

Research Into The Effectiveness Of Different Forms Of Traffic Calming In The London Borough Of Southwark

Prepared By
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21st May 2008

Introduction.

- Southwark Living Streets is very supportive of the aims of Southwark Council of making the borough a predominantly 20mph maximum zone. These aims are established in the Road Safety Strategy and supported in the Walking and Cycling Plans for the borough.
- We are convinced that not only does the implementation of and enforcement of 20mph speed limits reduce pedestrian casualties significantly (particularly amongst children), but it also allows streets more of a chance to flourish as places and destinations through a reduction in their domination by fast moving motor traffic. A speed limit of 20mph has a large number and wide range of benefits.
- We have been concerned for some time, however, that the schemes that are being introduced in the borough are not proving effective in reducing vehicle speeds to a maximum of 20mph. We sense that the schemes that have latterly been reliant on speed cushions for their enforcement have struggled to:
 - Reduce traffic speeds significantly AND
 - Enforce speeds at a maximum of 20mph.
- This study, therefore, tries to look at these issues from the point of view of the research that exists in this area undertaken by the Department for Transport and combine that with data from Southwark itself. Although there are bound to be flaws with the work that we have done, we have tried to be as objective and as accurate as possible in gathering and analysing the data that we have used.
- In putting this report together we have received invaluable assistance from the Executive Member for the Environment, Councillor Lisa Rajan and a number of officers at Southwark Council including Graham Richards, Anil Apte and most especially Phil Thompson. Although they have helped us to source and gather the data, the conclusions (and most especially any errors) are ours alone!
- We would very much stress that this work has been undertaken to highlight issues concerning traffic calming and how well it works. It has not been done in any way to undermine the efforts of Southwark Council and its commitment to reduce casualties on its roads.

Background & Methodology.

- The Traffic Management Orders used to create a 20mph zone take effect from the Road Traffic Regulation Act 1984 and are underpinned by the legal requirement that “No person shall cause any vehicle to proceed at a speed in excess of 20 miles per hour in the streets and lengths of street specified.” As, until very recently, the police have not had the powers to enforce speed limits in 20mph zones and, in any case do not have the resources to do so, schemes are required to be “self-enforcing”. Physical measures tend to be used, therefore, to reduce vehicle speeds.
- The benefits of reducing vehicle speeds in built-up areas are clear. A pedestrian hit by a car at 40mph has an 85% risk of being killed, at 30mph he has a 45% risk of being killed, at 20mph the risk falls to 5% (1). The effect of reducing speeds is particularly significant for children; when traffic is slowed down to 20mph there is a 70 per cent drop in casualties amongst child pedestrians (2). Child casualties are a particular problem in the UK. A child pedestrian is three times more likely to die on our roads than in Italy and twice as likely than in France (3).
- We propose to look at the effectiveness of the current principal forms of traffic calming used in Southwark in 3 ways:
 - **1. Government Research.** Firstly, we will summarise the results of the Department of Transport Traffic Advisory Leaflet 01/98 concerning Speed Cushion Schemes.
 - **2. East Walworth 20mph Zone.** Secondly, we will look at the effect of the introduction of the 20mph Zone in East Walworth in March 2007 through the counts that were undertaken before and after installation.
 - **3. Speed Gun Data.** Thirdly, we will look at vehicle speed data gathered in a number of differently calmed streets in Southwark in November 2007 using a radar speed gun.

Background & Methodology (cont'd).

- Inevitably there are differences between the average speed figures and the 85th % figures for streets where data has been gained through pneumatic/automatic traffic counters (which measure all vehicles) and those from speed gun data (which assessed free-flowing traffic).
- Automatic traffic counters are accurate measuring devices which survey teams endeavour to place at the fastest possible stretch of the carriageway. The location may, however, be affected by the fact that they require an anchorage point such as a lighting column etc. This requirement may mean that speeds are slower at the chosen location than they would otherwise be. On average, speeds measured by the automatic counters are 15% below those recorded by speed guns.
- In relation to these studies there are two major elements to take into account:
 - In terms of unusual terminology used, the 85th percentile is the speed at or below which 85% of all vehicles are observed to travel under free flowing conditions past a certain point. Thus the fastest 15% of vehicles (one in seven) go over that speed. The 85th percentile speed is felt to be the one that the average driver tends to adopt according to the road environment.
 - In terms of the design of traffic calming schemes, the key elements are the speed of vehicles at the actual hump, cushion or other speed reducing feature itself (which is a function of how intrusive the feature is) and the speed of vehicles between features (which is a function of the intrusiveness of the feature AND how far apart the features are).

