

RADNAGE SIGN AND LINE SURVEY COMMISSION

Buckinghamshire Council had been commissioned to carry out a sign and line survey on City Road, Radnage, following road safety concerns relating to parents and children accessing and egressing Radnage Church of England Primary School.

The purpose of the survey was to

1. Review the existing in-situ highway signs and road markings and determine / ensure compliance against relevant legislation and Department for Transport (DfT) guidance and good practice governing their use; and to ...
2. Recommend appropriate remedial action for any identified potentially non-compliant signs and road markings to bring them up to standard.

The survey took place on Friday 2 August between 10am and 12.30pm and commenced with a site meeting / discussion with cris@radnage.net outside the Primary School. Cris detailed the specific ongoing road safety issues and requested that, in addition to picking up / identifying any non-compliance issues, the survey also identify any potential additional measures to alleviate these.

RESULTS OF THE SIGN AND LINE SURVEY

WARNING SIGNS

Both City Road approaches to the Primary School are signed with Diagram 512.3 'Crossroads Ahead' warning signs and Diagram 545 'Children going to or from school ahead' warning signs with 'School' supplementary plates as shown below ..



City Road approach from west



City Road approach from east

WARNING SIGNS

Observations:

1. All triangular warning signs are 750mm high - this size is recommended for 85th percentile private car approach speeds of 31-40mph.
2. However, the sizes of the supplementary 'School' plates (at 540 x 235mm) are appropriate for 85th percentile private car approach speeds of 21-30mph and therefore at odds with this.
3. All signs are generally in good condition – however, those on the approach from the east are slightly out of alignment and display some minor algal growth.
4. The signs on the approach from the west are installed at an appropriate distance back from the crossroads and Primary School. Those on the approach from the east are positioned back more than the recommended distance – however, this is due to site constraints / available highway width preventing them being installed any closer.

WARNING SIGNS

Recommendations / suggested actions:

1. Although 600mm high warning signs are recommended for 85th percentile private car approach speeds of 21-30mph, it is recommended that the larger 750mm high in-situ warning signs be retained, therefore no further action required.
2. For consistency, it is recommended that the existing 540 x 235mm supplementary 'School' plates be replaced with larger 650 x 280mm sized 'School' plates. This upgrade could be funded from Buckinghamshire Council's maintenance budgets – however, Radnage Parish Council to confirm first that the overall 45mm increase in 'School' plate height would not adversely affect MVA's fixing to the existing post on the approach from the east.
3. The signs on the approach from the east are to be re-aligned and cleaned. This will be funded from Buckinghamshire Council's maintenance budgets.
4. Due to site constraints, no further action is recommended regarding the current locations of the Diagram 512.3 'Crossroads Ahead' and Diagram 545 'Children going to or from school ahead' warning signs. With the above exceptions, the nature and locations of the existing signs are considered acceptable – however, some enhancements could be made to potentially increase their effectiveness. If required, these enhancements would need Radnage Parish Council funding. Further details on the nature of these possible enhancements can be found in the 'Suggested additional measures' section below.

SPEED LIMIT SIGNS

City Road is subject to a 30mph speed limit (by Traffic Regulation Order) from the entrance to 'Pophley's' to immediately east of Green End Road (a total length of approximately ½ mile). The start of the speed limit is signed with pairs of Diagram 670 '30' speed limit terminal signs at each end as shown below; and smaller Diagram 670 '30' repeater signs along its length.



City Road approach from east



City Road approach from west

SPEED LIMIT

Observations:

1. The terminal signs and repeater signs are 600mm and 300mm diameters respectively.
2. The condition of the terminal signs at the western end of City Road are in poor condition.
3. The maximum distance between terminal signs and the first repeater should be 200metres; and the maximum distance between repeaters should be 250metres. Spacings – measured from the western end of City Road - are as follows ... between terminal signs and first repeaters = 110m; between first repeaters and second repeaters = 190m; between second repeaters and third repeaters = 228m; between

third repeaters and fourth repeaters = 190m; between fourth repeaters and terminal signs = 140m.

4. With the exception of the assembly [here](#) , pairs of repeater signs are mounted back-to-back on posts staggered on alternate sides of the road along the length of the 30mph speed limit.
5. The nearside 600mm '30' mph speed limit terminal sign at the eastern end of the village; and the '30' mph speed limit repeater assembly [here](#) are obscured by vegetation.

