

Table B-1: Types of interventions and measures that could be used to create low traffic neighbourhoods

Type of measure		Could be considered when...	Pros	Cons	Considerations	Other considerations specific to B&NES
Road closures/ modal filter	General closure to vehicles	Area is being used as a cut through or a rat-run.	<p>Offers opportunity to maintain and improve cycling and walking routes.</p> <p>Offers opportunity to improve public realm, provide additional parking for local use (including EV)</p> <p>Potential to maintain two-way access on the street either side of the closure.</p>	<p>Can only be considered where there are other appropriate routes and where there is sufficient and safe provision for vehicles to turn (including for emergency service and refuse vehicles).</p> <p>Installation of the modal filter and provision of space to turn may lead to a reduction of parking spaces.</p> <p>May be seen to hinder local access.</p>	<p>Location of road closure should be considered.</p> <p>Closures at one end enable junction heads to be used for bus stop / loading / parking.</p> <p>Closures half way can enable turning circles.</p>	
	Bollards	As above.	<p>Lockable bollards or gates can help to ensure that access for emergency service vehicles is retained.</p> <p>Low cost and does not require kerb construction.</p>	<p>Issues over maintenance and ongoing cost of lockable solution.</p> <p>Can potentially slow emergency access.</p>	<p>Bollards should be placed 1.5m apart to allow for pedestrians and cyclists.</p>	
	Bus gates	As above.	<p>Can promote public transport priority and support commercial services.</p> <p>Can be enforced by bollards or ANPR cameras and therefore still allow for emergency services</p>	<p>Rising bollards can incur maintenance costs, as above.</p> <p>With ANPR only, the lack of a physical barrier means they can be ignored by some drivers.</p> <p>Ongoing operating costs also incurred and risk that they may not be fully covered by penalty fee income.</p>	<p>Suitability of overall scheme to the Traffic Penalty Tribunal needs to be considered.</p>	<p>Few bus routes through residential areas therefore unlikely to be necessary in some low traffic neighbourhood locations.</p>
	Planters	As above. Potentially for temporary use or trial due to low cost.	<p>Can be temporary and low cost, therefore good for trialling an idea.</p> <p>Opportunities for sustainable drainage.</p>	<p>When used only as a width restriction to a street, as in Enfield (Fox Lane), it was found that temporary planters did not reduce the traffic levels.</p> <p>Ongoing maintenance requirement, to which resources would need to be allocated (whether Council or community).</p>	<p>Signage/ reflective material may also be required to ensure clarity.</p> <p>Consideration of whether use is for width restrictions only, or modal filters (accompanied by TRO).</p> <p>Maintenance required – but should be adopted by community as part of the agreement.</p>	<p>Potentially additional street clutter changing historic street patterns of World Heritage Site, within Bath.</p>

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	No-entry signs	As above.	<p>Still enables access for emergency services / bus routes.</p> <p>Can be time specific</p>	Possibility of being ignored by drivers.	<p>Enforcement powers for traffic and moving offences are currently not available to B&NES, therefore the intervention may not be as successful.</p> <p>The Council only have powers to enforce no-entry restrictions when signed as a bus gate.</p>	Potentially additional street clutter in the World Heritage Site, within Bath.
One-way streets		Area is being used as a cut through or a rat-run.	<p>Reduce rat-running through residential areas.</p> <p>Can provide increased street space for public realm improvements or parking (including EV).</p> <p>Potentially less impact on local trips (compared to road closures).</p>	<p>Can increase traffic speed, with potential enforcement issues. Dependent on the existing street pattern, it may not provide substantial opportunities for public realm improvements.</p> <p>Likely seen as less cycle friendly than road closures.</p>		Consider in conjunction with traffic calming / speed reduction features and contraflow cycling options.
Time-limited access restrictions	Time-limited signage enforcement	There is a need to restrict movements at specific times, e.g. in peak periods	<p>Reduce traffic at busy pedestrian periods.</p> <p>Potentially less hindrance to local trips than full closures</p>	<p>This does not offer all day / area wide advantages and therefore may not offer public realm improvements or social enhancements.</p> <p>May be ignored.</p> <p>Potential confusion for drivers.</p> <p>Potentially confusing for residents.</p>	<p>Enforcement powers for traffic and moving offences are currently not available to B&NES, therefore the intervention may not be as successful.</p> <p>Current legislation only enables the Council to enforce access restrictions that provide an exemption for buses.</p>	Potentially additional street clutter in the World Heritage Site, within Bath.
	School streets	There is a need to restrict movements at specific times, in relation to the school run.	<p>Could be implemented through bollards which, for school streets, schools could raise themselves. This may be easier to gather support for.</p> <p>Can be done with under TRO with no physical barrier, just signage and vehicle ban enforcement (by police) within restricted zone.</p>	<p>If bollards are proposed, there may be issues over maintenance and ongoing costs.</p> <p>Can potentially slow emergency access.</p> <p>TRO and vehicle ban requires enforcement by police, with resources potentially not available.</p>	<p>Birmingham have recently implemented signage and a vehicle ban reinforced with a £50 fine for driving in the restricted zone. It is currently being trialled via an ETO with proposals for enforcement by the police.</p>	Would add to the continued efforts of B&NES reducing traffic and air pollution around schools.
Width restrictions		For residential areas used by	Potentially easier to gain public support	Often don't deliver a broader range of	Width must retain access for	Have been implemented in

