

1. The Committee might wish to be made aware that a group of professional Mole Valley residents and others, including myself, have been making consultation observations to the MVDC in regard to its proposed Local Plan ("MVLN") 2018 to 2033 and the Community Infrastructure Levy ("CIL"). That includes a good amount on transportation (rail, road and air) and land drainage and flooding control.
2. Our highways technical sub - group presently comprises 7 civil engineers (2 of whom are ICE Fellows), 2 economists, a structural engineer, a surveyor, a geologist, a construction engineer and a lawyer. We all have very good infrastructure experience, adding up to a total of over 600 years between us, and it is fair to say that we are of "slide rule" generation and of mature years (most of us 67 to 75, some a little younger) and have good technical, analytical and assessment skills in our individual and collective fields of knowledge. We also have the experience advantage that we are very familiar with manual calculations as well as computerised ones and so can readily cross check computerised outputs quickly to ensure that they are realistic and make engineering output sense - a skill not always available to younger engineers now but accepting that they will be more "tech savvy" than our generation.
3. Independently, we have been making MVLN observations to MVDC since September last year, and that appear, now, to have some overlaps with your Committee's highways work in Dorking and elsewhere, including Leatherhead. Most of our submissions to MVDC have been caveated "Confidential" at this pre-publication time but provision has been made expressly that MVDC can share the information with others in associated official roles. That includes your Committee Members and SCC's material highways engineers (but not SCC/MVDC's consultants without our further express permission).
4. As regards officer Report paragraph 3.2 iii) for 6 June 2018 Committee, a possible Dorking Western Bypass; we too identified that and disclosed its generality and one approximate route alignment (we considered two) to MVDC earlier this year but we took it a stage further than your consultants appear to have done and linked it back to the A24(DC) a little south of North Holmwood traffic roundabout. We also identified to MVDC an alternative to it which we have described as the Dorking Western Relief Road ("DWRR"). In our analysis and designs the former and the latter do not serve identical functions but have affinities. The DWRR makes best use of a combination of improved sections of existing highways and new construction whereas our design for a Western Bypass is almost entirely a new "green field" routing. By a long way, economically and functionally and environmentally, our DWRR proposals are streets ahead of a Western Bypass alternative.
5. We concluded therefore that a possible Dorking Western Bypass (DC) is premature before mid-century at the earliest, that better and that more cost effective and quicker to implement alternatives presently exist and on those grounds we accordingly did not pursue it to 1:500 scale design detail but there are some technical/cost related issues to such a Bypass that are clearly problematic - and identifiable so even from just the outline design stage assessment (we use 1:1250 scale plans and digital imagery and key levelling and key measurements only combined with rapid semi-detailed site visits for that analysis level).

6. We produced two tunnelled schemes (both DC's) under the Nower but getting to the northern edge of the Nower southwards to start it is not straightforward (south of the tunnelled Nower, there is little technical or cost problem in the open farmland - but it is in the Greenbelt) and the northern section is not demolition free even in a large sweep curve to the west of Dorking and to the West of the industrial area south of the Nower. The tunnelling at the Nower (in mainly dry to moist, competent, Hythe Beds with some low volume springs at the underlying and exposed Atherfield Clay junction south of the Nower and with one known NW trending cross cutting modest throw strike slip fault) is not technically difficult but it is extremely expensive.

7. In the north section (A25 to A24) at the Pippbrook valley intersect however, there would be a possible flood control opportunity by using the highway embankment (appropriately Panel Engineer designed) as a fairly shallow (<3m deep) impounding flood routing balancing and control facility (infrequent farm land flooding for short durations to, at overtopping level, peak lop from about 28m<sup>3</sup>/s max inflow to controlled 6m<sup>3</sup>/s storm relief flood routed outflow, and at under 1m<sup>3</sup>/s base flow) but we felt that that is for the distant future too.

8. At the most northerly end of any Dorking Western Bypass there are unfortunate combinations of vertical alignment difficulties with the GWR railway, with highway gradients, with curves and sightlines for speeds greater than 85Km/h design speeds (50 MPH speed limits) and to avoid some very expensive deep retaining walls in one part the horizontal alignment would have to be taken north onto the Denbies flatter land and then swept back south to an existing footbridge position to cross the London to Horsham Railway line with satisfactory rail height clearance (we used 4.72m bridge soffit to *maximum possible* canted rail top because in our associated MVLP railway work we have identified a scheme with the intended Cross-Rail 2 - present design terminating at about Raynes Park - that would allow a sub 30 minute fast service London to Leatherhead and up to 10 paths per hour (6 minute frequency service) and a reduction from about 55 minutes London to Dorking to 33 or 34 minutes - both dramatic railway use improvements for Mole Valley - and so the maximum canted level that I mention here is important as the maximum cant deficiency - 255mm used by us - will be needed for that speed increase on that material railway curve a little north of Dorking Station).

