SURREY COUNTY COUNCIL

LOCAL COMMITTEE (MOLE VALLEY)

DATE: **6 June 2018**

LEAD OFFICER: **Zena Curry**
Area Highways Manager,

SUBJECT: **UPDATE ON DORKING TRANSPORT STUDY**

DIVISION: **DORKING HILLS, DORKING SOUTH & HOLMWOODS**

SUMMARY OF ISSUES:

This item is to update members on the current status of Stage 3 of the Dorking Transport Study, the study was commissioned to provide evidence to support a potential future funding bid for a transport package for Dorking Town Centre which could be submitted to the C2C LEP to address increasing town centre congestion problems.

RECOMMENDATIONS:

The Local Committee (Mole Valley) is asked to:

(i) Note the current status and emerging themes of the Dorking Transport Study Stages 1 & 2 Data Collection and Issues & Opportunities made to date as previously presented.

(ii) Note the assessment of further potential options analysed in Stage 3 Option Testing & Developing Strategy and note that a package of sustainable transport measures is likely to emerge as the most favourable approach to receive funding support, but this will be confirmed following the conclusion of the Stage 3 and the issue of the final report for the current Dorking Transport Study. Work on finalising the final Stage 3 report is still ongoing and is expected to be completed by the end of June 2018.

REASONS FOR RECOMMENDATIONS:

(i) To ensure that the Local Committee is kept informed, the Local Committee is asked to note the current status and emerging themes of the current Dorking Transport Study and potential options proposed for further analysis in Stage 3 Option Testing & Developing Strategy.

1. INTRODUCTION AND BACKGROUND:

1.1 Historically, there have been concerns over delays to traffic and the impact of congestion within Dorking Town Centre.

1.2 Since the mid 1990s Dorking Movement Study there have been numerous well documented studies and investigations including extensive data collection exercises and option testing using sophisticated traffic models in order to find suitable, sustainable and deliverable solutions to tackle Dorking's traffic related problems.

1.3 Following the last 'Update on Dorking Town Centre 'Local Committee Report 2 March 2016, recommendations were agreed to undertake a further Dorking Transport Study in order to provide evidence that would support a potential future Business Case bid to fund a sustainable transport package for Dorking Town Centre which could be submitted to the C2C LEP to address Dorking's traffic problems.

1.4 The study concluded that there was no small scale engineering solution to the congestion problems of Dorking that is both deliverable within available funding limits and environmentally acceptable.

1.5 Peter Brett Associates were commissioned jointly by Surrey County Council and Mole Valley District Council in September 2017 to undertake a further Dorking Transport Study to provide evidence to support the potential future funding Business Case.

1.6 The study was structured into 3 Stages:

- Stage 1: Data Collection;
- Stage 2: Issues & Opportunities &
- **Stage 3: Option Testing & Development Strategy**.

1.7 This report describes the progress made in Stage 3 to further assess options from the emerging themes of the Dorking Transport Study Stages 1 & 2 Data Collection and Issues & Opportunities made to date.

2. ANALYSIS:

2.1 A Dorking Transport Study draft report has been written to summarise the findings of the Stage 1 the Baseline information and data collection. Both county and district officers are currently reviewing and scrutinising the draft report before publication.

2.2 Stage 1 has been presented to the Local Committee at the previous meeting but to recap the desktop review revealed the following:

- Surrounding the town (excluding the south) lies within the Surrey Hills Area of Outstanding Natural Beauty (ANOB);
- Protecting the built heritage of the town and the quality of the surrounding Surrey Hills is essential, which discounts any large scale infrastructure;
- The area is served by 2 Secondary Schools & 7 Primary schools, with previous data showing high % of younger children being driven to school;

