated in the Winter Service Plan	➡	Ensure a Safe Network / reduce third party claims	95.6%	88%
SPI 11	Percentage of the Winter Network cleared of snow following cessation of snow within the timescales stated in the Winter Service Plan				
SPI 12	Percentage of claims repudiated	⬆			
SPI 13	Timely response to Third Party Claims	⬆			
SPI 17	Percentage of Highway Asset Inspections completed on time	➡	Improve Asset Condition	87.30%	93%
SPI 02	Percentage of Works Activities delivered to the Accepted Service Delivery Programme	⬆			
SPI 03	Permit processing, overruns, sample inspections & inspection compliance	➡			
SPI 04	Percentage of assets (street lights and illuminated signs) working	➡			
SPI 14	Percentage of Emergency Response incidents attended within time	➡			
SPI 15	Completion of safety defect repairs within response time for Cat 2 & 3 defects	⬆			
SPI 16	Provision of relevant Asset Data for the update of highway inventories in a timely manner	⬆			
SPI 18	Percentage of temporary repairs made good with permanent repairs within timescales (applicable to temporary repairs of Category 1 Defects only within 28 days)	⬇			

SPI No.	Measure	Direction of travel May 16-Jan 17	Contract service outcomes	Contractor's current indicative performance	Target average
SPI 20	Compliance with Customer Care Charter response times and complaints timeframes	↑	Improving Customer Satisfaction	63.60%	74%
SPI 21	Customer experience rating from residents panel surveys and scheme feedback	↑			
SPI 22	NHT survey results	→			
SPI 08	Reduce environmental impact (carbon)	↔	Promoting Local Engagement	82.40%	82%
SPI 09	Use of local supply chains/SME's	↑			
SPI 23	Conformity to Community Benefits Plan and Social Value Contribution	→			
SPI 24	Number of apprentices, locally employed people	→	Value for Money	71.40%	56%
SPI 01	Percentage of Core Activities delivered to the Accepted Service Delivery Programme	↑			
SPI 05	Percentage of construction waste reused and recycled (excavated materials)	↓			
SPI 06	Percentage of construction materials used from recycled products (non-excavated materials)	↑	Value for Money	71.40%	56%
SPI 07	Street Lighting & Traffic Signals energy reduction	↑			
SPI 19	Percentage of design solutions accepted first time	↑			

Key	On or above target
	Within 10% of target
	Not within 10% of target

Agenda Item 8

Report to:	Scrutiny Committee for Communities, Economy and Transport
Date of meeting:	15 March 2017
By:	Director of Communities, Economy and Transport
Title:	Climate Change Adaptation
Purpose:	To review whether the County Council is adapting well to the risks from climate change

RECOMMENDATION: It is recommended that Scrutiny Committee requests a 5-yearly review of the County Council's climate change adaptation plans, to ensure the plans remain up-to-date and proportionate to the risks.

1 Background Information

1.1 The most recent report from the United Nations Intergovernmental Panel on Climate Change, in 2014, re-confirmed that human influence on the climate system is clear, and that the atmosphere and oceans have warmed, the amounts of snow and ice have reduced, sea level has risen, the oceans have become more acidic and some extreme weather events have intensified. Surveys of the scientific literature show about a 97% consensus amongst climate change scientists that humans are driving global warming.

1.2 Without substantial efforts to curb greenhouse gas emissions, global temperatures by the end of the 21st century could be more than 4 °C above what they were before the industrial revolution. The scientific consensus is that a change of that size would very likely lead to severe, widespread, and irreversible impacts on societies.

1.3 The risk of climate change is addressed by a combination of seeking to limit the extent of future change, by reducing carbon emissions, and adapting to the climate change to come that is already locked in for the foreseeable future due to past emissions of greenhouse gases. The purpose of adapting is to help minimise the effect of impacts that cannot be avoided, as this will ensure greater capacity to cope with, and recover from, these impacts.

1.4 In East Sussex, climate change may bring some benefits in the short and medium term. For example, warmer winters will lead to fewer cold weather deaths and a decreasing need to grit the highway network. However, it's considered that the negative impacts, notably an increasing risk of flooding and coastal erosion due to sea level rise and storm surges and an increase in excess summer deaths and water scarcity from heatwaves, will significantly outweigh the benefits.

