ROAD SAFETY PLAN UPDATE

Cabinet Member	Councillor Keith Burrows
Cabinet Portfolio	Planning and Transportation
Report Author	David Knowles and Ken Smithson, Environment and Consumer Protection
Papers with report	Appendices A and B

HEADLINE INFORMATION

Purpose of report	To update the Cabinet on further progress with the Councils Road Safety Plan and to provide a paper on 'rat-running' problems for consideration and endorsement.
Contribution to our plans and strategies	The plan provides a direct contribution to the Council's strategy for road safety and the reduction of casualties.
Financial Cost	There are none associated with this report.
Relevant Policy Overview Committee	Residents' and Environmental Services
Ward(s) affected	All Wards

RECOMMENDATION

The Cabinet notes and endorses:

1. **Appendix A on the road safety campaign 'Street Lights (and no speed signs) means 30'.**

2. **Appendix B on measures to tackle 'Rat-running' (traffic displacement onto residential streets).**

INFORMATION

Reasons for recommendation

To review progress with the road safety plan for the Borough, which is intended to assist in the reduction of road accident casualties, and to endorse measures to help address traffic displacement onto residential streets.

Alternative options considered

None.

Comments of Policy Overview Committee(s)

The Corporate Services & Partnerships Policy Overview Committee (POC) reviewed a draft of the report at their meeting of 9th June 2009. The POC welcomed and commended the author of the report.

The Committee suggested that in relation to petitions for road safety and traffic calming measures that all Members be provided with a petition pack giving Members instructions and guidance notes on the types of traffic calming measures that are relevant in certain circumstances. It could also include the process for petitioning and petition templates, in order to help and assist residents to more closely target suitable and relevant measures that the Council would feel able to support and thereafter install.

This petition pack and guidance notes could also be made available on the Council's website, in libraries and given out to street champions and could be publicised in Hillingdon People and on Council controlled notice boards.

Supporting Information

1. At its December 2008 meeting, the Cabinet received and endorsed the Council's inaugural Road Safety Plan, which described the Council's approaches to road safety education, training, enforcement and engineering and also set out a number of key targets.

2. At that meeting, the Leader asked for a further update to be provided to a future meeting of Cabinet and also to receive a paper which set out some of the technical background to the problem of traffic displacement into residential side streets, commonly known to the public as 'rat-running'.

3. Since December 2008, over 150 further road safety suggestions have been received, bringing the overall total so far to just under 1,400 in the three years that the scheme has been running. On average six proposals are presented to the Cabinet Member for Planning and Transportation once they have been subjected to more detailed investigation. In line with previous financial years, the 2009/10 capital programme includes a sum of £250,000 to take forward viable schemes.

4. The paper attached as 'Appendix A 'provides an update on the recent road safety campaign 'Street Lights and no speed signs means 30'. It outlines the reasons for the campaign, its operation and initial evaluation. The overall objective of the campaign sought to highlight the unacceptability of excessive use of speed on residential roads in the Borough.

5. The paper attached as Appendix 'B' provides an explanation of the most common reasons why rat-running occurs, some of the key challenges to the development of measures to alleviate the problem, and describes some of the tools available that can be used as part of schemes to tackle problems at specific locations.

Financial Implications

There are no direct financial implications to the recommendations to this report.

EFFECT ON RESIDENTS, SERVICE USERS & COMMUNITIES

What will be the effect of the recommendation?

The Council will continue to address road safety concerns and to implement schemes to tackle 'rat-running' issues in line with the approach outlined in Appendix B.

Consultation Carried Out or Required

N/A.

CORPORATE IMPLICATIONS

Corporate Finance

There are no direct financial implications of this report.

Legal

Section 122 of the Road Traffic Regulation Act 1984 means that the Council as traffic authority has a statutory duty to secure the expeditious, convenient and safe movement of vehicular and other traffic.

The Council's Road Safety Plan and follow up programmes referred to in this report can properly be considered by the Cabinet Member as part of a range of measures to assist in the discharge of that duty.

BACKGROUND PAPERS

None.

APPENDIX A

ROAD SAFETY UPDATE

ANTI SPEED CAMPAIGN

"Street Lights (and no speed signs) Mean 30"
February 23rd – April 30th 2009

The Campaign – Why anti speed

The campaign sought to address a common problem which raised concerns not only amongst particular road users, but the whole community.

The cost to society of a road death is currently estimated at £1.6m and 700 people are killed in the UK each year in speed related crashes on the roads. This refers to only the most obvious speed related road deaths and is generally accepted to be an underestimate.

Hillingdon by its nature of being an outer London borough has a higher than average quota of speed related accidents than inner London boroughs. Recent Statistics provided by Transport for London suggest that speed related collisions are not decreasing.

Casualties in Speed Related Collisions - LB of Hillingdon 2005 to 2007

Year	Casualty Severity	Fatal	Serious	Slight	Total
2005		2	26	301	329
2006		4	33	294	331
2007		3	18	206	227
Total		**9**	**77**	**801**	**887**

Source TfL

The issue of speeding is however more evident when a study of young driver speed related collisions is studied. Further data supplied by TfL show Hillingdon has the second highest number of London Boroughs involving young drivers (17 – 25 years).

Other studies on speeding (Department for Transport - consultation on road safety compliance 2008) have confirmed speed is probably the area of road traffic law with the biggest challenge to influence the public view. While 80% of people think that driving above the speed limit is dangerous, almost 70% of people admit to having done it. This indicates many people consider their own speeding behaviour is safe.

Other data from the Department for Transport indicates that while speeding is relatively common on all types of road, those that have the highest proportion of vehicles exceeding the speed limit are the 30 mph and 70 mph roads. The figures for 2007 are shown in the table below for different speed limits.

		2007
30 mph limit	Over 30mph	49%
	Over 35mph	19%
40 mph limit	Over 40mph	24%
	Over 45mph	9%
60 mph limit	Over 60mph	10%
	Over 70mph	2%
Dual Carriageway	Over 70mph	45%
	Over 80 mph	12%
Motorway	Over 70 mph	53%
	Over 80 mph	18%

As part of the Council's road safety programme a budget has been provided to increase awareness of maximum speed limits on the borough's roads. Of the 160 road safety programme questionnaires submitted 117 concerned issues related to excess speed.

Because of residents concerns with inappropriate speed, the council carried out an extensive publicity campaign in 2009.

The campaign ran over a period of 10 weeks from February to May. Most levels of media available to the council were used as follows.

- **Bus back advertising**.
  20 single deckers on local Uxbridge routes throughout March
- **Interior bus advertising**
  50 buses carrying interior messaging throughout April
- **Poster and leaflet distribution**.
  4,000 posters and leaflets to relevant outlets such as:

    - Libraries
    - Clinics
    - Car dealerships
    - Schools
    - Colleges
    - Community Care Centres
    - Motorcycles dealers

- **Mobile screen media.**
  Mobile media screen vehicle for 2 days at Uxbridge and Hayes supported by the Road safety team with interactive resources and display.
- **Static and mobile displays/presentations**
  Static displays for Libraries, and staffed displays with interactive resources at supermarkets and shopping centres.
- **Local and county press**.- press releases
  Uxbridge Times, Leader and Gazette during March
- **Pay slips**

March 2009 Street Light message on all staff payslips

- **Hillingdon People**
  Full page article in March/April edition
- **Council website**
  Article on main website and horizon during March and April

Evaluation
To evaluate the effect of the campaign questionnaire forms were delivered during the campaign April and post campaign May asking the following information from residents.