Summary. Only full-width humps spaced less than 40 metres apart are able to reduce the 85th % speed of vehicles to below 20mph.

- There is a clear hierarchy of effectiveness of traffic calming measures that rely mainly on vertical deflection to slow vehicles down. The research indicates that these types of measures work in the ways shown below.

	Average Speed	85th % Speed	% vehicles at over 20mph
No Calming on 30mph urban single carriageway road	27mph	33mph	94%
20mph zone (with signs – no calming)	23mph	29mph	70%
Signed 20mph zone - through route/bus route (infrequent raised crossings) (Rodney Road & Thurlow St SE17)	25mph	30mph	82%
Signed 20mph zone - through route/bus route– 1.6 to 1.7 metre wide 50mm high cushions (eg Heygate St SE17)	25mph	31mph	82%
20mph zone – minor road 1.6 wide 75mm high cushions (eg Portland St SE17)	26mph	30mph	86%
Signed 20mph zone - through route/bus route (some width reductions) (Albany Road SE17)	21mph	27mph	49%
20mph zone – residential road 1.6 to 1.7 metre wide 75mm high cushions (Stead St)	19mph	23mph	30%
20mph zone – full-width sinusoidal humps (Burbage Rd SE21)	18mph	21mph	30%
20mph zone – full-width round top humps (spaced at 40 metre intervals) (Cooks Rd SE17)	15mph	18mph	25%
20mph zone – short residential roads with 1.9 metre wide 75mm high cushions	16mph	20mph	13%

Whether being used in current 20mph zone schemes



- There appears to be strong evidence that the methods that Southwark Council is using to enforce its 20mph zones are ineffective in reducing vehicle speeds to anything like that as a maximum. Only the old style full-width round top humps (closely spaced together every 40 metres) and 1.9 metre wide cushions (which have only been used on short residential roads in East Walworth) attain an 85th % speed of 20mph or below.

Summary. Certain types of calming that are currently being installed appear have very little effect in reducing vehicle speeds in the streets where they are being employed.

- Of real surprise is the relatively small effect that the measures being installed have on vehicle speeds. In the East Walworth scheme, certain types of traffic calming appear to have little or no effect on vehicle speeds. The chart below shows the difference in the 85th % speeds for the different types of calming that have been used.

85 th % speed (mph) →	BEFORE the scheme was installed	AFTER the scheme was installed	Change in 85 th % speed (mph)
Signed 20mph zone - through route/bus route (infrequent raised crossings)	30.1 mph	30.4 mph	+0.3 mph
Signed 20mph zone - through route/bus route (width reductions) (Albany Road SE17)	31.5 mph	27.0 mph	-4.5 mph
1.6 metre wide speed cushions	27.6 mph	25.8 mph	-1.8 mph
1.7 metre wide speed cushions	26.4 mph	22.8 mph	-3.6 mph
1.9 metre wide speed cushions	21.3 mph	19.6 mph	-1.7 mph
Raised tables (full road width)	21.6 mph	13.7 mph	-6.9mph

- On the purely residential roads in the scheme the proportion of vehicles moving at more than 20mph fell from 32% to 25%. On the through routes (the line of the proposed tram/343 bus and Albany Road), the proportion fell by just 8% from 78% to 70%.

Summary. It is proposed that on through routes vehicle speeds should be reduced by SPECS-type cameras; for residential streets full-width humps should be used.