1.5 The main legal mechanisms to address climate change are:

- 1) The UK Government's Climate Change Act of 2008, which requires the Government to cut carbon emissions by 80% of 1990 levels by 2050 and develop a climate change adaptation plan, to be reviewed on a 5-yearly cycle. The climate change risk assessment was updated by government in January 2017.

- 2) The United Nation's Paris Agreement of 2015, which sets out the framework for multilateral cooperation to prevent more than a 1.5°C increase in global temperatures above pre-industrial levels and to provide assistance to adapt to climate change.

2 Supporting Information

2.1 There is no legal requirement for the County Council to develop a climate change adaptation plan. However, the effects of climate change will impose additional pressures on the County Council, namely:

- 1) It will disrupt the County's ability to deliver some of its services, for example, flooding, erosion and higher summer temperatures will increase damage to highway assets;
- 2) It will increase the demand for, and therefore the cost of, some services. For example, extreme weather events such as heat waves have a higher impact on vulnerable groups, as evidenced by the increase in summer deaths during 2003.

2.2 Most of these risks are already recognised and are being addressed by the County Council, for example through its statutory functions for Emergency Planning and Public Health and as the Lead Local Flood Authority for East Sussex (please see appendix A for further examples). In addition, a number of partner organisations also have policies and plans in place that contribute to ensuring that East Sussex is likely to be reasonably resilient to the effects of climate change in the short term (e.g. the National Health Service's national Heatwave Plan and the Environment Agency's Shoreline Management Plans). Examples of practical measures to manage risks include the flood management bunds being constructed by the Environment Agency in Newhaven, through to back-up generators installed at County Hall.

2.3 Climate change is a complex and long term challenge, characterised by great uncertainty. Consequently, it may be tempting to wait for changes to occur and then respond as they happen. However, there is a cost to under-adapting, as retrofitting actions are usually more expensive (e.g. alterations to buildings), as much as there is a cost to over-adapting (e.g. by preparing for events that may not happen). In view of this uncertainty, it's recommended that the County Council reviews its adaptation plans on the same 5-yearly cycle adopted by the government, to benefit from new evidence and recommendations as they arise. This will ensure that the County Council's approach to risk management remains proportionate to the risks.

3 Conclusion and Reasons for Recommendations

3.1 It is recommended that Scrutiny requests a 5-yearly review of the County Council's climate change adaptation plans, to ensure the plans remain up-to-date and proportionate to the risks, with the next review to take place in 2022.

RUPERT CLUBB
Director of Communities, Economy and Transport

Contact Officer: Andy Arnold
Tel. No. 01273 481606
Email: andy.arnold@eastsussex.gov.uk

LOCAL MEMBERS

All

BACKGROUND DOCUMENTS

None

Appendix A – Examples of Measures Taken by the County Council to Adapt to Climate Change

- 1) The Corporate Plan: the objective to ‘help people to help themselves’ enables residents and businesses to become more resilient to the effects of climate change. For example, the East Sussex Better Together (ESBT) programme includes a workstream looking at community resilience.
- 2) Emergency Planning:
 - a. the County Council is a member of the Sussex Resilience Forum, which prepares for emergencies such as the effects of extremes of weather, including storms, flooding, heatwaves and droughts.
 - b. Practical adaptation measures include:
 - i. Cascading early warnings from the Met Office and the Environment Agency about extreme weather events before they occur to enable appropriate action to be taken (e.g. the Heat Wave Plan requires contractors providing meals in the community to ensure extra water is accessible by service users).
 - ii. Alerts to service users about disruption to County Council services (e.g. closure of schools, adult social care centres or household waste recycling centres).
- 3) Business Continuity Planning: every County Council Department has a Business Continuity Plan, to ensure the rapid and co-ordinated re-establishment of priority services after events that cause service disruption.
- 4) Corporate buildings: the Corporate Sustainable Buildings Policy specifies a number of adaptation measures (e.g. installation of sustainable urban draining systems; orientation of buildings to minimise solar gain).
- 5) Highway infrastructure: the County Council, together with the Highways service provider Costain CH2M, is working towards implementing the new national Code of Practice on taking a risk based approach to managing highway infrastructure assets ('Well Managed Highway Infrastructure: A Code of Practice'). This includes using the local Flood Risk Management Plans, produced by the County Council as the Lead Local Flood Authority, to take a targeted, risk-based approach to maintenance of drainage assets to reduce the risk of flooding.