(Q1) Were you aware that streetlights and no speed signs mean 30mph?

☐ Yes ☐ No

(Q2) Do you consider speeding in your area to be…..?

☐ A major concern
☐ A concern
☐ Not much of a concern
☐ Not a concern

(Q3) Do you feel that speeding in the borough is increasing or decreasing?

☐ Greatly increasing
☐ Slightly increasing
☐ Slightly decreasing
☐ Greatly decreasing
☐ No difference

(Q4) Have you noticed any speed reduction initiatives in the borough?

☐ Yes ☐ No

Five significant areas were chosen for evaluation which were on the variable message speed sign monitoring programme beginning 16th March for a 3 month period. This programme addresses residents concerns and for this quarter were displayed in:

- Ducks Hill Road, Northwood

- Botwell Common Road, Hayes
- Pole Hill Road Hillingdon
- Swakeleys Road Ickenham
- Kings College Road Ruislip.

500 evaluation leaflets were delivered around the above areas and surrounding roads during the campaign. 226 Questionnaires were returned and these residents were then posted a repeat questionnaire after the campaign to determine whether any significant change was apparent and had any lasting impact. The post return date is 5th June 2009.

The results of both before and after responses are shown in the table below. The after responses are only available to 2nd June as of that date 101 had been returned.

Questions		Before %	After %
(Q1) Were you aware that streetlights mean 30mph?	Yes	76	84
	No	24	16
(Q2) Do you consider speeding in your area to be:	Major concern	46	48
	Concern	43	46
	Not much of a concern	9	6
	Not a concern	2	0
(Q3) Do you feel that speeding in the borough is increasing or decreasing?	Greatly increasing	38	47
	Slightly increasing	38	28
	Slightly decreasing	7	12
	Greatly decreasing	2	1
	No difference	15	0
(Q4) Have you noticed any speed reduction initiatives in the borough?	Yes	73	83
	No	27	17

An analysis of the responses indicate.

- ➢ Nearly half of residents consider speeding is a major concern and almost as many are concerned.
- ➢ The campaign views show the majority of residents consider speeding is increasing and a high proportion of these think it is greatly increasing.
- ➢ There was an increased awareness of council initiatives to address speeding after the campaign.
- ➢ More residents are aware of speed limits on our residential roads after the campaign than before.

APPENDIX B

ROAD SAFETY UPDATE

TRAFFIC IN RESIDENTIAL SIDE ROADS – 'RAT-RUNNING'

1. INTRODUCTION

1.1. A key concern to many residents is the heavy, unregulated use of their residential roads by large volumes of traffic, often perceived as being made up of commuters or other non-local drivers – often travelling at excessive speeds - who are trying to find a short cut, perhaps as a means of avoiding a traffic congestion hot spot. Clearly this is not a unique problem to Hillingdon, and as traffic levels in the United Kingdom have risen in recent years, the pressure on residential side-street networks has similarly grown.

1.2. The colloquial term for this traffic displacement is 'rat-running' and whilst this is not an accepted technical term, it does generally describe the problem in a way that is familiar with the general public. The term 'rat-run' will therefore be used throughout this report to define traffic displacements along the lines described above.

1.3. Many residents living in a given side-street may readily agree that they have a problem with 'rat-running' but very often they may be less inclined to agree on the solution. The problem is that with any scheme that seeks to constrain traffic flows in or out of a road, the people who live there will generally have a price to pay in terms of access.

1.4. The causes, consequences and the range of tools available to tackle 'rat-runs' is collectively quite a complex subject. This report sets out the common reasons why 'rat-runs' occur, describes some of the tools available which may assist in tackling the problem (together with brief explanations why some popular ideas are not viable), highlights some of the problems and pitfalls in trying to seek an effective and universally popular solution, briefly considers potential sources of funding and finally suggests practical protocols for dealing with requests to deal with the problem.

1.5. Finally, it is important to note that some routes which are seen as 'rat-runs' also form part of the emergency services response routes. Whilst it is true that fire engines carry keys for the padlocks used on highway gates, it is also true that the fire brigade is often unwilling to support the introduction of gates and width restrictions on key routes where response times for a large proportion of their emergency calls would be adversely affected. This is often a major challenge when seeking a solution.

2. THE CAUSES OF 'RAT-RUNS'

2.1. There are several reasons why drivers chose to use residential side-streets as part of their journey; the following list is not exhaustive, and clearly the actual circumstances may vary to include a combination of these causes:

- The residential side-street lies on a more direct route on the driver's intended journey and therefore there may be a perceived time-saving for the driver (for example, a 'rat-run' may cut a *diagonal* route between two perpendicular main roads);
- The residential side-street does not have any of the obstructions that the driver faces on a parallel main road such as traffic lights, pedestrian crossings and other similar impediments to traffic progress; thus using the residential side-street allows the driver

to proceed with less need to stop and wait (for example, a side road that runs *parallel* to a town centre main road);
- The main road which is the intended route for non-local traffic suffers from general peak traffic congestion problems, which causes frustrated drivers to find alternative routes (typically parallel);
- The driver may perceive the residential side-street as a more 'pleasant' environment and so chooses to drive down it rather than use the perceived more 'stressful' main road route;
- Satellite Navigation systems regularly indicate that the local route is the 'best route' for the driver;
- Road works of a temporary but perhaps long-running nature lead to traffic displacement into local streets;
- The residential side-street has some feature en route which is attractive to drivers – such as a local shopping parade, school or other facility where the driver may intend to break the journey;
- Poor signage – especially on the main road – may lead to confusion for drivers who do not know the area well.

2.2. Some of the possible solutions will be considered later; however it is clear from the above that an effective solution may not simply be to restrict access to the residential side-street for non-local traffic but to find ways to make the intended main road route more attractive as the natural choice for the driver. For this reason, the section of the report that considers some of the 'tools' available also covers means to alleviate traffic flow on the main roads as well as to limit it on side roads.

2.3. It should also be recognised that 'rat-running' is not necessarily a problem solely imposed on a road by non-local commuters; frequently the problem will be found in part to be due to a minority of the residents themselves, familiarity with the road network and a desire to avoid the main roads being one of the contributory reasons that leads to them using the side road network.

2.4. Clearly some causes of 'rat-runs' are of a temporary nature – in particular those caused by road works. However in this case, properly signed sequences of temporary diversions and road closures can generally be planned which can help to alleviate problems for residents in residential side-streets. The need to maintain reasonable access for those residents to their properties can sometimes be a limiting factor on the efficacy of such diversions, but in general, if well planned, they can be effective.

2.5. It should be noted that the Council has obligations under the Traffic Management Act 2004 which, amongst other issues; is 'An Act to make provision for and in connection with the designation of traffic officers and their duties; to make provision in relation to the management of road networks; to make new provision for regulating the carrying out of works and other activities in the street'. Of key relevance to the subject of 'rat-running' is the duty to ensure expedient movement on the public highway in the context of the work undertaken there by the various utility companies.

