

## Sevenoaks 20mph Questions – Cllr Rakes and Cllr Bonin

Questions and comments from Cllr Bonin:

1. How much will this cost and how will it be funded? Could we please have the costs broken down into three separate elements:
  - a. The 20mph zones – **construction cost alone is £120k (excludes 25% for Traffic Management, Contingencies and Design Fees)**
  - b. The new zebra crossing on Dartford Road - **construction cost alone £60k (excludes 25% for Traffic Management, Contingencies and Design Fees)**
  - c. The cycle lane and one-way system on Dartford Road – **construction cost alone £5k (excludes 25% for Traffic Management, Contingencies and Design Fees)**
2. What are the expected quantifiable benefits of each of the two main proposals (separately for the 20mph zones and the one-way system on Dartford Road). Could we please have the before and after numbers to back these up? **Dartford Road one-way system is beneficial to the 20mph and active travel proposals through the introduction of more pedestrian and cycle activity. The proposal reduces the vehicle dominance of the space and will assist in making all road users to use the space as a place shared with pedestrian and cyclists as opposed to a link of road. The increase in pedestrian and cyclists volume will help to make the 20mph proposal more acceptable to all road users.**
  - a. Increase in number of local cycle journeys?

As with walking, around 20% of residents of both towns thought that there was more cycling in their area post trial. There were higher increases in residents stating they were cycling more, than seen in other studies.
  - b. Reductions in road injuries and death?

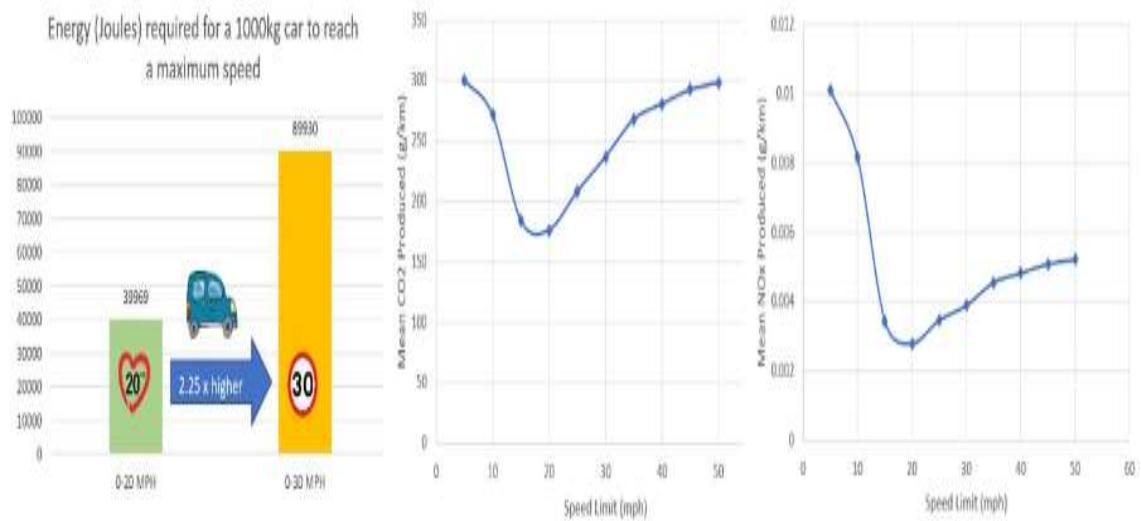
The risk of serious injury or death to pedestrians or cyclists increases disproportionately as speeds increase. A pedestrian hit at 40mph has a 31% chance of death; hit at 30mph and that risk falls to 7%; at 20mph the risk is negligible. 20 mph is a much safer speed - a study into 20 mph zones in London found that casualties fell by an average of 42%.
  - c. Reductions in CO2 emissions?