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Agenda Item 9

Report to: Economy, Transport and Environment (ETE) Scrutiny Committee

Date of meeting: 15 March 2017

By: Chief Executive

Title: Reconciling Policy, Performance and Resources (RPPR)

Purpose: To review scrutiny's input into the Reconciling Policy, Performance and Resources process during 2016/17.

RECOMMENDATIONS

The Committee is recommended to:

- 1) Review its input into the Reconciling Policy, Performance and Resources process;
 - 2) Identify any lessons for improvement of the process in future; and
 - 3) Note the response to the RPPR Board's comments on the budget.
-

1 Background

1.1 Reconciling Policy, Performance and Resources (RPPR - i.e. aligning the Council's budget setting process with service delivery plans) has established an effective and transparent business planning process.

1.2 Scrutiny committees actively engage in the process, firstly to allow them to bring the experience they have gained through their work to bear and, secondly, to help inform their future work programmes.

2 Reconciling Policy, Performance and Resources and scrutiny in East Sussex

2.1 In September 2016 each scrutiny committee considered extracts from the *State of the County* report and the existing departmental savings and Portfolio Plans. Requests for further information or reports were made to help the scrutiny committee gain a full understanding of the context for budget and service planning.

2.2 The scrutiny committees established scrutiny Boards to provide a more detailed input into the RPPR process. These met in December 2016 to consider the draft 2017/18 Portfolio Plans and the impact of proposed savings. The Boards:

- considered any amendments to the Portfolio Plans and how priorities were reflected against the proposed key areas of budget spend for the coming year;
- assessed the potential impact of proposed savings on services provided to East Sussex County Council customers.
- Made comments and recommendations to Cabinet on the budget proposals for 2017/18.

2.3 Appendix 1 summarises the comments and recommendations made by the Economy, Transport and Environment Scrutiny Committee RPPR Board to Cabinet, together with the response where appropriate.

3. Conclusion and reasons for recommendations

3.1 The committee is recommended to review its input into the RPPR process, establish whether there are lessons for improvement for the future and to note the response to comments made by the RPPR Board.

BECKY SHAW
Chief Executive

Contact Officer: Martin Jenks
Tel. No. 01273 481327
Email: martin.jenks@eastsussex.gov.uk

LOCAL MEMBERS

All.

BACKGROUND DOCUMENTS

None.

Economy, Transport and Environment

Service savings proposal	Scrutiny comment / suggestion / recommendation at Dec 2016 RPPR Board	Response
East Sussex Road Network	<p>The Board recommended that Cabinet take account of:</p> <p>(1) The crucial importance of the Highways network to East Sussex residents; and</p> <p>(2) The effect of the continuing allocation of savings in degrading the County's Highway network;</p> <p>in deciding the allocation of savings between Departments of the County Council.</p>	<p>In an amendment to the budget proposals Cabinet agreed to:</p> <ol style="list-style-type: none"> 1. Highways: additional investment into highways drainage to support the strategic asset management approach to maintaining the highways infrastructure £1.000m 2. Highways: Additional investment into highways pavements to support mobility in local communities £0.300m 3. Communities: Additional investment into Community Match £0.150m. <p>This was subsequently agreed by Full Council.</p>
Communities, Economy and Transport (CET) Services	<p>The services provided by the CET department are important to the whole economy of East Sussex and underpin many of the Council's other services. The Board considered this should also be taken into account when allocating savings.</p>	<p>The additional investment detailed above recognises the importance of the services CET provides.</p> <p>CET has not been asked to provide further savings at this point in time.</p> <p>Savings proposed for Highway grass cutting have been moved from 2017/18 to the following financial 2018/19.</p>
Community Infrastructure Levy (CIL) and Developer contribution viability gap	<p>The Board wished to highlight concerns about the impact of the Community Infrastructure Levy (CIL) and an emerging 'viability gap' in developer contributions which results in insufficient funding being provided for the strategic road infrastructure required for new developments in the County.</p>	<p>In appendix 8 of the Cabinet RPPR report stated:</p> <p>4.7 There is a need to develop a broad strategy regarding S106 and future CIL contributions, we will work closely with Borough and District Councils to demonstrate the links between their developments and our core need Capital Programme.</p>