2.6. Clearly there are also some factors – such as satellite navigation systems – which, strictly speaking, are outside the council's control. Neither the council nor Transport for London has any jurisdiction over the commercial purveyors of satellite navigation systems. However it is likely that commercial pressures will in due course deliver a solution. The information used by satellite navigation systems is derived from map data

provided by the Ordnance Survey (the OS), and in the past the data available from the OS did not include information on such key issues as width restrictions, banned turns, no entries and other constraints.

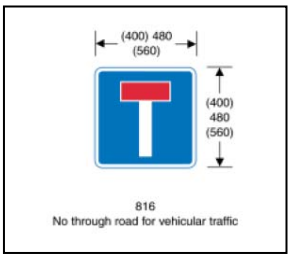
2.7. In recent months, however, the OS has made this data commercially available to the manufacturers of satellite navigation systems, and in addition some of the companies involved have undertaken some of their own surveys in an attempt to eradicate some of the better-known 'mis-routings'. As the sophistication of satellite navigation systems improve, and drivers continue to upgrade either their vehicles or in-car accessories, it is anticipated that whilst poor satellite navigation routing may never disappear altogether, it is likely to become less of an issue.

2.8. **The Public Highway**: the public highway is defined as 'A Right of Way that allows the Public to pass and re-pass without let or hindrance'. The public highway, as defined by law, consists of any verge, footway, carriageway, bridleway or footpath that is maintained at public expense and over which the public has a right of way. For the section that follows, the term 'public road' is used.

3. TOOLS TO ASSIST WITH TACKLING 'rat-runs'

3.1. Restricted Access

3.1.1. A common request is for roads to be signed as being 'for residents only' or 'for access only'. It is not usually permissible to restrict traffic in this way by signs only.

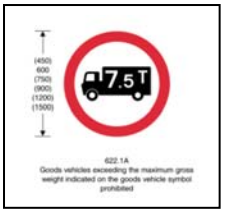


3.1.2. In the case of roads which are signed 'access only' the principal is that there should be a formal restriction of some kind which prevents through access by general traffic at some point, and so an 'access only' restriction ought to be used in a supplementary manner to provide adequate advanced warning of a physical restriction.

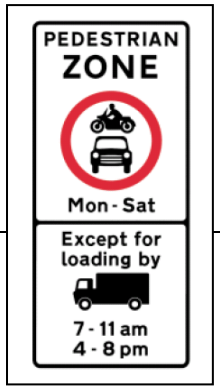
3.1.3. In the case of 'no through roads' the same principal applies; there must be some physical reason why a driver cannot legitimately use the route in question. Routes can be signed as 'no through road except for cyclists' but again there needs to be a barrier to progress by the remaining classes of vehicles for this sign to be legitimately used.

3.1.4. Physical barriers such as automated gates and rising bollards are described later.

3.1.5. **Restricted access for certain types of vehicle**: Having said that public roads cannot be restricted to residents alone, it is possible to restrict certain types, sizes or classes of vehicles, on a basis that is irrespective of their home or destination. Some of these include the following:



- Exclusion of certain categories of heavy-goods vehicles – typically those over 7.5 tonnes gross weight;
- Bus-only route – where all or part of a road is reserved for use only by buses (and other permitted vehicles where appropriate,



such as cycles and taxis). Examples of this in Hillingdon include High Street Uxbridge and Crown Close Hayes;

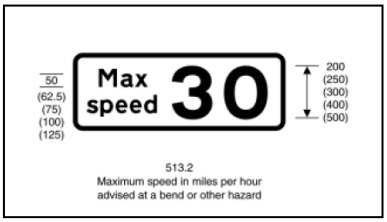
- A cycle-only route – where all or part of a road is laid out solely as a cycle route;
- A pedestrian-only route – where traffic of all kinds is restricted in all or part of a road;
- Emergency vehicle path – a route which is only available to emergency vehicles; this will normally include a physical barrier and is described in more detail later;
- Pedestrian zones – a section of road, typically in a town centre, where traffic is excluded, sometimes with certain exemptions for certain classes such as cycles, and sometimes part-time

3.1.6. In all cases where restrictions by certain classes of vehicle rely solely upon signage, there will be a strong reliance on enforcement. The installation of such schemes which will be heavily reliant upon some form of monitoring and officer enforcement will by their very nature place a significant call on the resources of those who will be expected to undertake the enforcement, be that the council or the police.

3.1.7. Bus lanes (and bus-only routes) sometimes feature fixed bus-lane cameras.

3.1.8. Clearly removing significant categories of traffic by imposing restrictions is likely to displace that traffic onto neighbouring streets; if not planned carefully, such measures may only serve to create or exacerbate a 'rat-run' problem. It is also clearly important to ensure that there is adequate advanced warning of any restrictions so that law-abiding drivers can make an informed decision about their route.

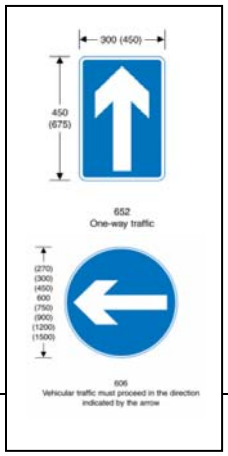
3.1.9. **Advisory speed limit signs** can be used at bends or natural obstructions, where drivers are advised to reduce their speed. However these signs are not enforceable and it is not an offence to ignore them, although as with many issues in the Highway Code, failure to take heed of traffic signs can be cited by the police within a prosecution for driving 'without due care and attention'.



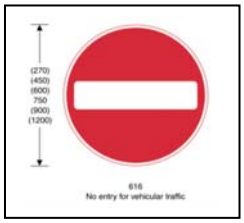
3.1.10. The special case of 'advisory 20mph zones' will be discussed later in section 3.4.

3.1.11. **One Way Streets**: roads can be made one-way through the application of a traffic regulation order prohibiting traffic in one direction. This can be effective in certain cases but the following caveats apply:

- Traffic speeds are generally higher in one-way streets because traffic does not face any opposing vehicle flow;
- Traffic may simply detour to another residential side-street, thereby transferring the problem from one residential street to another;
- Residents may be unhappy about the detours they face by having to use a one-way route, possibly adding to their own journey times;
- The emergency services may have concerns about response times;



- Refuse vehicle routes may be adversely affected (although this is usually less of an issue and is clearly under the council's own control);
- The problem may be a 'tidal' one in as much as the 'rat-running' traffic reverses the direction of flow dependent on the time of day, in which case a one-way diversion would only be of assistance at one time of day, and may in fact worsen the situation at another time;
- Where applicable, a local bus route may be adversely affected, although contra-flow lanes can sometimes be considered where space and circumstances permit;
- In areas where there is an established demand for a cycle route on residential side-streets, cyclists would be displaced onto busier main roads



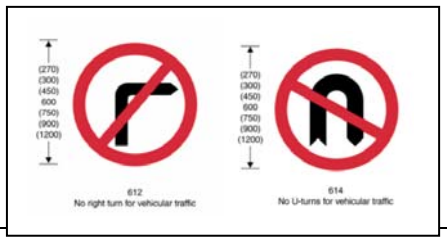
3.1.12. **No-entry and 'point no-entry'**: One of the common concerns with one-way streets, particularly in residential roads, is the manner in which they can lead to inconvenience for residents who may have to use a circuitous route to travel or from their homes. In some cases, the key benefit of a one-way restriction – the removal of an unwelcome dominant traffic through-flow by non residents – can be achieved through simply banning entry at one end of the road using the familiar 'no entry' sign.