Source: <https://futuretransport.info/urban-traffic-research/>

Results summary in briefing paper: [https://www.20splenty.org/new\\_research\\_on\\_emissions/](https://www.20splenty.org/new_research_on_emissions/)

*New research[1] from engineering consultants, Future Transport, models the impact of capping speeds at 20mph vs. 30mph. This “real life” modelling that takes account of the stop/start nature of urban traffic yields a very different result from traditional steady-state models. It shows significant and substantial reductions in emissions: CO2 lower by 26% and NOx 28% lower. With UK hosting COP26, campaigners are calling on governments to set 20mph or 30km/h limits as national urban/village defaults.*

*Future Transport modelled the CO2 and NOx emissions for accelerating from stationary to between 5 and 50 mph for a number of vehicles, with the following results for a petrol Ford Focus.*



Although the auto industry is fully aware of the impact of acceleration on vehicle emissions, it does not publish the results. Basic physics means that 2.25 times more energy is required to reach 30mph than 20mph. When this is repeated in the real-world environment, where we slow down at junctions, crossings, congestion points and other hazards, acceleration becomes the dominant factor in overall journey emissions

d. Improvements in air quality; reduction in level of air pollutants? **As above**

3. What is the logic of having only 360m of dedicated cycle lane on Dartford Road? **Width of the existing carriage is average 7.5m. This allows the design to include two lanes at 3m and one cycle lane at 1.5m. To continue this proposal north of Dartford Road will impact loading and waiting restrictions (kerbside activity) which is not a concern on Dartford Road.**

4. Is there an estimate of how many people will use the new zebra crossing on an average day?

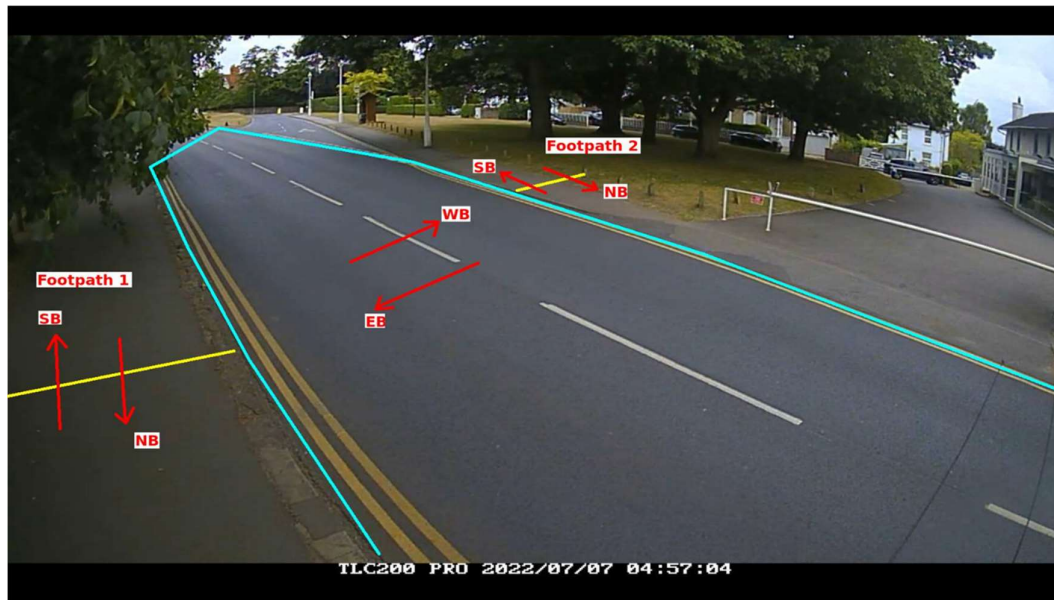
**Traffic and pedestrian surveys were conducted at the location of the xing on 7<sup>th</sup> July 2022. Below Table shows the actual number of pedestrians crossing the road. During the AM Peak of 0800-0900 (24 times) and PM Peak of (26 times). NMU means non-motorised users**