Service savings proposal	Scrutiny comment / suggestion / recommendation at Dec 2016 RPPR Board	Response
		4.8 Work is ongoing to establish what funding is expected from CIL contributions and the process that the Council will need to undertake to obtain CIL contributions. The County Council will need to work closely with the Borough and District Councils to ensure basic needs are prioritised effectively and ensure CIL funding is secured where appropriate.

Economy, Transport and Environment (ETE) Scrutiny Committee



Future work at a glance

Updated: March 2017

*This list is updated after each meeting of the scrutiny committee
Follow us on Twitter for updates: @ESCCScrutiny*

Items that appear regularly at committee	
The Council's Forward Plan Page 87	<p>The latest version of the Council's Forward Plan is included on each scrutiny committee agenda. This document lists the key County Council decisions that are to be taken within the next few months together with contact information to find out more. It is updated monthly.</p> <p>The Forward Plan helps committee Members identify important issues for more detailed scrutiny <i>before</i> key decisions are taken. This has proved to be significantly more effective than challenging a decision once it has been taken. As a last resort, the call-in procedure is available if scrutiny Members think a Cabinet or Lead Member decision has been taken incorrectly.</p> <p>Requests for further information about individual items on the Forward Plan should be addressed to the listed contact. Possible scrutiny issues should be raised with the scrutiny team or committee Chairman, ideally before a scrutiny committee meeting.</p>
Committee work programme	This provides an opportunity for the committee to review the scrutiny work programme for future meetings and to highlight any additional issues they wish to add to the programme.

Future committee agenda items		Witnesses
14 June 2017		
Road Safety	Update on the East Sussex Road Safety programme	Assistant Director Communities/Project Manager
Scrutiny Review of Highway Drainage	An update report on the implementation of the recommendations of the Scrutiny Review of Highway Drainage.	Assistant Director, Operations / Contract Manager
Waste Contract	Update report on the Operational Savings Review	Assistant Director, Operations / Contract Manager
Countryside Access Strategy	Update report on the strategic commissioning strategy for Rights of Way and Countryside Site management.	Director / Assistant Director, Operations
20 September 2017		
Reconciling Policy, Performance and Resources (RPPR)	The start of the Committee's consideration of the budget setting for 2018/19 and Portfolio Plans.	Scrutiny, Director and Assistant Directors.
Grass Cutting Savings	An update report on the plans to make savings in highway grass cutting as part of the 2017/18 savings plan.	Director/ Assistant Director, Operations
22 November 2017		
Scrutiny Review of Highway Drainage	A twelve month update report on the implementation of the recommendations of the Review.	Assistant Director, Operations & Contract Manager
Reconciling Policy, Performance and Resources (RPPR)	Reconciling Policy, Performance and Resources 2018/19. The Committee will consider additional information requested at September meeting.	Scrutiny, Director and Assistant Directors.

Current scrutiny reviews and other work underway	Date to report
<p><u>Superfast Broadband</u> A Scrutiny Review Board was established at the 16 March 2016 Scrutiny Committee meeting to examine the provision of Superfast Broadband infrastructure through the Broadband Project which is being delivered by ESCC. Initial areas of inquiry include residents' expectations, communications and whether the roll out of the second contract will address residents' concerns about broadband speeds in the best way.</p>	March 2017
<p><u>Road Safety/Safer Streets</u> A joint Scrutiny Review Board meeting was held on 11 March 2016 to examine the proposals for a Public Health funded project to reduce road accidents (KSI's – Killed and Seriously Injured) and improve road safety. An update report on the delivery of the project will be brought to the Committee at its meeting on 14 June 2017.</p>	June 2017
<p><u>Countryside Access Strategic Commissioning Strategy</u> The report of the Review Board on the draft Countryside Access Commission Strategy was presented at the Council's Cabinet meeting held on 26 April 2016. Public consultation is taking place on the draft Countryside Access Strategy and a report to agree the Strategy will be presented to Cabinet in the Autumn. The Review Board may comment further on the proposed Strategy following the public consultation.</p>	June 2017 (tbc)