- Although it is very difficult for us to make recommendations owing to our lack of detailed knowledge of the issues traffic engineers face, a number of issues to seem to be thrown up by this work.
- Overall it would appear that the compromises that have been made to the design of schemes that rely on a vertical deflection to be effective (owing to the desire to avoid discomfort amongst vulnerable road users) have rendered the schemes that are now being installed to enforce 20mph zones largely ineffective in:
 - reducing vehicle speeds to a maximum of 20mph OR EVEN
 - reducing vehicle speeds **at all** on certain types of roads.
- We are of course acutely aware of the need to reduce the discomfort for bus passengers and disabled car drivers and passengers that vertical humps cause and we would, therefore, propose the following as a starting point for discussion and debate:
 - Traffic calming on bus routes and through routes should no longer rely on vertical deflections (except at formal pedestrian crossings, where raised crossings should be employed). Instead they should use a combination of speeds advisory signs and, as soon as this is possible, SPECS cameras that measure the average speed of vehicles as they move through sections of the route.
 - On more minor routes and on residential streets, we should return to frequently spaced (40 metre maximum) full width round topped humps that are effective in reducing speeds of all vehicles including motorcycles, vans and 4X4s (which are largely unaffected by speed cushions of whatever dimensions).
 - The benefit of this proposal to the emergency services is that their vehicles would not be affected by vertical calming measures until they reached the residential street they needed to take.
 - We need to ensure that funding is spent on schemes that are effective. At present it appears that funding is being spread too thinly. We may need to cover fewer streets each year BUT ensure that the ones we do calm are calmed effectively. Schemes that rely on low cost cushions spread too far apart might as well not be put in at all.
 - Organisations that run fleets (whether local authorities or commercial operators) should make it compulsory for their vehicles to be driven within the speed limits. If all London buses and vehicles operated by Southwark Council strictly observed the speed limits, this would have a marked effect on other vehicles' speeds.
 - Over time, speed limiters should be installed on lorries and vans that, for commercial operators, can be varied via GPS according to the posted speed limit.
 - For local authority vehicles and TfL buses, a default maximum of 20mph should be set.

Research Findings - 1. Government Research. Research by the Department for Transport concludes that the wider the cushions & the closer they are together, the more vehicle speeds will be reduced.

- The Traffic Advisory Leaflets study into Speed Cushions Schemes (01/98) analysed 34 speed cushions schemes across England. The schemes varied in terms of having different layouts (from single cushions through to 3 abreast) and different widths (from 1.6 metres to 1.9 metres).
- The findings of the surveys are as follows in relation to vehicle speeds:

1. The 85th % speed and average speed **at the cushion** decreases as the width of the cushion increases:

	Cushion width (metres)			
	1.6 m	1.7m	1.8m	1.9m
Average Speed	20mph	18mph	16.5mph	15.5mph
85th % Speed	26mph	24.5mph	22mph	20mph

2. The 85th % speed and average speed **between the cushions** increases as the gap between the cushions increases:

	Gap between Cushions (metres)			
	50m	70m	80m	100m
Average Speed	20mph	22mph	23mph	25mph
85th % Speed	22mph	26mph	27mph	30mph