3.1.13. This restriction, known as a 'point no entry', will allow traffic to travel in two directions within the road – so, for example, a resident who lives next to the actual no-entry point will be free to drive to and from their home. Experience has shown that this solution may often be more appropriate in a residential street, although as with the conventional one-way street, it will to an extent be dependent upon compliance by drivers at the no-entry itself and, where necessary, through enforcement.

3.1.14. A variant of the formal one-way street is the point no entry with an exemption for cyclists; however as this involves a physical barrier, it is described separately in section 3.3 below.

3.1.15. A common request is for a variant of the familiar red and white 'no entry' sign to be installed, together with some kind of qualifier such as 'except local traffic' or to operate only at certain times. The Department for Transport, which oversees the criteria for traffic signs as set out in the 'Traffic Signs Regulations and General Directions 2002', is very particular in only allowing one variant of this sign which is exempt buses. The logic is that the 'no entry' sign is a clear and unambiguous sign that is universally recognised, and therefore any qualifying signs would dilute this lack of ambiguity.

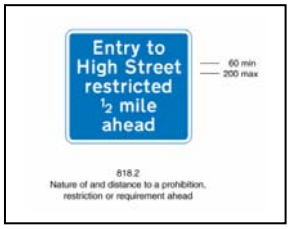
3.1.16. A common example of the problem of signed restrictions is the use of weight restrictions intended to limit the use of residential side-streets by heavy goods vehicles, typically those over 7.5 tonnes in weight. Clearly good clear signage will be important in deterring drivers who are not familiar with an area from using proscribed routes, although the combination of commercial deadlines, delivery pressures, traffic congestion and the compulsion of satellite navigation systems can lead to a problem where enforcement becomes the only recourse left.



3.1.17. **Banned turns**: It is possible to ban turns such as left, right or 'U' turns through the application of a traffic regulation order and the appropriate signage. Often but not invariably these signs may be used in conjunction

with no-entry signs. In practice, they tend to be more effective at the junctions of residential and main roads, but may often be open to abuse when they are sited, for example, at a junction of two residential roads in the heart of a residential estate or similar road network.

3.1.18. **Other signs which can be considered:** There is an understandable desire to see a reduction in street clutter, and it could be argued that a preponderance of traffic signs adds to the problem. Clearly, however, there is a reasonable balance to be achieved, and if the reason that some drivers use a route to 'rat-run' is through their unwitting ignorance of any restrictions, then there can be an argument in favour of additional warning signs.



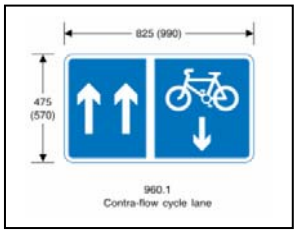
3.1.19. An example of this are the signs that were installed in High Street, Uxbridge in order to discourage would-be 'rat-runners' from using the bus-only section (and risking a penalty notice). Carefully placed signs can be used to encourage drivers to follow preferred routes, although at the same time it has to be recognised that these may have only a limited effect on some drivers.

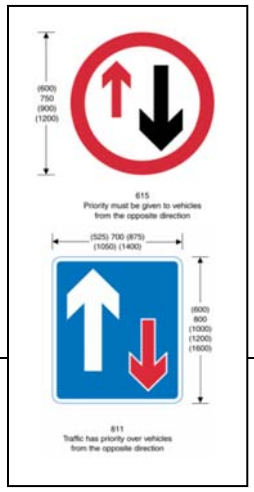
3.2. **<u>Restricted Access through physical barriers</u>**

3.2.1. **Point no-entry with exemption**: A variant of the basic point no-entry is one which allows certain categories of vehicle to be exempt from the closure. Typically these may be buses or cycles, and indeed the fact that the 'no entry' sign can have a plate 'except buses' does allow a closure with an exemption for buses to be introduced using traffic regulation order and signs alone. This particular exemption is more common in town centres or near bus stations, and so its application in a network of residential streets is consequently rather limited.

3.2.2. A second variant of the 'Point no-entry with exemption' is one which allows cyclists to enter the road at the restriction and go against the main flow of traffic. This needs to be considered with care, although the prevailing view among most traffic professionals is that in residential streets with low traffic volumes (after restrictions have been applied) this kind of exemption can work well.

3.2.3. However a disadvantage is that the exemption to one-way working open to make them exempt for buses is not open for an exemption to cyclists. What this means in practice is that a small 'bypass' needs to be built at the side of the road which allows cyclists to pass through a gap of not less than 1.5 metres in width whilst the remainder of the mouth of the road junction is covered by a conventional pair of no entry signs, one either side. Clearly this can be impractical in narrow residential roads where such a bypass would make the remaining gap too small; there are also cost implications.





3.2.4. **Contra-flow systems**: It is possible in some circumstances to allow a traffic lane to operate in opposition to a one-way street. The obvious example is the contra-flow bus lane, but contra-flow cycle lanes can also be used. Such arrangements are seldom used in residential streets, however, and the clear disadvantage

in such applications would be the severe loss of kerb-side parking that would be needed.

3.2.5. **Priority Give-way systems**: Where traffic is found to be running fast through a side road, and the problem is predominantly in one direction, there is the potential to introduce a road narrowing or chicane which will require traffic in one direction to cede priority to the opposing flow. The type of signs used are illustrated at right.

3.2.6. This kind of restriction has been common at the outskirts of rural villages (where traffic leaving the village is given priority over that entering, thereby slowing incoming traffic). However the disadvantages include cost, environmental clutter, loss of kerb-side parking and the fact that such a scheme may only be partially effective.

3.2.7. **Width restrictions**: Very often the key focus of residents' concerns may be the unwelcome numbers of heavy goods vehicles which use their roads. Such vehicles should use the main roads which are better suited to their bulk, lack of manoeuvrability and the damaging effect that they can have on more lightly-constructed residential roads. However traffic congestion, commercial delivery deadlines and a lack of any obvious deterrent may encourage HGV drivers to deviate from the proper route.