Table 1: Summary of Pedestrian and Traffic count

Time bands	NMU crossings		Vehicles		PV-squared
	Survey date: 07/07/2022		Survey date: 07/07/2022		
	W-bound	E-bound	N-bound	S-bound	
0600-0700	1	2	102	105	128,547
0700-0800	9	3	341	365	5,981,232
0800-0900	12	12	396	659	26,712,600
0900-1000	7	8	391	415	9,744,540
1000-1100	3	4	348	368	3,588,592
1100-1200	3	5	393	466	5,903,048
1200-1300	5	5	488	447	8,742,250
1300-1400	13	1	423	396	9,390,654
1400-1500	7	3	440	371	6,577,210
1500-1600	9	10	449	447	15,253,504
1600-1700	13	3	468	416	12,503,296
1700-1800	3	2	539	428	4,675,445
1800-1900	23	4	411	292	13,343,643
1900-2000	13	4	327	276	6,181,353
2000-2100	7	8	199	192	2,293,215
2100-2200	4	5	179	136	893,025

It needs to be pointed out that in the two peak periods the total number of pedestrians using the footways was **136 (AM Peak)** and **98 (PM Peak)**. The proposed crossing will result in more use of by these pedestrians. See image below showing the points surveyed.

Figure 1: Video survey showing pedestrian surveys



5. The section of Dartford Road to the south of the one-way system will become very narrow through the addition of the cycle lane. During busy times cars form a southward bound queue along this section of road. Will large vehicles heading northbound be able to navigate this section of Dartford Road without having to mount the pavement or cause a traffic blockage? What are the current number of vehicle and HGV movements northbound during peak time?

The width of the traffic lanes will be maintained at 3.0m. The above traffic survey includes the volume of HGVs using Dartford Road by direction. The daily volume of HGVs heading north and south on Dartford Road is shown in the table 2 below.

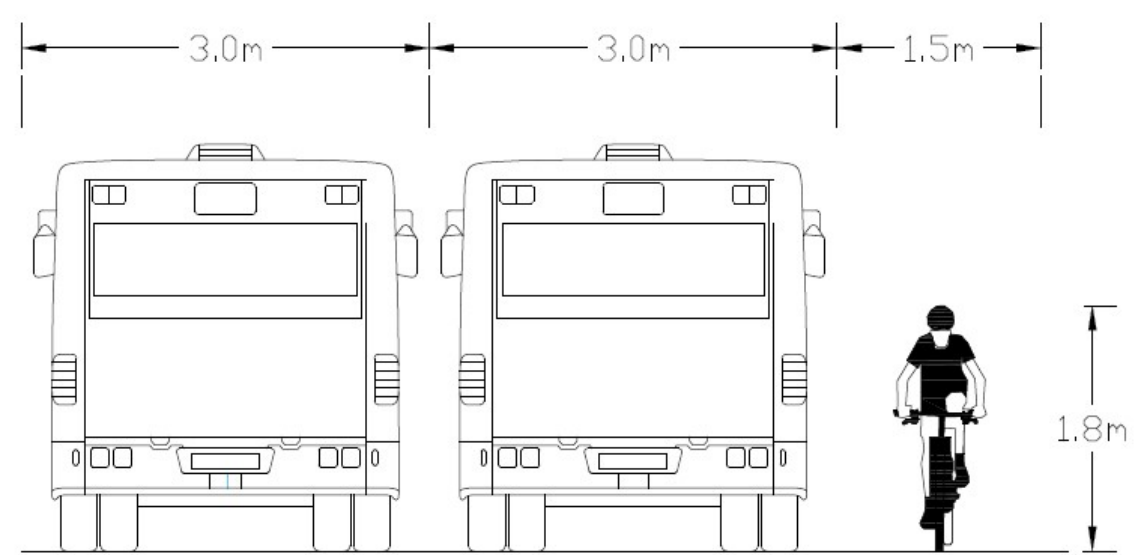
Table 2: Daily totals for hgvs using Dartford Road based on 2022 traffic data

Count of	Compass direction	Column Labels	
Row Labels		N	S
Monday		52	42
Tuesday		61	38
Wednesday		67	45
Thursday		62	41
Friday		63	52
Saturday		26	14
Sunday		11	12
Grand Total		342	244

The total counts across a typical 24hr period is 3 hgvs per hour using the route, with a low frequency of hgvs passing each other.