Potential future scrutiny work (Proposals and ideas for future scrutiny topics appear here)	
Background / information reports available to the Committee (Items in this list appear on committee agendas when proposed for scrutiny by committee members)	Date available
Performance management <p>Performance monitoring is an integral part of scrutiny. The committee is alerted to the relevant quarterly reports that Cabinet and lead Members receive. Members can then suggest matters for scrutiny to investigate in more detail.</p>	Every quarter

	<p>In the performance reports, achievement against individual performance targets is assessed as either 'Red', 'Amber' or 'Green' ('RAG'):</p> <ul style="list-style-type: none"> • 'Green' means that the performance measure is on target to be achieved • 'Amber' means that there is concern about the likelihood of achieving the performance measure by the end of the year • 'Red' means that the performance measure is assessed as inappropriate or unachievable. <p>The 'Red' and 'Amber' indicators also include further commentary and the details of any proposed corrective action.</p> <p>Requests for further information about individual items in the performance reports should be addressed to the listed contact. Possible scrutiny issues should be raised with the scrutiny team or committee Chair.</p>	
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<p>Enquiries: Member Services Team Author: Martin Jenks, Senior Democratic Services Advisor Telephone: 01273 481327 Email: martin.jenks@eastsussex.gov.uk</p> <p>Access agendas and minutes of Economy, Transport and Environment Scrutiny Committee: https://democracy.eastsussex.gov.uk/mgCommitteeDetails.aspx?ID=146</p>	<p>Version number: v.51</p>
<p>Accessibility help Zoom in or out by holding down the Control key and turning the mouse wheel. CTRL and click on the table of contents to navigate. Press CTRL and Home key to return to the top of the document. Press Alt-left arrow to return to your previous location.</p>	

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EAST SUSSEX COUNTY COUNCIL'S FORWARD PLAN

The Leader of the County Council is required to publish a forward plan setting out matters which the Leader believes will be the subject of a key decision by the Cabinet or individual Cabinet member in the period covered by the Plan (the subsequent four months). The Council's Constitution states that a key decision is one that involves

- (a) expenditure which is, or the making of savings which are, significant having regard to the expenditure of the County Council's budget, namely above £500,000 per annum; or
- (b) is significant in terms of its effects on communities living or working in an area comprising two or more electoral divisions.

As a matter of good practice, the Council's Forward Plan includes other items in addition to key decisions that are to be considered by the Cabinet/individual members. This additional information is provided to inform local residents of all matters to be considered, with the exception of issues which are dealt with under the urgency provisions.

For each decision included on the Plan the following information is provided:

- Page 91
- the name of the individual or body that is to make the decision and the date of the meeting
 - the title of the report and decision to be considered
 - groups that will be consulted prior to the decision being taken
 - a list of other appropriate documents
 - the name and telephone number of the contact officer for each item.

The Plan is updated and published every month on the Council's web-site two weeks before the start of the period to be covered.

Meetings of the Cabinet/individual members are open to the public (with the exception of discussion regarding reports which contain exempt/confidential information). Copies of agenda and reports for meetings are available on the web site in advance of meetings. For further details on the time of meetings and general information about the Plan please contact Andy Cottell at County Hall, St Anne's Crescent, Lewes, BN7 1SW, or telephone 01273 481955 or send an e-mail to andy.cottell@eastsussex.gov.uk.

For further detailed information regarding specific issues to be considered by the Cabinet/individual member please contact the named contact officer for the item concerned.