3.2.8. Width restrictions, typically comprising an arrangement of fixed and/or removable bollards, spaced a certain distance apart, can be a solution to the problem of 'rat-running' HGVs, but there are issues that also need to be considered which may militate against them:

- Width restrictions can affect the response times of some emergency vehicles – in particular fire engines and ambulances – and so are not appropriate on some routes in frequent use by these services;
- Width restrictions may necessitate changes to the routes used by refuse vehicles and similar local services;
- Width restrictions are not generally suitable for use on bus routes, unless combined with a bus-only gap (which in turn will be dependent upon the overall road width);
- If introduced in isolation in a network of streets, a width restriction may simply displace a problem to an adjacent road;
- Width restrictions may cause other access problems – for example, coach services travelling to or from a school or other centre;
- Width restrictions are not popular with cyclists (unless a cycle gap can be provided alongside – again dependent on available road width);
- Experience has shown that in some locations, width restrictions are regularly subjected to vandalism or in some cases suffer high maintenance costs as a consequence of bad driving;
- Width restrictions add to street clutter and have maintenance and energy-cost (illuminated signs and bollards) implications;
- Width restrictions will result in a loss of kerb-side parking space, often an issue in residential streets;
- Where there is the likelihood that vehicles will need to turn round in order to avoid a restriction – particularly if advanced warning signs may prove an insufficient deterrent - there may need to be space reserved for a 'turning head' or similar facility;

3.2.9. **Gated closures**: Whilst width restrictions maintain some degree of through access for certain types of vehicle, gated closures imply a much lower level of access, other than

for some key maintenance uses and by the emergency services. Such installations tend to be governed by similar constraints to those described for width restrictions above.

3.2.10. Issues to be considered include:

- In some sites, vandalism may be an issue;
- Whilst they have access to the padlocks used on gates, the emergency services are often reluctant to support the use of any measures which impact on their response times;
- Where there is the likelihood that vehicles will need to turn round, there may need to be space reserved for a 'turning head' or similar facility;
- Gated closures, like width restrictions, introduce additional street clutter and a loss of kerb-side parking spaces
- Displacement of traffic to adjacent streets may be a particular risk in some cases

3.2.11. **Electric barriers and rising bollards**: Other than for private estates with adequate security arrangements and no rights of through-access for general traffic, there is no scope for barrier or gate controls which would only allow permitted access to individuals rather than particular sizes of vehicle. Rising bollards are totally inappropriate for residential roads; their only practical application is for buses fitted with special transponders, and even then there can be safety problems – for example, when a car or other unauthorised vehicle closely follows another vehicle, which is passing through legitimately.

3.3. **Conventional traffic calming**

3.3.1. Sometimes the attractiveness of a 'rat route' to non-local traffic may be the relative ease with which the driver can travel at higher speeds along the road in question. Understandably concerns about speed is often closely linked to the worry that residents have about the 'rat-run' in the first place.

3.3.2. Clearly all the conventional tools of traffic calming are open to the designer in such cases, but it should be borne in mind that such schemes can be expensive, may be unpopular with some residents, and may even fail to deal with particularly persistent rat-route users – in particular HGV drivers – who may feel that the impediment of the traffic calming is insufficient to make them voluntarily change their habits. For this reason, traffic calming alone is not usually sufficient to use as a solution for 'rat-running', although it clearly may be appropriate as part of a more holistic approach.

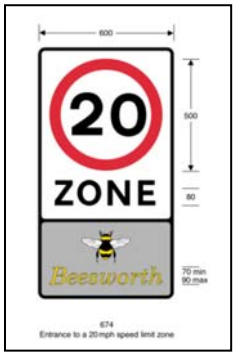
3.3.3. A section on traffic calming practicalities has been included in the council's Road Safety Plan, which was endorsed by Cabinet. This report will not therefore duplicate all of the material in the Road Safety Plan, but will highlight some of the issues of relevance.

3.3.4. **Road humps and speed cushions**: the council does not support the installation of road hump schemes. Road humps tend to be a 'one size fits all' approach and as such they are unpopular with emergency services and bus operators, who see them interfering with emergency response times, causing damage and wear to their vehicles and risk of injury to passengers (in particular in ambulances and buses). Whilst in the past they were often welcomed by residents campaigning for reduced traffic speeds, experience has shown that residents have become disenchanted with road humps in recent years because of their negative aspects.

3.3.5. A variation of the road hump is the so-called ‘speed cushion’, which comprises a single or series of discontinuous hump or humps across the carriageway. The logic behind the speed cushion is that certain types of vehicle with a wider wheel ‘track’ or axle width can negotiate the device without being adversely affected. Speed cushions can be beneficial to bus operators and ambulances. However, standard police vehicles are still adversely affected by speed cushions, HGV drivers can pass over them with impunity at any speed and they also tend to deflect more vulnerable road users such as cyclists and motorcyclists into the gaps between them.

3.3.6. **20mph Zones**: a typical 20mph zone scheme, developed with input from residents, involves some form of traffic calming to physically constrain speeds. The types of traffic calming can include various combinations of raised tables, chicanes, traffic islands and other measures, but it is important to note that all such schemes tend to be expensive.

3.3.7. Innovative 20mph zone solutions have been introduced in Hillingdon which use new kinds of traffic calming solution to good effect; these include the schemes in Vine Lane and Ryfield Avenue. These schemes do reduce traffic speeds, but the effect on traffic volumes is more limited.



3.3.8. The government announced in April 2009 that it would be recommending that a 20mph speed limit to be introduced and enforced on some roads across the country. This new speed limit proposal would be targeted at residential areas and roads near schools. Parts of Newcastle, Portsmouth, Oxford and Leicester have already imposed a 20mph speed limit in residential areas.

3.3.9. A lobbying group, called ‘http://20splentyforus.org.uk/’ is campaigning for local authorities to support the proposal put forward by the government. To date, Islington Council is the only London borough which has decided to adopt a blanket 20mph speed limit approach. For information, Islington also continues to support and implement schemes using road humps.

3.3.10. **Home Zones**: the ‘home zone’ is an idea first developed in the Netherlands and Germany, and now seen in a number of European countries. The concept is effectively a development of some of the principles of a 20mph zone to change the predominance of motorised traffic and to create a more ‘people-friendly’ environment, with landscaping and shared surfaces used to encourage drivers to proceed with greater caution.

3.3.11. In appropriate locations, home zones can be beneficial although it should be noted that they can in practice prove very expensive. In addition, using the home zone approach on an existing ‘rat-run’ could prove counterproductive unless at the same time traffic flows are restricted or curtailed.

3.3.12. **Advisory 20mph Zones**: Prevailing national technical design guidelines point to physical traffic calming as forming an important part of any 20mph zone scheme. Formal recommendations from the Department for Transport still hold to this view, and the Metropolitan Police are often unwilling to support any scheme that would need officer-level enforcement to make it work. It is for this reason that requests to simply lower the posted speed limits from 30mph to 20mph are often unsuccessful.

3.3.13. Another request sometimes received is for a timed 20mph zone, the logic being that the need for speed restrictions may not be on a 24-hour basis. School zones are often cited as the basis of this idea, as clearly the peak periods where road safety is at a premium may be the school start and finish times.

3.3.14. In practice, *formal* timed speed limit zones are not a practical proposition other than on motorways; there is no established model for introducing formal timed speed limits, and in any case with the many changes to school hours, the fact that some pupils may be out of school at lunchtime or other breaks, undermines the argument for formal time-limits. There is also a valid argument that if speeds need to be reduced near a vulnerable site like a school, it is better to reinforce the message on a full-time basis.

3.3.15. Having said the above, there is a growing trend for *advisory* speed limits to be introduced, which rely on some form of special signage with a road safety message. These speed limits are not enforceable (like the advisory speed limits on bends, referred to in section 3.1) and can be encouraged as being applicable during school hours: they have been well received in many cases where they have been installed, usually near schools and mostly outside London.