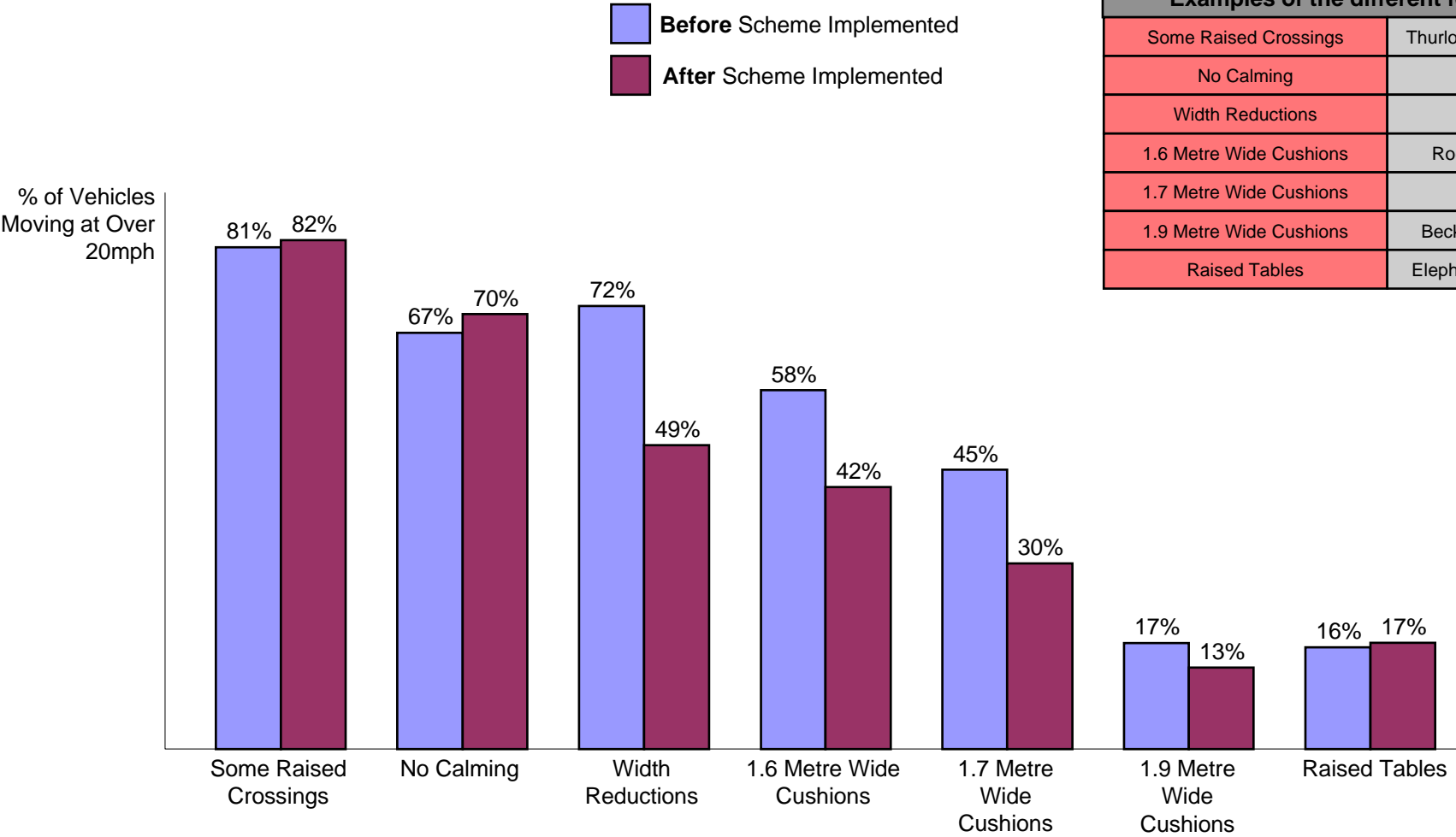
- The study concludes that (as well as other factors such as cushion height and the angle of the incline of the cushion) the cushion width and the spacing between cushions play a significant role in determining vehicle speeds both at and between the cushions. The study also notes that (using data from other studies), although speed cushions can reduce and control vehicle speeds, they do not match the effect of flat or round top (full-width) humps.

2. East Walworth 20mph Zone. As well as the UK wide data we have been able to look at the effect on speeds of the various different forms of calming used in East Walworth.

- The East Walworth 20mph Zone was introduced in March 2007. Speeds were assessed by Southwark Council on nearly all of the roads in the area before the measures were introduced (in late October and early November 2006) and again some time after the measures had been put in place (in late June and early July 2007).
- This data was gained using automatic traffic counters which are placed across the roads and acquire data on every vehicles that passes over them. The data on all of the roads that have been used in this analysis appears in Appendix 1. It is important to note that not all of the data will be perfect as information has been taken from a number of sources. There are, for example, differences between what was stipulated in the Traffic Management Order for the scheme and what was actually put in on the ground. Where these deficiencies are known corrections have been made.
- The main forms of calming that now exist in East Walworth are:
 - Width restrictions (as was introduced in Albany Road with build-outs and a number of new crossings)
 - Raised tables (as in Elephant Road and Liverpool Grove)
 - Speed cushions of differing widths (1.6 metres in Rodney Place & Portland St, 1.7 metres in Stead St. and 1.9 metres in smaller streets such as Beckway St. and Dean's Buildings).
- In addition in certain streets (such as Browning Street) no calming has been introduced.
- This analysis attempts to look at the effectiveness of the scheme in two main ways:
 - The effect of the different forms of calming on speeds in terms of the average speed of vehicles, the 85th % speed and the proportion of vehicles that are going over the new speed limit of 20mph.
 - The change in vehicle speeds from before and after the scheme was introduced.