- 60% of residents within walking distance of the Town Centre (within 1.2km) and hence access the town centre with 10 minutes;
- Narrow streets with Historic centre constrains pedestrian access;
- There is a reasonable cycle network, with town centre access by pedal cycle within 5-10 minutes;
- SCC have undertaken recent improvement for cycle provision in Dorking, including a cycle hub at the station;
- Cycle path provision within Dorking town centre is mainly located to the north, with limited provision south of West Street for use by the residential areas. There are parts of the existing cycle way which are not of a sufficient width within guidance (DfT Manual for Streets).
- Adequate bus stop provision will 99% of population within 400m of a bus stop, but recognise that the local bus service frequency inhibits more bus journeys as alternative to the private car;
- The town is well served with 3 rail stations , including a radial route into London \ South Coast and orbitally via North Downs Line;
- The narrow one way roads within the town centre create a gyratory system with a number of traffic signal junctions, as a consequence, frequent queues and delays occur in both am and pm peak periods;
- Site observations revealed loading and deliveries along the A25 can cause 'immediate short term gridlock' due to the narrow lanes;
- SCC have undertaken recent works to manage peak period congestion by improving the operational efficiency of some traffic signal junctions;
- Accident records show that there were 147 accidents resulting in 167, with no fatalities;
- There is adequate car park provision within Dorking, with only the High Street Public car park at capacity for most of the day, the others appear to be under-utilised, (comparison data not available for Waitrose or Lidl car parks);
- Dorking Railway Station car park is at capacity before the network peak hour (08:00-09:00).
- Census data analysis shows that 55% of Dorking Residents travel to work by car, whilst over 20% use the train to commute and 19% commute by foot.

2.3 The traffic survey data collection included the following surveys:

Car Park Accumulation and Occupancy surveys at four car parks in the centre of Dorking.
Manual Classified Traffic Counts (MCTC) at six of the key junctions, including queue length surveys.
Automatic Traffic Counts (ATC) at four key locations to understand the daily traffic flow, profiles and speed along the road.
An Automatic Number Plate Recognition (ANPR) survey covering both an inner and outer cordon around the town, with an additional survey at Dorking Station.

2.4 Initial analysis of the different survey methods and data has revealed the following:

- There is adequate car park provision within Dorking, with only the High Street Public car park at capacity for most of the day, the others appear to be under-utilised;

- The largest volume of traffic in the AM and PM peak hours utilise the A24;
- Over 90% of vehicles travelling between the north and the south in the AM and PM peak hours use the A24 and do not go through the centre;
- For vehicles travelling along the east-west corridor, 90% and 84% use the High Street in the AM and PM peak hours respectively.
- Ashcombe Road is utilised by vehicles travelling on the west-north corridor;
- Of the vehicles going through the centre of Dorking, HGV percentages are considered low between 1-3%.

2.5 In summary the traffic data indicates that the highway network is at capacity during the am and pm peak hours but that the peak hour has extended into a peak period longer than 60 minutes, and that small incidents such as poor on-street parking or loading \ unloading can lead to short intense periods of congestion or “gridlock”.

3. OPTIONS:

3.1 Along with previously proposed and tested options a number of other initiative solutions have been considered but discounted on due to feasibility , deliverability and unlikely to receive funding support and hence have not been put forward to Stage 3. These included:

i. Installation of guard rails and removal of pedestrian crossings at pump corner

ii. Vincent Lane re-engineered to two way traffic

iii. South Street re-engineered to two way traffic

3.2 Feedback from the previous Local Committee requested further investigation into other **Options for Car Travel** including:

i) A24 \ A25 Deepdene Roundabout

ii) Improvements to Pump Corner

iii) Western Bypass

3.3 The feasibility assessment of these options will be included within the Stage 3 final report. Previous studies have evaluated many different options for key junctions and traffic management arrangements within Dorking, which resulted in little or even dis-benefits to traffic, including improvements to Deepdene Roundabout.

3.4 However, a further capacity review has been undertaken as part of Stage 3 to understand if a signalised junction improvement could provide increased capacity over the existing roundabout layout. Which would also offer enhanced pedestrian and cycle facilities across the junction.