In addition, the width of the carriageway was measured at 7.5m typically along this section of Dartford Road. The width of the worst-case hgvs is typically 2.55m worst-case and including wing mirrors will increase to 2.8m, the below cross-section will highlight the space for cyclists. Figure 2 below shows a typical cross-section.

Figure 2 Cross-section of cyclist and two passing hgvs



6. Does this 20mph scheme have a better cost benefit outcome than the much-desired proposal to replace the Bat & Ball junction with a roundabout? Which scheme should take priority?

KCC, as a consultee, are reviewing a planning application for the Sevenoaks Quarry site and will provide a recommendation to Sevenoaks District Council, who will then determine a decision based upon all consultee comments and their own policy making. As part of the possible

development mitigation, it will be KCC's recommendation that the developer through a Section 278 undertakes work to the Bat and Ball Junction (A225/A25/St Johns Hill) to improve flow throughput and reduce delay - in order that the development is acceptable on highway grounds. This work will then be undertaken by the developer at their cost and prior to occupation within the site. It is not known when Sevenoaks District Council will decide upon this application.

7. What was the feedback from the Tonbridge 20mph trial and what can be learned from this?

Following the trial of the 20mph, a review of the responses was completed by an external company Project Centre. The key findings of the report is as follows.

***Key findings:***

- The 20mph limits will contribute to the strategic road safety and active travel objectives set out by Kent County Council, Faverham Town Council and Tonbridge and Malling Borough Council but consideration is required as to how improve acceptability and compliance in specific locations. The moderate speed reductions, coupled with small but significant self-reported uptake in active travel modes, suggest continuing the trial schemes in both towns, with an assessment of those roads where compliance was not achieved (average speed above 24mph).
- For Tonbridge, it is recommended that a road-by-road review is undertaken, with the purpose of identifying where 20mph is effective, where complementary measures could be adopted to support the 20mph limit or where a return to 30mph might be appropriate. It might be beneficial to commission a 'Commonplace' consultation for Tonbridge to engage with the community and garner their feedback on these individual roads.
- Scheme opposition and concerns around 'area-wide' impositions may be alleviated through the use of an incremental or 'section by section' approach if trials are extended or rolled out across adjacent areas.
- A much greater focus should be given to associated and complimentary activity in Tonbridge (such as more interaction and co-ordination with pro-campaign groups) in order to achieve greater support levels for 20mph limits and to highlight their benefits
- In Faversham, concerns regarding cycling infrastructure need to be addressed in ongoing consultation with the community.
- As with prior case studies, enforcement remains an important issue for residents post implementation. Authorities, in conjunction with the Police, should focus on 'compliance benefit messaging' as oppose to punitive enforcement. This shifts the narrative so as to generate public support through changing individual mindsets. Addressing driver behaviour is key to cultivating safe environments for active travel modes. A lack of driver consideration for other roads users is one of the issues where the limits reviewed here have not reduced people's concerns significantly.
- Shared responsibility is a key imperative within the Safe System philosophy adopted within Kent's Vision Zero Strategy. Communication to work with road users and increase that sense of responsibility could be key to increasing acceptance of 20mph limits.
- To keep alignment with the authorities' wishes for the limits to be self-enforced, compliance messaging should be produced which articulates the evidence presented here that 20mph (signed only) limits can have a positive effect on average speeds and active travel.
- Longer-term commitment, sustained public engagement, articulated messaging through a tailored marketing mix, and the maintenance of integrated policy approaches towards

**20mph signed only limits are all more likely to yield success moving forward with the schemes. The degree to which barrier criteria can be mitigated and enabling factors enhanced should similarly be given serious attention.**

8. The proposal doesn't include Bradbourne Vale Road. What are you proposing to do to tackle excessive speeding on this road? **Bradbourne Vale Road was not included in the 20mph owing to the average speeds recorded on the links. The 20mph schemes is proposed on single carriageway roads with average speeds 24-28mph and geometry works for consideration for 20mph. Unfortunately, this does not apply to Bradbourne Park Road which requires more work.**

9. Have all statutory consultees, inc emergency services, been consulted prior to the TRO application? **All statutory consultees included in the current consultation process for the scheme.**