SPEED LIMIT

Recommendations / suggested actions:

1. The sizes of both the terminal signs and repeater signs are appropriate for the posted 30mph speed limit. Therefore, no further action required.
2. Both 600mm '30' mph and '40' mph terminal signs at the western end of City Road are to be replaced with new. This will be funded from Buckinghamshire Council's maintenance budgets.
3. The spacing of speed limit repeater signs along City Road shows good compliance with the advice and guidance provided in Traffic Signs Manual Chapter 3 'Regulatory Signs' with measured spacings being well below recommended maximum distances. Therefore, no further action required.
4. A 300mm '30' mph speed limit repeater sign is to be reinstated / fixed to the back of the single '30' mph speed limit repeater sign [here](#) and the signs correctly realigned. This will be funded from Buckinghamshire Council's maintenance budgets.
5. Traffic Signs Manual Chapter 3 'Regulatory Signs' provides recommended 'clear visibility distances' (CVDs) for both speed limit terminal and speed limit repeater signs. There is insufficient CVD for both the nearside 600mm '30' mph speed limit terminal sign at the eastern end of the village; and the '30' mph speed limit repeater assembly [here](#) therefore the obstructive vegetation needs to be sufficiently cut back to achieve the recommended CVDs. This will be funded from Buckinghamshire Council's maintenance budgets.

ROAD MARKINGS

The majority of City Road is marked with a mixture of white Diagram 1008 lane lines and Diagram 1004 warning lines. There are two lengths where a centre line has been omitted (due to carriageway width) and Diagram 1012.1 edge of carriageway lining has been laid on both sides – these are through the narrow section between ‘Pophley’s’ and ‘Stock’s and between ‘Lea Cottage’ and Bottle Square Lane.

Green End Lane and Green Lane junctions have white Diagram 1003A and Diagram 1009A ‘give way’ lines with the former junction also incorporating a Diagram 1023A ‘give way’ triangle road marking.

Further road markings include

- A white Diagram 1065 ‘30’ mph speed limit roundel placed adjacent to the nearside ‘30’ mph speed limit terminal sign near Green End Lane at the eastern end of City Road as shown.



- A white Diagram 1024 ‘SLOW’ carriageway marking laid adjacent to the ‘Crossroads Ahead’ and ‘Children going to or from school ahead’ warning signs on the eastern approach to the school as shown.



- A yellow Diagram 1027.1 ‘SCHOOL KEEP CLEAR’ marking situated on the north side of City Road outside Radnage C of E Primary School as shown.



ROAD MARKINGS

Observations:

1. All white road markings are appropriate and correctly sized in all situations. However, the majority of these are faded.
2. The yellow Diagram 1027.1 'SCHOOL KEEP CLEAR' marking is approximately 43.56 metres long and is in good condition.
3. There is no complimentary white Diagram 1065 '30' mph speed limit roundel at the start of the '30' mph speed limit terminal sign at the western end of City Road.
4. There is no complimentary white Diagram 1024 'SLOW' marking adjacent to the 'Crossroads Ahead' and 'Children going to or from school ahead' warning signs on the westbound approach to the school outside 'Robins Rest'.

ROAD MARKINGS

Recommendations / suggested actions:

1. It is recommended that all faded white road markings be refreshed. This will be funded from Buckinghamshire Council's maintenance budgets with priority being given to road safety critical markings (e.g. 'give way' lining).
2. The yellow 'SCHOOL KEEP CLEAR' marking is at the maximum permitted length and in good condition. Therefore, no further action required.
3. Although there is no legal obligation to provide such markings, a white Diagram 1065 '30' mph speed limit roundel could be laid at the start of the '30' mph speed limit terminal sign at the western end of City Road outside 'Pophley's' to highlight / increase the conspicuity of the start of the speed limit. If required, this would need Radnage Parish Council funding. Further details on this possible enhancement can be found in the 'Suggested additional measures' section below.
4. Although there is no legal obligation to provide such markings, a white Diagram 1024 'SLOW' marking could be laid adjacent to the 'Crossroads Ahead' and 'Children going to or from school ahead' warning signs on the westbound approach to the school outside 'Robins Rest'. If required, this would need Radnage Parish Council funding. Further details on this possible enhancement can be found in the 'Suggested additional measures' section below.