3.5 An existing capacity model, validated against the traffic queue surveys undertaken in October 2017, has been produced using Junctions 9 (industry standard software) in order to understand the current operation of the roundabout. The results are summarised in the Table 1 & 2 below for both the AM and PM peak hours respectively. (values shown are the highest over the modelled time periods).

Approach Arm	Queue (PCU)	Delay (s/pcu)	Flow:Capacity (RFC)
A24 London Rd	20.4	67.24	99%
A25 Reigate Rd E	21.3	76.89	100%
A24 Deepdene Rd	36.3	99.27	104%
A25 Reigate Rd W	20.1	133.16	103%

Table 1 Deepdene Roundabout Capacity Assessment – AM Peak

Approach Arm	Queue (PCU)	Delay (s/pcu)	Flow:Capacity (RFC)
A24 London Rd	36.3	89.95	103%
A25 Reigate Rd E	27.1	113.24	104%
A24 Deepdene Rd	16.5	56.31	97%
A25 Reigate Rd W	20.1	133.16	103%

Table 2 Deepdene Roundabout Capacity Assessment – PM Peak

3.6 The assessment shows that the roundabout is **currently operating over operating capacity during both peak hours**. The A25 Reigate Rd W currently experiences the highest delays per vehicle in both AM and PM periods. As a general rule RFC values over 90% indicate the approach arm is over capacity resulting in queues and delays.

3.7 However, improvements to the existing roundabout are not considered achievable at this stage due to land constraints, housing fronting the majority of approaches, therefore Compulsory Purchase Orders (CPO) would be required to enlarge and increase capacity at the roundabout, which would incur significant cost.

3.8 A conceptual signalised junction has been assessed for a preliminary feasibility design. A capacity model has been produced in LinSigv3 (industry standard software). Traffic flows from the October 2017 surveys have been input into the model to understand the potential capacity a signalised junction may have in this location.

3.9 The results are summarised in the Table 1 & 2 below for both the AM and PM peak hours respectively. (values shown are the highest over the modelled time periods).

Approach Arm	Queue (PCU)	Delay (s/pcu)	Flow:Capacity (RFC)
A24 London Rd	164.9	830.1	162.8%
A25 Reigate Rd E	224.3	831.5	161.8%
A24 Deepdene Rd	122.6	655.7	142.5%
A25 Reigate Rd W	97.1	857.3	166.5%

Table 3 Deepdene Traffic Signal Capacity Assessment – AM Peak

Approach Arm	Queue (PCU)	Delay (s/pcu)	Flow:Capacity (RFC)
A24 London Rd	141.5	715.6	149.2%
A25 Reigate Rd E	190.9	856	164.6%
A24 Deepdene Rd	171.9	844.1	164.7%
A25 Reigate Rd W	136.5	857.3	166.5%

Table 4 Deepdene Traffic Signal Capacity Assessment – PM Peak

3.10 The model results predict that all arms of the **signalised junction would operate over operational capacity with excessive queues and delays on all approaches.**

3.11 Although better for pedestrians and cyclists due to the implementation of signalised crossings and advance cycle stop lines, a signalised cross roads (with pedestrian/cycle facilities and right turn lanes on the A24) would provide less capacity for vehicles than the current roundabout design, therefore this option has not been progressed further at this stage.

Improvements to Pump Corner

3.12 Pump Corner is a major highway network pinch point that is located to the centre of Dorking town centre connecting the A25 West Street and A25 High Street as well as North and South Street.

3.13 In 2007 it was converted into a signalised junction with the primary aim to allow pedestrian mobility around Pump Corner ('Dorking Congestion Study', 2004,SCC). Additional aims included improving throughput capacity as well as 'decluttering' the junction and introducing a controlled right turn facility for cyclists. The conversion was part of the Pump Corner signalisation scheme conducted by SCC. Since the signals were implemented, they now run on MOVA.

3.14 The objectives of the current scheme were as follows:

- To reduce delays in West Street which may improve flows at the junction of Vincent Lane and Westcott Road;
- To assist pedestrian and cyclist movements; and
- To formalise traffic movements with possible safety benefits.