10. Are you proposing as part of the War Memorial scheme any changes to parking restrictions? **No changes to parking restrictions on The Vine and Dartford Road**

Questions and comments from Cllr Raikes:

11. What is the current vehicle count for St Botolph's Road at peak times, HGV's, buses and cars in each direction.

**The average annual daily traffic (AADT) count data from 2021 was provided by the DfT on St Botolph's Road. To convert the annual count to peak hour, a formula is used (The Peak Hour Flow (PHF) = (AADT / 24) \* 2.63). Table 3 below shows the summary of the peak hour traffic count.**

*Table 3: Summary of manual AADT and peak hour counts*

Year	Count method	Pedal cycles	Two wheeled motor vehicles	Cars and taxis	Buses and coaches	Light goods vehicles	Heavy goods vehicles	All motor vehicles
2021 Eastbound	<b>AADT</b>	12	14	1269	7	112	15	1418
	<b>Peak Hour</b>	<b>4</b>	<b>1</b>	<b>218</b>	<b>4</b>	<b>33</b>	<b>3</b>	<b>259</b>
2021 Westbound	<b>AADT</b>	6	14	1172	6	138	5	1335
	<b>Peak Hour</b>	<b>3</b>	<b>2</b>	<b>286</b>	<b>3</b>	<b>30</b>	<b>3</b>	<b>325</b>

12. What is the estimated impact on traffic into and out of St Botolph's Road to/from Dartford Road – **The changes will have an increased delay and queues on St Botolphs Road, which is what we are proposing to bring speeds down to 20mph. Traffic will be slowed down because of the new zebra crossing. St Botolph traffic will experience the same issue joining Dartford as existing. St Botolphs Road traffic give-way to Dartford Road traffic in existing and that will not change in the proposed setup.**

13. What is the traffic engineer estimate of displacement activity resulting from changing driver behaviour resulting from proposed changes. **The proposal does not introduce any lengthy diversion around The Vine, that will displace traffic to alternative routes. Traffic entering Dartford Road**

from The Vine will experience the same issues as existing and there is no alternative to use that will be advantageous from using the current routes.

14. What is the estimated impact on Pound Lane from North bound vehicles using it to access Hitchen Hatch Lane and Vine Avenue (instead of from Dartford Road as now). **There is no advantage using Pound Lane to access Dartford Road. There is a give-way junction at the Hitcham Hatch Junction with Dartford Road which offers the same issues as the The Vine junction with Dartford Road.**

15. How many people currently cycle into the town per hour, and what is the %age increase in numbers seen in similar schemes and over what period of time

**The surveys completed on Dartford Road identified a total number of cyclists as an average 70 cyclists (see Table 4) and peak hour volumes of 8 cyclists (see Table 5).**

Table 4: Daily count of cyclists using Dartford Road

Daily count of cyclist	Direction of Travel	
	Northbound	Southbound
Monday	45	37
Tuesday	45	35
Wednesday	28	42
Thursday	42	37
Friday	35	38
Saturday	47	29
Sunday	27	36
Week Total	269	254

Table 5 Peak hour volume of cyclists using Dartford Road

Row Labels	IT	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Grand Total
07:00:00		4	2	2	4	4	1	1	18
07:15:00		1	2	2	3	2	1	1	12
07:30:00		1	2		1	1	1		6
07:45:00		2	3	4	1	1	8	4	23
08:00:00		2	2	2	2	1	3	2	14
08:15:00			3	1	1	3			8
08:30:00			3	1	2	1		1	8
08:45:00		2	1	4			1	4	12
16:00:00		1					3	1	5
16:15:00		3	1	1			1		6
16:30:00		3	1		3	2			9
16:45:00		1	1	5	3		1	1	12
17:00:00		3	3		4	5	2		17
17:15:00		2		1		2	3		8
17:30:00			3	2	1	5	2	2	15
17:45:00			2		5				7
18:00:00		2		2	1	1		1	7
18:15:00				3	1		1		5
18:30:00		1	2	3			1	2	9
18:45:00		1	1	1		1	2		6
Grand Total		29	32	34	32	29	31	20	207



16. How many accidents involving cyclists have been recorded on this stretch of Dartford Road. In the past three years worth of data, there has not been any cyclist injuries,.