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		large volumes of HGVs	<p>for intervention (compared to closures or one-way).</p> <p>Street narrowing can provide opportunities for public realm improvements.</p>	<p>benefits, in terms of traffic reduction.</p> <p>Traffic may remain too high for children to play out and traffic speeds may not decrease significantly on such roads.</p>	<p>emergency service and refuse vehicles etc.</p> <p>Can only be enforced by police.</p>	<p>residential areas of B&NES although initial feedback indicate enforcement is required for success.</p>
Traffic calming / Speed limit reduction	Speed humps / tables / cushions	In residential areas where traffic regularly exceeds 20 mph.	<p>Sinusoidal speed humps are cycle friendly.</p> <p>Speed tables are beneficial for bus routes as reduces the impact on passengers.</p> <p>Speed cushions can be straddled by vehicles with wider wheelbases, such as emergency vehicles so there is little deflection.</p>	<p>Sinusoidal speed humps may create delays for emergency services, if not installed correctly.</p> <p>Speed tables does not always have the desired impact for vehicle and can create noise and vibration issues.</p> <p>Can be costly to install and maintain.</p> <p>Speed cushions could encourage vehicles to swerve to avoid them which puts other road uses, such as cyclists, at risk.</p>	<p>Generally not favoured by bus operators if provided on bus routes.</p> <p>Speed humps should be no less than 100m intervals, more ideally at 150m intervals.</p> <p>Could be appropriate to introduce waiting restrictions alongside as parked cars could result in issues on narrow streets.</p>	
	Wide car parking spaces	In areas where speed humps / tables / cushion creates access issues such as near to cross roads.	Will visually narrow the road reducing speeds along the road.	Provide risk for cyclists if narrow road widths result in over taking closely to cyclists.	These were implemented successfully in Enfield (Fernleigh Road).	<p>This may require revisions to any TROs for existing residents' parking schemes.</p> <p>This could also provide opportunities for the provision of on-street electric vehicle charging infrastructure.</p>
	Traffic islands	In residential areas were traffic regularly exceeds 20 mph.	Provide informal crossing points for pedestrians or protects space for right turning vehicles.	Provide risk for cyclists if narrow road widths result in overtaking closely to cyclists.	Traffic islands can be seen to be reinforcing the message of car dominance within modal hierarchy	
	Junction build-out	Crossings across minor roads at their junction with through roads around periphery of scheme.	<p>Can slow vehicle speed through tighter geometry. Advantageous for pedestrians as reduce the space that pedestrians have to cross.</p> <p>Creates additional space for planting or</p>		Impact of the junction build out on speed, flows and accidents varies based on design.	

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			cycle parking.			
Parking reductions / restrictions	Remove non-residential parking (paid or unpaid)	Shopper or commuter parking is drawing traffic to/through an area	Reduction in on-street parking by non-residents therefore reduction in circulating traffic seeking spaces.	Potential to increase parking on the outskirts of the residential parking zones. Requires enforcement.	Impact on Council budget of removal of pay & display parking.	Impact of parking on the edge of the clean air zone due to be implemented in Bath by the end of 2020. As a tourist city, parking provision is heavily sought after.
	Double yellow lines	Around junctions (for 5m) to improve sight lights	Improving pedestrian crossing by improving visibility	Reduces car parking spaces and requires enforcement.		
	Residents' Parking Zone	Within the low traffic neighbourhood area where no parking restrictions are in place. Existing residents' parking zones could be altered in terms of area, hours of operation, regulations (number of cars / household).	Reduction in non-residential parking therefore reduction in the circulating traffic. Encourages the consideration of alternative modes for short trips to an attractor in the location. A reduction in the number of parking spaces / number of cars per household could also contribute towards aims in the climate emergency.	Potential to increase parking pressures elsewhere. Potential for objections from local stakeholders and residents.	Should consider the local area in terms of attractors such as health centres, businesses and employment.	B&NES residents' parking scheme guidance should be followed in developing any new residents' parking zone.
Junction and crossings	Pedestrian/ cycling junctions	Joining cells with other cells across a main road.	Zebra style crossings prioritise pedestrians. Generally, for use in low speed areas.	Signalised crossings require consideration of the pedestrian and traffic volumes to ensure delay for users is reduced.	Where feasible this should include pedestrian and cyclist crossing, possibly in the form of include tiger crossings, parallel signalised crossings rather than shared crossings. Signalised crossings are more expensive to maintain than zebra crossings.	These could be used to link low traffic cells with B&NES' wider movement strategy highlighting walking routes across the city. Crossings should ensure that they are not obstructive with the streetscape.
	Blended / "Copenhagen"	At side streets on the edge of a low traffic neighbourhood.	Reinforce pedestrian / cyclist priorities and the boundary to a low traffic	Consideration for the visually impaired or those with children as the pavement is	Should be considered were vehicle speeds are low.	Blended crossings, in accordance with the B&NES