3.15 Peak hour approach flows from 2003 to 2007 show a decrease on all arms suggesting the signalisation improved the congestion. However PM flows between 2007 and 2017 show a marginal increase of 147 vehicles using the junction.

3.16 The current operation results in queues along West Street due to the conflict with westbound traffic along the High Street. This congestion is locally perceived to be intensified by the pedestrian crossing facilities that are provided at the junction. The congestion and queuing has been seen to be worse in the PM.

3.17 The provision of pedestrian crossings and the cycle stop line are perceived as contributing factors towards congestion at the junction.

3.18 Removing the crossings and installing guard railings along the edge of the carriageway could be an option to remove all pedestrian conflict with traffic at the junction and potentially slightly ease congestion. However, this scheme would lengthen the pedestrian route from approx. 40m to 250m+, as pedestrians would be forced to cross at existing crossings away from the junction and away from desire lines. There is potential for an increase in accidents as pedestrians would likely attempt to cross the road where there are no pedestrian facilities, or worse still, scale the guard railings to meet their desire lines.

3.19 Removing the cycle right turn stop line would lead to cyclists waiting on the carriageway to give way to eastbound traffic. This could increase the potential for collisions between vehicles and cyclists.

3.20 This scheme also goes against the key aim of installing the signals initially, which was to allow pedestrian mobility.

3.21 A potential solution to decrease congestion at the junction would be to remove the conflict between traffic travelling from West Street and High Street into South Street, by removing the Give-way and Stop lines. However, initial swept path analysis shows that a vehicle would not be able to run un-opposed from High Street into South Street if a larger vehicle where manoeuvring from West Street to South Street.

3.22 Finally, an option was considered to ban the right turn from West St into South St, to reduce congestion along West St. However this would increase traffic flows and congestion at Deepdene Roundabout and along the High Street with vehicles doubling back along the High Street.

3.23 It is considered unlikely that these improvements at Pump Corner will provide any positive improvements and are unlikely to be taken forward for further consideration.

Dorking Western Bypass

3.24 Finally, a more radical option was considered to reduce traffic through the centre of Dorking by providing a North West Dorking Bypass via Ranmore Common, which highlighted a number of key issues including:

- Potential adverse impact to AONB a SSSI.
- Potential high engineering costs affecting viability as a result of the crossing over Ranmore Common and the railway.
- Limited demand based on ANPR surveys.
- Potential Compulsory Purchase Order of land required to accommodate link.

3.25 On the basis that there is currently not enough demand for a north west Dorking Bypass Road based on the ANPR analysis, the requirement for a road to go through key ecological and environmental areas and the likely significant cost of such a scheme, including CPO and engineering costs, this option is highly unlikely to be a viable option.

4. CONSULTATIONS:

4.1 A Steering group of local county and district members along with key town holder stakeholders have been informally consulted on the purpose and preliminary finding of Stages 1 and 2.

5. FINANCIAL AND VALUE FOR MONEY IMPLICATIONS:

5.1 Any detailed business case for a the scheme submitted will require, as part of the business case, a value for money statement, derived through the calculation of the benefit cost ratio (BCR). Any large major scheme greater than £10m will need to demonstrate a BCR of 2-4 , ie will need to demonstrate either transport or economic benefits in the order of £20-£40m,

and it is considered unlikely that these can be achieved without significant increases in the number of homes or employment opportunities within the Dorking area to support the economic case of any such scheme given the competitive nature to secure C2C LEP funding against schemes from other Local Authorities.

5.2. Any Business Case submitted to the C2C LEP will need to demonstrate the ability to provide as least 20% local contributions from either Local Authorities allocations or other 3rd Parties such as developers or other public sector organisations.

6. EQUALITIES AND DIVERSITY IMPLICATIONS:

6.1 It is the objective of Surrey Highways to treat all users of the public highway equally and with understanding. An Equalities Impact Assessment (EqIA's) will be carried out for any Major scheme LEP funded bid as part of the detailed design process.