2. East Walworth 20mph Zone. Only 1.9 metre wide cushions and raised tables are able to reduce the proportion of vehicles moving at more than the speed limit to under 25%

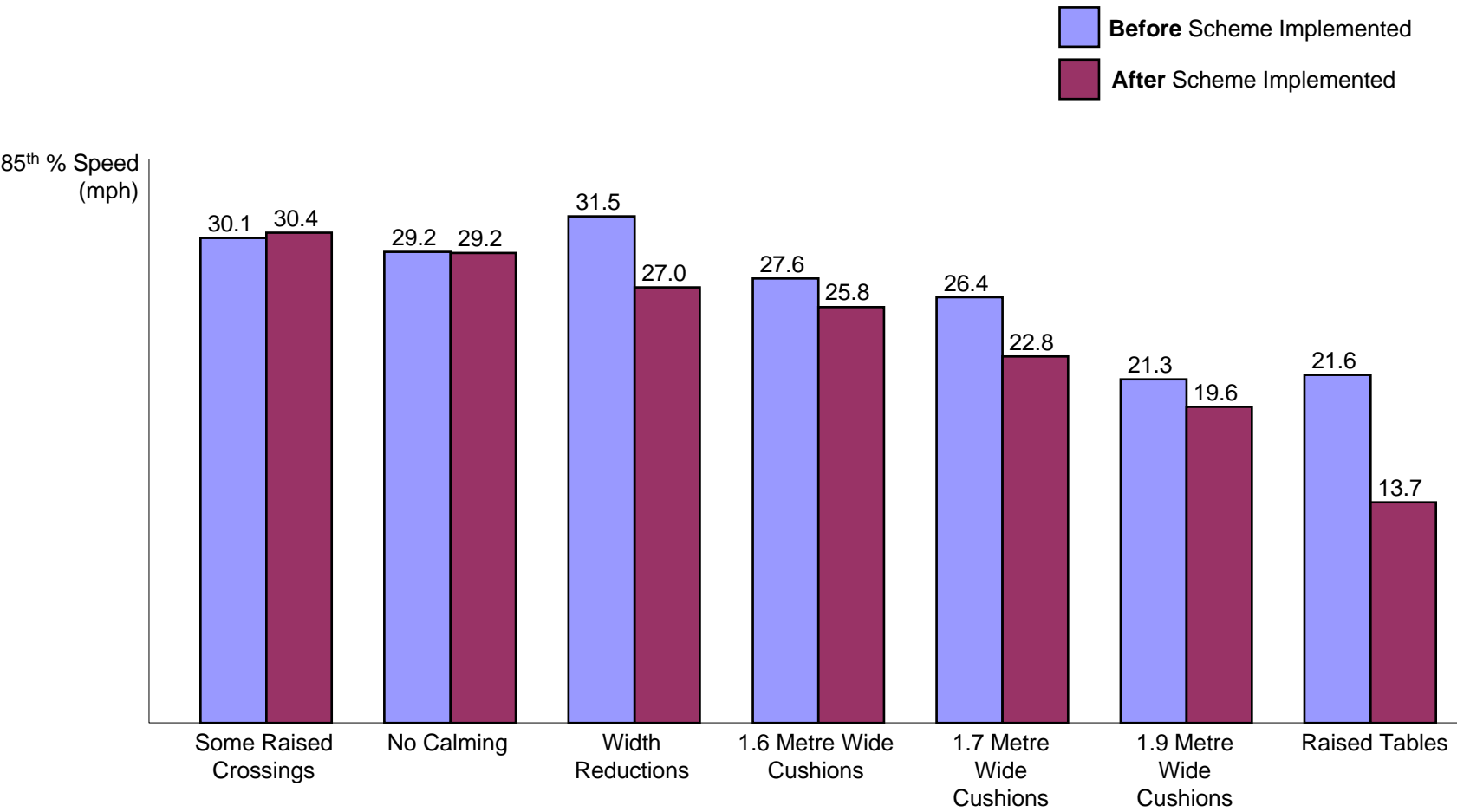
East Walworth 20mph Zone – 1. % of Vehicles Over 20mph



Examples of the different forms of calming	
Some Raised Crossings	Thurlow St., Flint St., Rodney Rd.
No Calming	Browning St.
Width Reductions	Albany Rd.
1.6 Metre Wide Cushions	Rodney Place, Portland St.
1.7 Metre Wide Cushions	Stead St.
1.9 Metre Wide Cushions	Beckway St. Dean's Buildings
Raised Tables	Elephant Road, Liverpool Grove

2. East Walworth 20mph Zone. The introduction of infrequent raised crossing on Thurlow St., Flint St and Rodney Road has had almost no effect on 85th % speeds.