9. As it ends up, this all leads to an extremely expensive, and not necessarily technically straightforward, premature Dorking Western Bypass scheme (we also got negative BCR for the MVLP year 2033) and even in the north part (between the A24 and the A25) we concluded that the DWRR was a far better bet on cost and utilisation bases and should be pursued instead. A Western Bypass would hence not be appropriate in our judgement nor necessarily would it be of best (or any material) benefit to an A25/A24/centre Dorking traffic flow balancing solution for either new development needs or congestion solving outputs. In truth, for East - West, and *vice versa*, carriage, it also ends up in the wrong place and would require traffic to "turn back" on itself at the A24 which then leads to connecting A24 junction flow problems and appreciable extra E-W/W-E journey length and inconvenience. To use an older expression from the Highways Act it would not, either, be lawfully "...commodious..." in our view.

10. We agree that the A24/A25 traffic roundabout junction at Deepdene Avenue has a material capacity deficit and identified that case to MVDC in our MVLP

communications early this year and also that it would be unwise to replace it with a signalised junction. Any such "solution" there is asking for trouble.

11. However, we do not agree with Officer report Paragraph 3.7 that private land take is necessarily needed for a larger and/or more streamlined roundabout re-design there - but it would depend on roundabout sizing and the traffic flows allowed for - we stated our values to MVDC with our MVLP comments. Those values are very high and cannot be sustained by a single width A24 carriageway south of the roundabout - it also, northbound, has a most unfortunate approach angle but we have taken that into account in our re-design assessment. We provided MVDC with a drawing showing how work could be done within the Highway land *but* that the back edge of west footway on the A24 north side would have to co-exist with the front face of at least one of the blocks of flats, which obviously is less than ideal. Nevertheless, that Officer report Paragraph 3.7 is correct in saying that any substantial junction re-arrangement work there would be expensive (it is also, constructionally, difficult and recognising that we did provide MVDC with a traffic diversions plan with it and some CIL expenditure related reasons for that).

12. Appropriately our own CIL funding "to facilitate new development" reasons are, for legality, distinct from the Committee's "cure congestion" remit and reasons but if our MVLP consultation south of Dorking and/or in and about Dorking new development proposals are followed then CIL receipts could be used, we believe lawfully, to facilitate both the new development transportation requirements and, in corollary, ameliorate the Dorking traffic congestion at the same time (we have also MVLP infrastructure commented on Leatherhead and two other places but do not discuss that here). The MVDC CIL receipts should be accumulating at about £2M/annum at the needed MVDC development rate and so by year 5 (present total MVDC CIL unspent receipts about £1.5m) a reasonable proportion of the needed Dorking highway work could be MVDC CIL funded. CIL funding cannot however, lawfully, be used merely to cure existing congestion problems and so the expenditure and scheme reasoning and need must have a new development facilitation *foundation* requirement basis to it - our proposals do that as identified to MVDC in the MVLP consultation.

13. Officer report Paragraph 3.23, Pump Corner; and the Western Bypass Paragraph 3.25; we independently agree on the lack of real benefits and on the cost issue and agree with your consultants and/or Officers that neither scheme possibility should be pursued.

14. I deal lastly with a small part of the persistent vexing problem of traffic delays in Westcott and Dorking on and from the A25.

15. Under free flow free exit conditions the journey time range for *daylight* traverse of A25 One Way Vincent Lane (we use 553m control to control) we found to be, lights on green phase, from a large number of accurately timed motor vehicle runs, 43 seconds with a range of plus 4 seconds minus 2 seconds. The circuit (again all green phases and free flow lanes and free flow exit conditions) south junction Vincent Lane, Pump Corner, South Street, Vincent Lane south junction return we timed as 2 minutes 4 seconds with a range of plus 9 seconds minus 2 seconds.

16. This needs to be compared with the experienced very frequent and substantial delay times under constrained flow conditions - one of which we recently recorded

on a Saturday afternoon as 14 minutes 42 seconds in the Vincent Lane leg and with the A25 almost at a standstill, East bound, (slightly later at 16.40 at our Westcott pedestrian crossing control point) with an A25 (staggeringly bad) Westcott to Vincent Lane junction travel time of 52 minutes instead of 3 minutes or so free flow (our accurate base data timing is 2 minutes 51 seconds with a range of plus 4 seconds and minus 3 seconds free flow but in this case to a red phase "no vehicle in front" controlled stop at A25 junction Vincent Lane. If on green phase then deduct 2-3 seconds.