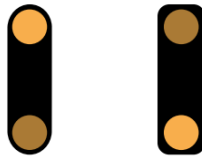
SUGGESTED ADDITIONAL MEASURES

During the site meeting / discussion prior to the sign and line survey cris@radnage.net outlined the ongoing road safety issues specifically relating to motorists approaching Radnage C of E Primary School from the west. The desire was to increase motorists' awareness of the presence of the school and the distinct possibility of them encountering pedestrians and children crossing City Road to / from Green Lane.

The highlighted road safety issues are due to / exacerbated by the existing road alignment / bend to the left; and compromised forward visibility due to the extensive boundary hedge belonging to Hurst Cottage.

and requested that, in addition to picking up / identifying any non-compliance issues, the survey also identify any potential additional measures to alleviate these.

cris@radnage.net requested that potential measures to alleviate these – and to highlight the start of the '30' mph speed limit at both ends of City Road - be identified during the sign and line survey. One measure that Cris suggested was flashing amber lights to Diagram 4004 (variants shown below) ...






Department for Transport guidance advises that such flashing amber lights are used to give emphasis to Diagram 545 'Children going to or from school ahead' warning signs with 'School' supplementary plates where the 85th percentile speed exceeds 35 mph, or on a busy road where a driver's attention is likely to be fully occupied. As a result, currently such signage could not be justified for use in City Road.


However, if a School Crossing patroller was appointed and operated on City Road, then the option of installing flashing amber lights – subject to further investigation – could become possible under the current legislation / guidance. In this scenario, the existing 'School' supplementary plates would be replaced with 'Patrol' supplementary plates instead, which could allow the use of flashing amber lights as the '85th percentile speeds exceeding 35 mph' or 'being on a busy road' requirements stipulated above would no longer need to be met. However, please be aware that the cost of such an installation, if considered viable or indeed possible, is likely to be more than £15K to treat both approaches.

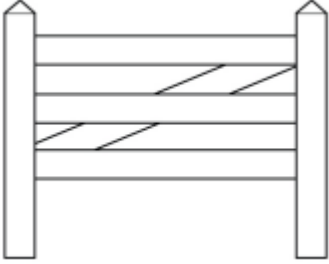
Instead, the following lower cost alternative measures have been identified for your consideration.

For 'private works' requests (i.e, those schemes to be funded by third parties such as Parish Councils – in the case of Radnage, as we discussed, this may very well be from Section 106 monies), we have developed a range of scheme costs to allow Parish Councils to make an informed decision on how they would envisage funding such works. 'Low' scheme costs are valued £0 to £5,000; 'medium' scheme costs are valued at £5,000 to £15,000; and 'high' scheme costs are valued £15,000+). Indicate costs have, as a guide, accordingly, been referenced as 'low', 'medium' or 'high' on this basis for each proposed measure.

Proposal to highlight the presence of the school / likelihood of encountering pedestrians in the road	Comments	Indicative cost Low (£0-£5K); Medium (£5K-£15K); High (£15K+)
Extensively cut hedge and obstructive vegetation back on Hurst Cottage border.	It is appreciated that the owners of Hurst Cottage have already been approached and that concerns have been raised regarding the survival of the boundary hedge if it were substantially cut back. However, any potential removal should be explored as this is likely to significantly improve motorists' forward visibility around the left-hand bend towards the school. It may also be appropriate getting the boundary hedge outside 'Hillcrest' cut back as this – at points on the driven approach - masks / hides the subsequent 'Crossroads Ahead' and 'School' warning signs outside Lea Cottage from motorists approaching from the west.	N/A. At resident expense?
Replace existing Diagram 512.3 'Crossroads Ahead' warning signs with new Diagram 504.1 'Crossroads Ahead'. This doesn't accurately reflect the bend, particularly on the eastbound approach, which conceals the school. 	The Green Lane / Bottle Square Lane crossroads is currently signed with standard Diagram 512.3 'Crossroads Ahead'. This doesn't accurately reflect the bend, particularly on the eastbound approach, which conceals the school. Replacing the existing signs with those proposed would provide motorists with additional information regarding the actual road alignment.	Low
Supplement the existing Diagram 512.3 'Crossroads Ahead' warning sign outside 'Robin's Rest' with a '210 yds' distance plate; or replace the existing 'School' supplementary plate with new reading 'School 160 yds'	Although site constraints on the approach from the east have necessitated the 'Crossroads Ahead' and 'School' warning signs to be positioned at a distance greater than the recommended distance, their effectiveness / relevance could be enhanced with the addition of a distance plate.	Low
Supplement the existing Diagram 512.3 'Crossroads Ahead' warning sign outside 'Robin's Rest' with a 1600mm Diagram 1024 'SLOW' carriageway marking. 	Although site constraints on the approach from the east have necessitated the 'Crossroads Ahead' and 'School' warning signs to be positioned at a distance greater than the recommended distance, their effectiveness / relevance could be enhanced with the addition of a 'SLOW' carriageway marking (to match that provided adjacent to the corresponding warning sign assembly on the opposite approach to the school / crossroads).	Low