3.3.16. At present, examples of advisory speed limits in England have mainly been trialled outside Greater London and almost universally they have been branded as 'School Safety Zones'. There is no standard nationally approved traffic sign for these zones, and therefore the local authorities in question have tended to use road safety 'poster' designs which are broadly similar in format to a conventional 20mph zone sign (see above) but with an advisory message such as '20 is plenty'.

3.3.17. The council is exploring the possible application of advisory speed limits near some Hillingdon schools as a pilot exercise.

3.4. Traffic signal based tools

3.4.1. In addition to relatively conventional sign-based and physical restriction based restrictions, there are a range of signal-based options which can be considered where appropriate. Often along with greater sophistication can come greater complexity and cost, as well as the issues of street clutter and the visual impact that such measures may have. For these reasons, such schemes may not be the most appropriate answer for a residential road, but they may be suitable as part of a town centre management scheme where a scheme clearly should be designed to take account of its impact on side roads.

3.4.2. **Traffic queue management by traffic signals**: Sometimes the problem of traffic congestion through a busy town centre is a consequence of poor co-ordination of traffic flows along the main roads at peak times, which can lead to traffic jams and the consequent diversion of traffic onto residential side-streets: a classic peak-period 'rat-run' scenario.

3.4.3. Whilst blocking access to some side roads, perhaps instigating networks of one-way streets perpendicular to the main road, may be part of a potential solution, the fact remains that without tackling the congestion issues on the main road itself, problems will remain and some displacement to the side roads may remain.

3.4.4. Often at the root of traffic congestion on a busy main road may be poorly timed or co-ordinated traffic signals, although it should also be appreciated that sometimes these may originally have been introduced to help with a pre-existing problem and so simple removal of the signals may not be an effective solution, especially if pedestrian crossing facilities are involved.

3.4.5. The Mayor of London has recently called on boroughs to review the case for some existing traffic signals, especially where, in the past, artificial delays have been deliberately introduced.

3.4.6. The Department for Transport document "New Approach to Appraisal" issued in 1998 detailed how the full cost benefit analysis of any scheme was derived. One of the factors was the amount of indirect taxation a scheme would generate (fuel duty), so that schemes that encouraged fuel efficient driving had a lower cost benefit return. In simple terms, this meant that schemes which encouraged fuel economy were penalised.

3.4.7. Following the election of the new Mayor of London, this document was reviewed during 2007 and 2008 and concern was raised that penalising such schemes was not right given the climate change concerns. Guidance to local authorities issued in early April 2009 which removed this factor thus making fuel efficient schemes or so-called 'green wave' schemes more attractive.

3.4.8. The implications for Hillingdon of these 'green waves' are less significant than inner London or where there are many of the Mayor's own 'TLRN' routes – where there are many sets of traffic signals along a given road. The key route in Hillingdon worthy of further investigation is the A4020 Uxbridge Road, although many of the signal sets have already been modernised in recent years to a 'UTC' system (see next section). However, the role that restricting traffic flows on main roads in deflecting traffic into side streets is clear, and was one of the concerns that the council had about the former London Mayor's tram proposals for the Uxbridge Road.

3.4.9. Sometimes a solution can be found through linking existing signals, installing new ones where a case can be made for them, or introducing greater sophistication in the queue management operated by the signals as a set. The technical details are not appropriate for this report but in summary, the following solutions may be identified with the assistance of traffic signal controls:

- **'Urban Traffic Control'** or 'UTC' where sets of signals interact, sometimes with a remote control-room operator able to manually adjust signal timings;
- **Queue Relocation**, where signals at one or both ends of a town centre deliberately hold back traffic queues on a temporary basis to allow the traffic already in the town centre to clear efficiently;
- **Part-time traffic signals** – often at urban roundabouts or major slip roads
- **Artificial constraints** – sometimes the introduction of a set of signals to introduce an artificial break in traffic flows can be considered, the logic being to avoid a continuous heavy flow which may cause problems for side-road traffic. Such a solution is not universally popular and should only be considered in appropriate circumstances

3.4.10. Clearly, as already seen, such sophisticated systems need to be designed in such a way that they do not lead to a transfer of traffic to side roads and thereby exacerbate the problem rather than easing it.

3.4.11. It should also be noted that there is a trend, also championed by the London Mayor, to reduce the numbers of traffic signals. The key focus of this however is to remove redundant signals (e.g. where redevelopment has led to a change in traffic flows and consequent redundant signals). Just as poorly timed traffic signals can contribute towards a 'rat-running' problem, so can injudicious removal of signals which control junctions which might otherwise become subject to gridlock.

3.4.12. **Conversion of Zebra Crossings to traffic signal control**: Some congestion – especially on main roads – can be caused by zebra crossings. Whilst zebra crossings allow more ad-hoc pedestrian use than their signal controlled counterparts, they can cause traffic hold-ups in certain situations.

3.4.13. A good example of this is where a zebra crossing is near a school or a shopping parade, where the flow of pedestrians may at times be quite heavy but fairly intermittent, causing traffic to keep stopping and leading in particular to a 'ripple' effect in longer traffic queues. By converting the crossing to signal control, some 'discipline' is introduced and traffic queues are able to keep moving more effectively.

3.4.14. At sites near a major signal controlled junction, the signal-controlled crossing can also be interlinked with the main junction, thereby improving traffic flows considerably at peak periods. Officers are at present exploring options for a situation of this kind in Long Lane. Hillingdon between Granville Road and Freezeland Way. The key relevance of this to 'rat-running' is the aspect of better traffic flows on the main road and a consequent reduction in the displacement of that traffic to residential side roads.

3.4.15. **Safety Cameras** (so-called 'speed cameras'): Residents who live on roads which are 'rat-runs', and where they associated speeding as part of the problem, commonly ask the council if a speed camera can be installed. However speed cameras are not installed on a routine basis, and in Greater London they are under the management of a body known as the 'London Safety Camera Partnership' ('LSCP' - website www.lscp.org.uk).

3.4.16. Safety cameras are quite expensive, visually intrusive and only likely to be truly effective where there has been a high incidence of serious road traffic accidents involving either serious injuries or fatalities. The LSCP carries out its own programme of accident investigation and uses key criteria before considering whether or not a safety camera may be justified. The criteria are as follows:

- Speed Camera
  - In the most recent 36-month period there must be a collision history along the length of road of four KSI ('killed and seriously injured' collisions), two of which must be speed related.

- Combined Red Light and Speed Camera (speed on green)
  - In the most recent 36-month period there must be a collision history at the junction and on the same arm of two speed related KSI collisions and two other personal injury collisions (slight) caused by a vehicle 'Disobeying Automatic Traffic Signals' (running a red light).

- Average Speed Cameras

- In the most recent 36-month period there must be four or more KSI collisions per kilometre of carriageway, two of which must be speed related.

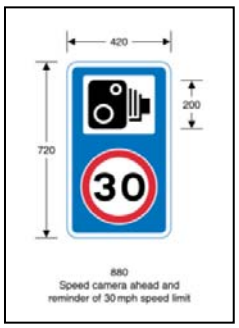
- Mobile Speed Cameras
  - Mobile enforcement sites and operational activity is selected through Metropolitan Police Tasking Meetings.