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	crossings		neighbourhood.	emphasised over the road.		Streetscape Manual, are preferable as are less obstructive to the streetscape.
Public realm improvements	Reimagining the road space	In low traffic and low speed environments around key attractors (shops) or as a gateway to residential areas	Environmental and public realm improvements	Less successful in areas of high traffic volumes. Consideration for those with visual impairments, particularly the installation of guides such as delineations.	Should be implemented alongside other measures such as speed reductions and possibly traffic reducing schemes as traffic volume should not exceed 3-4000 vehicles per 24 hours ¹ .	Consideration of materials within Conservation Areas
	Pocket parklets	In low traffic and low speed environments In conjunction with modal filters and road space reallocation (on-street parking space)	Small green spaces to improvement public realm and community cohesion Provide free spaces for communities, somewhere to sit, chat and relax	Potential only to be used in conjunction with other traffic and speed measures, as traffic may still be too high for people to sit out or children to play	Both temporary or permanent applications. Implemented in Hackney, Stockport and Dalston ² Likely to require a TRO amendment if provided in a road with an existing residents' parking scheme.	Consideration of materials within Conservation Areas
	Tree-planting, soft landscaping	When additional space is unlocked for example, through modal filters.	Improve drainage, biodiversity and green infrastructure in the scheme area. Additional benefits for carbon off-setting.	Little impact on reducing traffic as a single option. Ongoing maintenance requirement, to which resources would need to be allocated (whether Council or community).	Popular for use in low traffic neighbourhood schemes as a complementary measure. Community Charter to outline responsibilities of ongoing maintenance.	Consideration of materials within Conservation Areas

¹ <https://cyclingsolutions.info/shared-space/>

² https://www.livingstreets.org.uk/media/4590/parklets_tool_kit.pdf

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Electric vehicle charging points		Additional space is enabled to facilitate appropriate locations for on-street electric vehicle charging implementation.	Environmental benefits from encouraging and facilitating the uptake of electric vehicles,	May not reduce overall traffic with a neighbourhood.		Increasing uptake of electric vehicles and reducing vehicle miles in combustion engines is part of the aspirations for B&NES. Implementation of on-street charging should be in line with B&NES policy.
Cycle infrastructure	Cycle parking	On-street, within pocket parklets, on shopping streets	Encourages cycling to local amenities which contributes to a reduction in vehicles.	Cycle parking requires space which could be gained through a reduction of road space (i.e. on-street parking spaces) or where sufficient footway is available as to not impact pedestrians, i.e. locations such as build-outs or modal filters.	Cycle parking should be in secure, well-lit areas. Consideration of e-bike specific requirements is required. Management process for allocation of spaces in secure parking including costs and ongoing maintenance of the parking facility e.g. cycle hangar Ensure parking is designed so that it does not affect ability to sweep the street or attract litter.	In accordance with the Streetscape Manual, cycle racks should be the Sheffield design. It is noted that where appropriate, bespoke designs are encouraged. Cycle parking should be considered in B&NES as it is possible that due to the high number of flats, there is limited personal cycle storage.
	Cycle lanes	Segregated cycle lanes should be considered on main road with higher volumes of traffic and on routes to schools. The appropriateness of non-segregated cycle lanes on quieter roads should be considered.	Segregated, continuous cycle lanes encourages uptake of cycling across a range of users and increases safety.	Segregated cycle lane requires additional space. This should not compromise pedestrian space.	Successful when reducing vehicle turning movements which cross the cycle lanes. Therefore, continuity of cycle infrastructure can be improved by modal filters. Likely to require reallocation of parking spaces or traffic lane to accommodate a cycle way. Maintenance options need to be defined, in terms of resources, scheduling and equipment requirements.	
Play Streets		Using temporary road closures	A low-cost way of reducing traffic temporarily to enable community benefits.	Little long-term benefits in reducing neighbourhood traffic.	A community-led initiative. Adults on the street, such as local parents, allow street residents to drive	

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				to and from their homes at walking pace, while re-directing through-traffic.	

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