<p>Lay a preformed thermoplastic elongated Diagram NP 545RM 'Children' carriageway marking adjacent to the upright 'School' warning signs.</p> 	<p>Noting the concerns raised regarding the conspicuity of the existing 'School' warning sign assembly outside Lea Cottage; and the fact that motorists approaching the school are likely to be in the offside lane to avoid parked vehicles at this location and may not see the existing signage, it is proposed that the sign be complimented / enhanced with a coloured road marking laid in the centre of the carriageway.</p> <p>Although this is primarily proposed for the eastbound approach to the school, it is suggested that the road marking be laid on both approaches for consistency.</p> <p>PLEASE NOTE: This road marking requires Department for Transport (DfT) authorisation before it can be used. Although other highway authorities have been granted authorisations for specific sites, the DfT may not authorise its use on City Road.</p>	<p>Subject to DfT authorisation ..</p> <p>Low</p>
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Proposal to increase conspicuity of the start of the 30mph speed limit	Comments	Indicative cost Low (£0-£5K); Medium (£5K-£15K); High (£15K+)
<p>Lay a 4.3m long Diagram 1065 '30' roundel adjacent to the nearside '30' mph speed limit terminal sign outside 'Prophley's' at the west end of City Road.</p> 	<p>The existing nearside '30' mph speed limit terminal sign at the east end of City Road adjacent to Green End Lane is already supplemented with a similar carriageway roundel. It therefore makes sense, for consistency, to lay a similar marking at the other end of the '30' mph speed limit.</p>	<p>Low</p>
<p>Install a 2-metre-wide Glasdon gate on the offside grass verge at the start of the '30' mph speed limit opposite 'Prophley's' at the west end of City Road.</p>	<p>This, in conjunction with the proposed '30' mph carriageway roundel, would clearly mark the start of the speed limit.</p> <p>To further increase its impact, the gate could include a 'RADNAGE Please drive carefully' village nameplate. This would then allow the existing village nameplate hidden in the hedge approximately 175 metres towards the school here to be removed.</p>	<p>Medium</p>

	<p>Unfortunately, there is insufficient space on the opposite side of the road at this location to install a gate; nor is there any space to install gates in conjunction with the start of the '30' mph speed limit at the eastern end of City Road.</p>	
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NB: Radnage is situated within the Chilterns Area of Outstanding Natural Beauty (CAONB). The Chilterns Conservation Board who manage the CAONB, has, in conjunction with key stakeholders, produced a document called 'Environmental Guidelines for the Management of Highways in the Chilterns' which places a duty on highway authorities to ensure that highway schemes "*are designed and maintained to respect the environmental quality of the Chilterns countryside, towns and villages*" and designed in a way to "*conserve and enhance those special qualities and recognised character of the Chilterns AONB*".

If the Parish Council wished to proceed with all / any of the proposed measures, we would be obliged to consult with the Chilterns Conservation Board on the detail of the proposals. The Chilterns Conservation Board may decide that certain / all aspects of the proposed highway works are not in line with the 'Environmental Guidelines for the Management of Highways in the Chilterns' and may ask for them to either be amended or dropped.