7. LOCALISM:

7.1 Dorking Town Centre residents and business primarily impacted along with motorists travelling through the town centre. Any proposed recommendation should provide improvements to those affected by current traffic volumes and other associated other issues of air quality. A package of sustainable transport measures will help provide alternatives to car use.

8. OTHER IMPLICATIONS:

Area assessed:	Direct Implications:
Crime and Disorder	No significant implications arising from this report
Sustainability (including Climate Change and Carbon Emissions)	Set out below
Corporate Parenting/Looked After Children	No significant implications arising from this report
Safeguarding responsibilities for vulnerable children and adults	No significant implications arising from this report
Public Health	Set out below.

8.1 Sustainability and Public Health implications

Potential reduction in Carbon Emissions associated with any reduction in traffic congestion

Increased walking and cycling has a positive impact on the health of a person. The NHS identifies cycling as an activity which provides significant health benefits.

It is also expected that increased levels of walking and cycling to and around the town centre will have a positive effect on Dorking's retail economy with recent studies suggesting that pedestrians and cyclists actually spend more on a trip into a town than a motorist.

9. CONCLUSION AND RECOMMENDATIONS:

9.1 As previously concluded following the outcomes of the previous studies and further Option feasibility work undertaken in Stage 3 summarised above is that the current Dorking Transport Study is unlikely to promote 'one large solution' and it more likely that a package of measures of sustainable transport will emerge as the most favourable approach to receive funding support, but this will be confirmed following Stage 3 and the issue of the final report of the current Dorking Transport Study, which is now expected by end of June 2018.

9.2 Hence the following options are likely to be recommended for inclusion in a package of measures to if a future potential business cases (*__bold__ indicates previous Member acknowledgement of options to be included)

Reduce the Need to Travel

- Click & collect points at Dorking railway stations;
- **Encourage commitments to provide superfast broadband**;

Walking

- Develop and promote an integrated walk / cycle network;
- Update school travel plans;

Cycling

- Develop and promote an integrated walk / cycle network;
- Proposals for quiet road routing;

Bus Travel

- Increased provision of RTPI;

Rail Travel

- Expansion of car parking spaces at Dorking rail station ***(Members to consider via a separate review or through the Local Plan process and discussions with Network Rail and Operator GTR)***
- **Season ticket & (reserved) car parking combination**
- Electric car charging & electric buses serving the station

Car Travel

- Option 1 - removal of some of the parking bays on south street following pump corner
- Option 2 - Safeguarding land along Vincent lane
- Option 3 - Junction proposals for Priory School link road on to the A25

Servicing & Delivery

- **Freight activity survey with local businesses**
- **Redesign and improve the provision of delivery bays and loading bays**

10. WHAT HAPPENS NEXT:

10.1 The emerging options taken forward from Stage 2 of the Dorking Transport Study and additional options are being developed and assessed further during Stage 3 to ensure that any options recommended are feasible and deliverable and adequately evidenced to be included in a Business Case for a package of Transport Measures for Dorking.

10.2 Subject to the approval of this Local Committee, a full Final Report of the Dorking Transport Study will be reported back to the Local Area Committee, upon receipt of the Final Stage 3 Report at the end of June 2018.

10.3 Subject to the approval of this Local Committee any recommendations from the Stage 3 Final Report will be considered for inclusion in any potential business case to be submitted to the C2C LEP to support the District Council's Future Mole Valley Local Plan and reduce congestion within Dorking Town Centre.

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Consulted:

Annexes:

Sources/background papers:
Dorking Movement Study 1998 Committee Report 14/04/99
Dorking Decongestion Committee Report 26/04/04
Pump Corner Committee Report 12/03/08
Update on Dorking Town Centre (Traffic Signals) Committee Report 2/03/16
Update on Dorking Transport Study Local Area Committee 14/03/18