EAST SUSSEX COUNTY COUNCIL

County Hall, St Anne's Crescent, Lewes, BN7 1UE

For copies of reports or other documents please contact the officer listed on the Plan or phone 01273 335138

FORWARD PLAN – EXECUTIVE DECISIONS (including Key Decisions) –1 March 2017 TO 30 June 2017

Additional notices in relation to Key Decisions and/or private decisions are available on the Council's website via the following link:
<http://www.eastsussex.gov.uk/yourcouncil/about/committees/download.htm>

Cabinet membership:

Councillor Keith Glazier - Lead Member for Strategic Management and Economic Development

Councillor David Elkin – Lead Member for Resources

Councillor Chris Dowling – Lead Member for Community Services

Councillor Rupert Simmons – Lead Member for Economy

Councillor Carl Maynard – Lead Member for Transport and Environment

Councillor Bill Bentley – Lead Member for Adult Social Care

Councillor Sylvia Tidy – Lead Member for Children and Families

Councillor Nick Bennett – Lead Member for Education and Inclusion, Special Educational Needs and Disability

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Date for Decision	Decision Taker	Decision/Key Issue	Decision to be taken wholly or partly in private (P) or Key Decision (KD)	Consultation	List of Documents to be submitted to decision maker	Contact Officer
7 Mar 2017	Cabinet	Council Monitoring: Quarter 3 2016/17 To consider the Council Monitoring report for Quarter 3, 2016-17.	KD		Report, other documents may also be submitted	Jane Mackney 01273 482146
7 Mar 2017	Cabinet	Industrial Strategy Green Paper To consider the Council's response to the Industrial Strategy Green Paper Consultation			Report, other documents may also be submitted	James Harris 01273 482158
7 Mar 2017	Cabinet	National Funding Formula for Schools To consider a response to the National			Report, other documents may also be submitted	Mark Whiffin 01273 337114

		Funding for Schools Consultation Phase 2				
7 Mar 2017	Cabinet	<p>School Improvement Inspection report of Special Educational Needs and Disability services</p> <p>To consider the inspection report in relation to SEND services</p>			Report, other documents may also be submitted	Amanda Watson 01273 481339
7 Mar 2017 Page 93	Cabinet	<p>East Sussex Better Together – Strategic Commissioning Board</p> <p>To seek agreement to the establishment of a Strategic Commissioning Board jointly with Clinical Commissioning Groups as part of the transitional agreements for the East Sussex Better Together Accountable Care Model.</p>		Local Members	Report, other documents may be submitted	Vicky Smith 01273 482036
20 Mar 2017	Lead Member for Transport and Environment	<p>Alexandra Park, Hastings - proposed designated shared pedestrian and cycle route - consultation results</p> <p>Outline of the results of the consultation led by Hastings Borough Council and funded by East Sussex County Council for providing a cycling route through Alexandra Park, and agree with the recommendations made to Hastings Borough Council Cabinet on 4 January 2017</p>	KD	<p>Hastings Borough Council</p> <p>Local Members</p>	Report, other documents may also be submitted	Tracey Vaks 01273 482123
20 Mar 2017	Lead Member for Transport and Environment	Allocation of the 2017/18 Community Match Funding to a number of community led local transport schemes	KD	Local Members	Report, other documents may also be submitted	Jonathan Wheeler 01273 482212

20 Mar 2017	Lead Member for Transport and Environment	Capital Programme for Local Transport Improvements 2017/18 To approve the list of schemes and associated expenditure to be included in the programme	KD	Local Members	Report, other documents may also be submitted	Jonathan Wheeler 01273 482212
20 Mar 2017	Lead Member for Transport and Environment	Issuing of postal Penalty Charge Notices (Regulation 10 PCNs) for vehicle drive away To consider the option of issuing postal or Regulation 10 PCNs for instant offences recorded by approved hand held devices			Report, other documents may also be submitted	Jonathan Wheeler 01273 482212
21 Mar 2017 to 26	Lead Member for Education and Inclusion, Special Educational Needs and Disability	To consider approval to publish notices in relation to a proposal to lower the age range at Sandown Primary School To seek approval to publish notices in relation to a proposal to lower the age range at Sandown Primary School		Staff Parents Key Stakeholders The Local Community Local Members	Report, other documents may also be submitted	Jane Spice 01323 747425
21 Mar 2017	Lead Member for Education and Inclusion, Special Educational Needs and Disability	To consider a final decision on a proposal to lower the age range at Shinewater Primary School To consider a final decision on the proposal to lower the age range at Shinewater		Staff at Shinewater Primary School Parents of children at	Report, other documents may also be submitted	Jane Spice 01323 747425