- Red Light Camera
  - In the most recent 36-month period there must be a collision history at the junction, and on the same arm, of one KSI collision and one other personal injury collision (slight). Both of these collisions must have been caused by a vehicle 'Disobeying Automatic Traffic Signals' (running a red light).

3.4.17. Having undertaken the investigation and justified the case for a safety camera, the LSCP will approach the council and seek to agree the details of the installation; however the entire costs will be met from the LSCP's own budgets.

3.4.18. In cases where a fixed safety camera installation is not justified, the LSCP can make a recommendation that the site is including in rolling lists for mobile enforcement. In such cases, the police will periodically visit the site in a specially adapted van equipped with camera equipment, and carry out enforcement which is effectively the same as with the fixed cameras.

3.4.19. On routes where either fixed cameras are installed, or where mobile enforcement is programmed, a warning sign of the type shown at right can be erected, either by the police or the local authority. This can be seen as a deterrent and it is interesting to note that this is the only type of speed limit sign where the 30mph limit (if it applies) can be repeated at regular intervals.



3.4.20. In conclusion, therefore, whilst speed cameras, mobile enforcement and warning signs can be used, it is important to note that they are not under the council's control and they are only installed where strict criteria apply.

3.4.21. **20MPH Zone by average speed cameras**: As outlined in the Borough's Road Safety Plan, technology exists in an early form which allows traffic speed monitoring and enforcement by a system of cameras and automatic number plate recognition; systems that work broadly on this principle have been deployed on several motorways and the London Congestion Charge Zone uses this principle. There has for some time been discussion between government and local authorities about extending this principle to active monitoring and enforcement of 20mph zones, with a focus on 'rat-runs'.

3.4.22. TfL is exploring the possibility of trialling a number of sites in London during the autumn of 2009, subject to the proposed system receiving Home Office Type Approval. Four competing systems are undergoing testing towards this type approval. TfL's London Road Safety Unit has set out the following criteria for consideration of such an application:

- there should be a history of reported casualties within the proposed area;
- there should be a recognised 'rat-run' route through the proposed area;

- there should be no existing physical traffic calming measures within the proposed boundaries, so that for example existing road humps would not be replaced by cameras;
- there should be a maximum of three entry/exit points to be covered by cameras

3.4.23. Hillingdon's view is that covert systems of this type, relying on cameras to 'catch' transgressors, may not be welcomed by residents, and so does not envisage participating in the present trials.

3.4.24. **Intelligent Speed Adaptation (ISA)**: Future technology on the near horizon includes the potential to equip vehicles with so-called 'intelligent speed adaptation'. Trials will be undertaken in London, starting in summer 2009, and overseen by TfL's London Road Safety Unit (LRSU). Drivers of vehicles equipped with ISA devices will be able to accept an option which prevents them from exceeding the speed limit and the vehicle will also slow down automatically if it passes a traffic signs marking a slower speed limit.

3.4.25. This technology may be made available for sales from 2010, but it is likely that it will remain voluntary rather than compulsory. TfL believe that the widespread use of these devices – they suggest it would need adoption by around two-thirds of all vehicles on the roads - could, in their view, reduce road casualties by as much as ten percent and improve traffic flow. The relevance to the 'rat-running' problem would be the reduction in speeding and better flows on main roads.

3.4.26. It must be acknowledged that this technology is in its infancy and there is probably little likelihood of the volumes of take-up needed without government coercion. However, one London Council (Southwark) has expressed interest in fitting devices to around 300 council vehicles.

3.5. Other measures

3.5.1. In addition to so-called 'hard' engineering measures, there are other techniques which are open to the council to tackle some of the key issues with 'rat-running' in residential streets. A key example of this has been the recent publicity campaign to reinforce the message of the 30mph speed limit.

3.5.2. Publicity campaigns can have a significant benefit in terms of raising public awareness although it has also be recognised that these need to be rolled out on a continual, evolving basis in order that their impact is not lost over time.

3.6. Some possible solutions – street networks

3.6.1. Very often the 'rat-running' problem is not confined to a single road; either there are a series of interlinked roads which already suffer to varying degrees from the problem, or there is a strong likelihood that stopping the 'rat-run' in one road will simply displace the problem to a neighbouring street. It is for this reason that the 'solution' to a 'rat-running' problem is often far more complex than dealing with one road; a parallel can be drawn with parking management schemes, which seldom work in one road alone because of the problem of displacement.

3.6.2. 20mph zones are similarly best contemplated for a discreet network of streets; a 20mph zone can be successfully introduced in one road provided the length is sufficient but the

majority of such schemes occupy a network of roads – typically an estate bounded by main roads.

3.6.3. **One-way networks**: It is possible to create networks of one-way streets, possibly combined with width restrictions, no-entries and even road closures: such scenarios may exist alongside a busy high street where there is a network of perpendicular side roads leading to another road parallel to the main street. By introducing a network of one-way streets through which traffic can circulate with reasonable ease, 'rat-running' traffic can sometimes be curtailed. There are, however, potential problems:

- As mentioned earlier, traffic speeds in one-way streets tend to be higher than in two-way;
- Residents may not be happy at the need to make longer trips either to or from their homes;
- In some cases traffic may still attempt to cut-through the side streets;
- Whilst residents in one street may lobby for a scheme, those in neighbouring streets, when consulted, may lobby equally hard against it

‘rat-running’ THROUGH A NETWORK OF SIDE STREETS

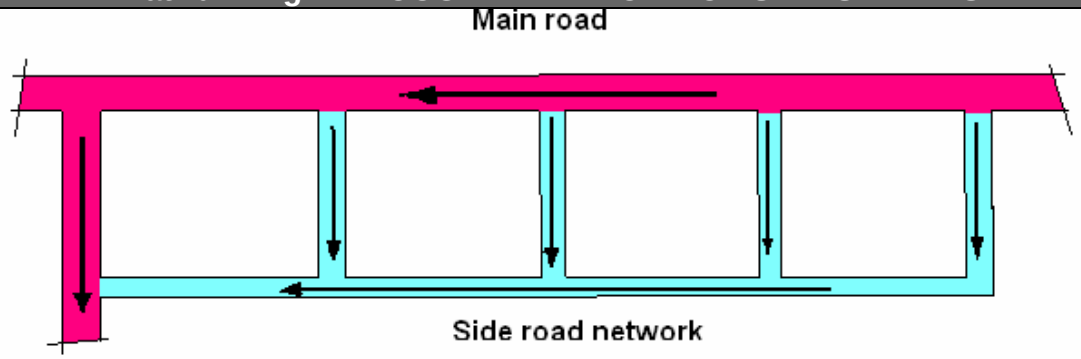


Fig 1: Hypothetical network of side streets adjacent to a busy main street, showing possible ‘rat-run’ traffic flows