**There has been no cycle collision in this section of Dartford Road in the past three years. There were two pedestrian collisions on this section of Dartford Road.**

*Figure 3: Pedal cycle and pedestrian only collision (3 years worth)*



**Collision Record (2 pedestrian collisions in the past 3 years):**

**P15 - V1 (hgv) was travelling north on High St when C1 (pedestrian) crossed the road in a westerly direction into the path of V1 (hgv) on 21/11/2019.**

**P19 - The cars in both directions stopped - the car nearest to C1 (pedestrian) stopped a little further back from the crossing. It was a learner so C1 (pedestrian) believed they were leaving space to stop. C1 (pedestrian) started to cross and was halfway across when V1 pulled out of Seal Hollow Road turning right (in front of the car that had left a gap) and hit C1 (pedestrian). Driver said they didn't see pedestrian, it is a tricky turning and chances are the stopped cars had blocked their view of the zebra crossing.**

17. What are the median and average speeds recorded in each direction along Dartford Road

**Tables 4 & 5 below shows the average speed data for traffic using the A225 Dartford Road. Please note PSL=Posted Speed Limit and ACPO = Association of Chief Police Officers (ACPO) can allow tolerance of 10% + 2 mph on speeding before taking punitive action.**



Table 6: Dartford Road northbound speed data

Row Labels	% Over PSL	% Over ACPO	% Over DFT	Average of Speed
Monday	22.17%	4.74%	0.26%	24.88
Tuesday	20.48%	4.56%	0.29%	24.69
Wednesday	18.63%	4.21%	0.19%	24.20
Thursday	21.20%	4.36%	0.20%	24.76
Friday	23.32%	5.75%	0.34%	25.52
Saturday	26.63%	6.82%	0.20%	26.10
Sunday	38.45%	11.13%	0.53%	27.69
<b>Grand Total</b>	<b>23.58%</b>	<b>5.63%</b>	<b>0.28%</b>	<b>25.26</b>

Table 7: Dartford Road southbound speed data

Row Labels	% Over PSL	% Over ACPO	% Over DFT	Average of Speed
Monday	22.68%	5.84%	0.39%	25.04
Tuesday	22.04%	5.44%	0.35%	25.20
Wednesday	20.48%	4.95%	0.27%	24.75
Thursday	23.23%	6.13%	0.45%	25.27
Friday	25.40%	7.25%	0.36%	25.73
Saturday	29.69%	7.72%	0.42%	26.22
Sunday	37.63%	12.12%	0.74%	27.10
<b>Grand Total</b>	<b>25.02%</b>	<b>6.72%</b>	<b>0.41%</b>	<b>25.50</b>

To summarise, although the average speeds are within the 24-28mph threshold for the 20mph policy inclusion, the geometric layout of this section of Dartford Road does feel like a car dominant location and likely to not adhere to the 20mph proposal. The proposed changes will have improved pedestrian connectivity and encourage more cycling along this route.

Additional Queries received 24/10/22:

18. Have the sight lines for cars emerging from the top of Hitchen Hatch Lane been checked? (whilst it is fairly easy to see traffic flowing North along Dartford Road from the Town, visibility of traffic travelling North emerging from the “back” of the War Memorial is very restricted. It would no longer have to slow to merge with the current traffic flow)

**The sightlines will remain as existing owing to the same junction give-way points used. The use of one-way routes is a typical highway setup, and it will be managed using give-way markings and signs.**

Also, please could you confirm whether you will be able to take questions about the proposed walking/cycling paths, or if this can be arranged separately when consultation documents are released please? **Yes (if time allows)** I have received the following questions from Bradbourne Residents Association:

19. In respect of the shared cycle/pedestrian path to pass through Bradbourne Estate, is the proposed path incumbent in the 20mph plans or is it a separate proposal?

**The proposals are independent however, they do complement each other.**

20. Will this be part of the KCC presentation to the STC Planning Committee on 31st October?

**No this is related to a separate scheme which is still under review.**