		Primary School		Shinewater Primary School Key Stakeholders The Local Community Local Members		
21 Mar 2017 Page 95	Lead Member for Education and Inclusion, Special Educational Needs and Disability	St Thomas a Becket Catholic Infant and Junior schools (proposed amalgamation) To consider a final decision on a proposal to amalgamate St Thomas a Becket Catholic Infant School with St Thomas a Becket Catholic Junior School			Report, other documents may also be submitted	Gary Langford 01273 481758
18 Apr 2017	Cabinet	Internal Audit Strategy and Annual Plan 2017/18 To consider the Internal Audit strategy and plan for 2017/18.			Report, other documents may also be submitted	Russell Banks 01273 481447
18 Apr 2017	Cabinet	External Audit Plan 2016/17 To consider the External Audit Plan 2016/17			Report, other documents may also be submitted	Ola Owolabi 01273 482017
18 Apr 2017	Cabinet	Scrutiny Review of Superfast Broadband To consider a report from the Economy, Transport and Environment (ETE) Scrutiny Committee on the Scrutiny Review of Superfast Broadband in East Sussex, and			Report, other documents may also be submitted	Martin Jenks 01273 481327

		the response to the report from the Chief Officer.				
18 Apr 2017	Cabinet	<p>Scrutiny Review of Early Years Attainment at Key Stage 4</p> <p>To consider the report of the Children's Services Scrutiny Committee on the Scrutiny Review of Educational Attainment at Key Stage 4, together with the observations of the Chief Officer on the Scrutiny Review</p>			Report, other documents may also be submitted	Stuart McKeown 01273 481583
24 Apr 2017 Page 96	Lead Member for Transport and Environment	<p>Review of the East Sussex Local Flood Risk Management Strategy's delivery plan 2017/18</p> <p>To agree the delivery plan as the framework for the Local Flood Risk Management activities in East Sussex for 2017/18</p>	KD	Local Members	Report, other documents may also be submitted	Marie Nickalls 01273 482146
25 Apr 2017	Lead Member for Resources	<p>Annual debt write off report 2016/17</p> <p>To consider the Annual Debt write off report for 2016/17</p>	KD		Report, other documents may also be submitted	Janyce Danielczyk 01273 481893
19 Jun 2017	Lead Member for Education and Inclusion, Special Educational Needs and Disability	<p>Final decision on a proposal to lower the age range at Sandown Primary School</p> <p>To consider the final decision on a proposal to lower the age range at Sandown Primary School</p>		Staff Parents Key stakeholders The Local	Report, other documents may also be submitted	Jane Spice 01323 747425

				Community		
19 Jun 2017	Lead Member for Education and Inclusion, Special Educational Needs and Disability	School Transport – Review of walking routes to school including Public Rights of Way To consider a report regarding the School Transport Review of walking routes to school including Public Rights of Way	KD		Report, other documents may also be submitted	Jo Miles 01273 481911
27 Jun 2017	Cabinet	Council Monitoring: Quarter 4 2016/17 end of year report. To consider the end of year Council Monitoring report for 2016/17.			Report, other documents may also be submitted	Jane Mackney 01273 482146
27 Jun 2017	Cabinet	Employability and Skills Strategy 2016 - 18 To consider an update on progress regarding the Employability and Skills Strategy 2016 - 2018			Report, other documents may also be submitted	Holly Aquilina 01323 463538
27 Jun 2017	Cabinet	To consider proposals regarding the publication of statutory notices in relation to the proposed closure of Rodmell CE Primary School	KD		Report, other documents may also be submitted	Gary Langford 01273 481758
28 Jun 2017	Lead Member for Community Services	Petition to support traffic calming measures in Etchingham To consider whether traffic calming measures in Etchingham would be a priority for the County Council		Local Members	Report, other documents may also be submitted	Brian Banks 01424 724558

28 Jun 2017	Lead Member for Community Services	Traffic calming measures around Bourne School To consider a petition requesting traffic calming measures including additional parking restrictions and safer crossing points		Local Members	Report, other documents may also be submitted	Brian Banks 01424 724558
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