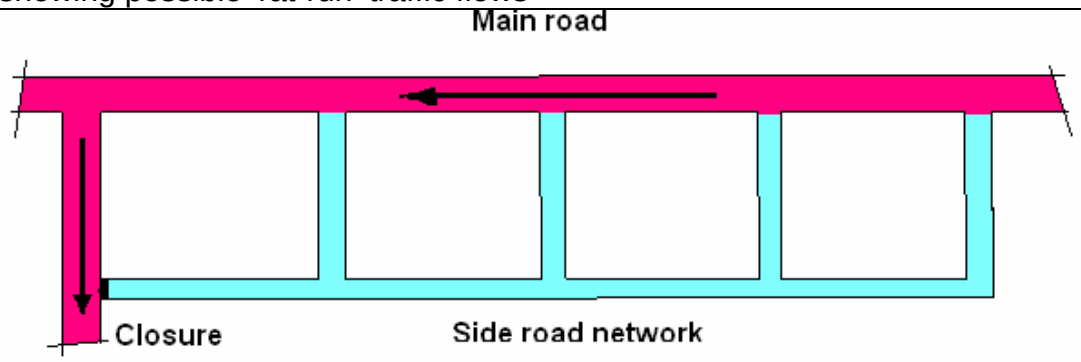


Fig 2: Closure prevents ‘rat-run’ from occurring

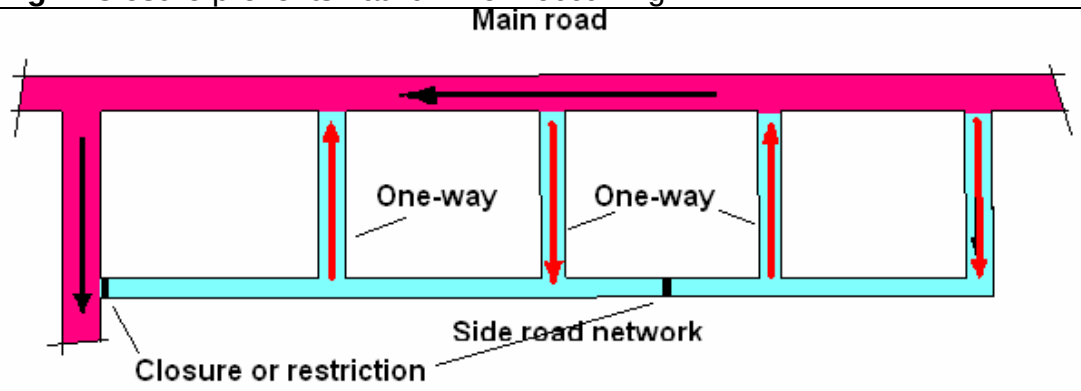


Fig 3: System of one-way streets and some form of restriction or closure

4. THE WAY FORWARD

4.1. Getting the basics right:

4.1.1. The previous section has shown that there is a wide range of possible tools that can be considered as part of a ‘rat-run’ management scheme.

4.1.2. Some of the pitfalls to each of the potential tools have already been described in the relevant paragraphs in the previous section. However, no matter how technically relevant a given scheme may seem, it will not succeed without support from residents and local businesses.

4.1.3. Therefore the key challenges are:

- Ensuring the right mix of the most appropriate tools (the wrong combination may be ineffective or counter-productive);
- Ensuring local support

4.2. **Community Support**:

4.2.1. As stated in Section 1, whilst residents may agree that there is a problem, they may not be so keen on the potential solutions; the medicine may be recognised, but it may not be popular. Key to the development of any scheme, therefore, must be input and, where possible, consensus from the residents who will be most affected.

4.2.2. One way used in Hillingdon to establish the degree of community support for schemes is to invite residents to submit a petition to the Cabinet Member for Planning & Transportation. The cabinet member then receives an advisory report from the relevant technical officers and, during one of the regular petition hearings, will hear first-hand from the petitioners, their neighbours, elected members and any other relevant stakeholders.

4.2.3. Such a petition provides a useful indication of the level of support that there would be for a 'rat-running' alleviation scheme. However, it is fairly rare for the petitioners to set out in any detail what their preferred solution would be.

4.2.4. This is entirely understandable, as residents may not all be technical experts and approaching a consensus may be difficult; however, where elected members know that their constituents have a concern about 'rat-running', the members could assist the process of investigation greatly by encouraging residents to give some thought to the kind of measures they would and would not accept as part of their petition. This may not always be practical or possible, but it will be appreciated that such a petition would be far more likely to result in a proposal that would in turn receive community support.

4.2.5. Consultation is carried out when seeking a mandate from local residents for a given scheme; however, it may not be appropriate as a technique to open up dialogue, as there is a risk that it may unwittingly give an impression that the council was seeking to impose a solution, rather than work with residents.

4.3. **Funding**:

4.3.1. The next issue to consider is the source of funding for a scheme, for understandably, whilst schemes involving just traffic signs and lines may be reasonably inexpensive, any project that involves significant physical changes to the highway is likely to be expensive.

4.3.2. By way of examples, a new traffic island (with illuminated bollards) can cost upwards of £12,000, a new zebra crossing at least £25,000, a raised table or junction might cost

anywhere between £5,000 and £20,000, a new set of traffic signals can cost £25,000 - £40,000 or more and an area-wide traffic calming scheme can typically cost between £200,000 and £500,000.

4.3.3. Sources of funding can include the following (either on their own or in some combination):

- The council's own road safety and traffic congestion mitigation capital budgets;
- Transport for London's various funding streams under the general 'Local Implementation Plan' headline;
- Special one-off bids to TfL or other local and central government bodies;
- Planning gain from developments (Section 106, Section 38 and Section 278);
- The council's own special budgets such as Chrysalis and the Assisted Funding programme, as well as various initiatives such as the Ward Budgets

4.3.4. **Transport for London**: Local Implementation Plan bids to TfL arguably form the lion's share of the funding available for such measures, and bids are generally submitted annually in the summer, with the London Mayor's announcement on a settlement for the following financial year being made in November or December.

4.3.5. Until recently, the LIP funding tended to be divided up into a number of separate themes, including bus routes, cycling, walking, local safety schemes and other complementary measures.

4.3.6. One of the concerns that Hillingdon had was that there was no general category dealing with traffic congestion in general, recognising the fact that car drivers remain a key part of the traffic make-up in outer London.

4.3.7. As part of the changes being introduced by the present Mayor of London, the LIP funding regime is changing with effect from 2010/ 2011. Detailed guidance is still in the process of being developed, but in essence the idea in future will be that individual boroughs will be encouraged to look more holistically at traffic 'corridors' and to set out the borough's own priorities rather than have them to some extent imposed from outside.

5. CONCLUSIONS

5.1. 'Rat-running' is a real concern of many residents. Traffic growth and the emergence of technology such as satellite navigation systems has added to the pressure on local residential roads, as, it can be argued, has been the increasing focus in recent years on giving priority to some of the more sustainable forms of transport at the expense of cars.

5.2. There are much wider issues of climate concerns which are concerned with levels of car usage, in particular for shorter journeys: however it is also important to understand that there are also real consequences and side-effects of seeking to make it harder to travel on main roads by car, and residents who live in roads blighted by 'rat-runs' understandably look to the council to find a way to deal with their problems.

5.3. The challenge for the council will always be to work with residents to find the right balance which meets the needs of the residents affected by the 'rat-run' without

impacting significantly on neighbours or the ability of the emergency services to respond to fires, accidents and other emergencies within the community.