17. Patently it is not the carriageway lane capacities that are any present primary flow obstructing problem (except in Vincent Lane maybe because of existing "in lane" constraints and in the High Street because of obstructing parking at times close to Pump Corner) it is entirely the traffic light dwell and time loss and junctions capacities deficits in Dorking that are the initial issue - and that *must* be addressed. It cannot be left as the officers' reports are intimating because the traffic flow *volume* problem simply cannot be cured by non-related walking and cycling improvements as close to 100% of the A25 input and output E-W and W-E at key node traffic flows at A25 Vincent Lane junction and A24/A25 junction (London Road west side) are generated *externally* to Dorking town centre. So *internally* effected "walking/cycling" improvements - no matter how good - will have no valid intervention impact on those "passing through" traffic flows which are the ones needing a greater (junctions) *capacity* cure. Whilst Internet and homeworking is presently subduing traffic flows generally (but not on trunk and motorway roads) we assess that it will be relatively short lived and that when self driving cars become the norm (after 2030 we assess) the homeworking and the vehicle movement can take place at the same time and the internet damping would then be no more and hence traffic volume trends will then increase again materially - though the peaks might be longer and a little flatter. More Internet provision, seemingly being relied upon by the Committee, might therefore give a short respite but, we believe, no more once self driving cars become the norm.

18. We are hoping to see that your consultants will produce a node by node and a node to node detailed flow analysis that quantifies the speed of flow profiles, the traffic flows thereto, the delay speeds, the hold up delay times and lengths and delay time and ill-health treatment costs and losses with the inevitable engine idling localised pollution emissions (and the noxious component percentages) in that stacking and congested flow constraint matrix and most especially in the prospective "bad" pollution canyon of West Street. The EU legislative provisions are also material to the traffic engine idling and standing emitting pollution investigations inclusions and their related costs outputs to both highway users and the public in general and to those in and about West Street especially, and what SCC, as liable Highway Authority, should be doing about it. And of course all of the options costs and benefits calculations so that a rational assessment of ranking choice can be made duly and on an equal footing.

19. We too (but for different CIL funding reasons) put forward a reversion to the pre - 1968 two way traffic system in Dorking, with modifications, but from further work (not yet released to MVDC) other possibilities have been identified and whilst the designs and plans and sections are complete at 1:500 scale and larger we are still assessing the economics and costs of those alternatives.

20. Your consultants however are quite correct that new two way traffic arrangements in Vincent Lane would require land take (we have fully completed designs for both 6.75m and 7.3m singles at 1:500 scale so can be sure on these land take elements) locally at the north end - minor and a wall and tiny parts of back gardens land only on the east side (the west side is mainly industrial access frontages, car parking and the like) - but, in our designs, on the East side, at the south end, up to 2.34m of front gardens land take is unavoidable in one design and land take opposite would be unrealistic as their front gardens are already tiny. There is no need for demolitions in any event but an electricity sub-station outside Book House at the NW end will need re-locating - primarily a cost issue only. However, one of my colleagues (who has done the Vincent Lane design) has (only yesterday 1 June 2018) modified his design such that that figure can be reduced to 2.12m. Then the land take area is 117m<sup>2</sup> out of a scheme total of 6272m<sup>2</sup> or merely 1.86% - which is extremely low for this class of highway work in an urban area.

21. In our view therefore, it is not a good and valid reason to discount your consultant's "two way traffic" proposals on the mere ground that land compulsory purchase would be needed - that, in our view, is not lawful. If that criteria were to be lawful then compulsory purchase powers would never be needed nor used. So the law is quite clear: it is not lawful for SCC officers to claim that a highways scheme consideration is thwarted by the mere need to apply compulsory purchase powers (see officers' reasons in previous report for your March Meeting) and you should direct them otherwise to proceed lawfully and fully establish the consultant's two way traffic proposals before, (and we doubt that you could lawfully do so) if rational, discounting them. We believe that you cannot lawfully do so but that is a matter for the future if it transpires. We would also remark that the purpose of the Queen's highway, as settle in law at the highest level in the House of Lords [Supreme Court now] is to allow free and unobstructed passage, to and fro, and that, except where expressly permitted by lawful TRO, in lane parking is always an obstruction in law (and frequently too in fact). Hence the Officers cannot, in law, rely on parking loss in South Street to defeat your Consultant's two way traffic system proposals. Whilst we do not say that these are yet the actual figures to use, if the average 6 day daily material time delays came to 8 minutes per vehicle (excluding the HGV low percentage) at the Vincent Lane A25 junction and A24/A25 junction and was cumulated then a delay value of about 5467 daily hours and £32.4M delay value per annum would arise. That is a very sound reason for spending a few million pounds in material amelioration works in Dorking in our view.

22. Your consultant's two way traffic proposals for Vincent Lane and South Street are, in our view, lawful and technically sound and would be reasonably and realistically cost effective. Accordingly (with a modification as to the use of Junction Road too), we agree that your consultant's "two way traffic" solution is *one* valid solution to ameliorating the persistent and gross traffic delays in Dorking. We would further observe too, if finances are constrained initially, that the work in South Street could be very quickly and economically achieved by usage of TRO's and sensible white re-lining in the shorter term and that that should not be discounted either. In our view Vincent Lane would need a complete reconstruction (including new SW drainage) from formation up and that will be expensive: our preference is for a 7.3m single (but with a side wall safety margin strip of at least 450mm at the south end if the footway outside Nos 1 to 20 is to remain raised there). We have traffic diversion

plans for the Vincent Lane work, in 9 stages, but have not yet disclosed them to MVDC.