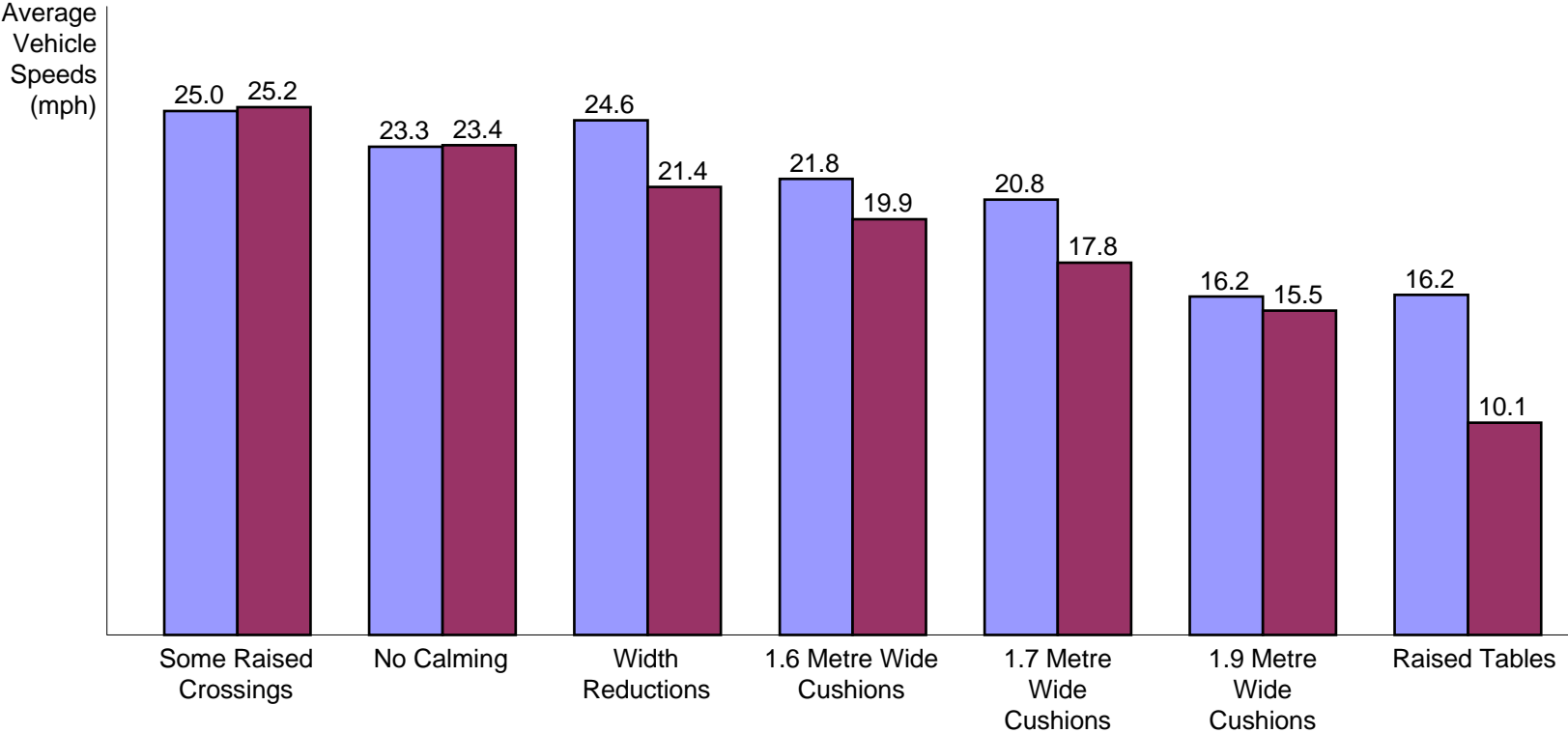
East Walworth 20mph Zone – 2. 85th % Speeds



2. East Walworth 20mph Zone. Even AVERAGE vehicle speeds only fall to below 20mph with the introduction of either cushions or raised tables.










East Walworth 20mph Zone – 3. Average Vehicle Speeds

Before Scheme Implemented
After Scheme Implemented



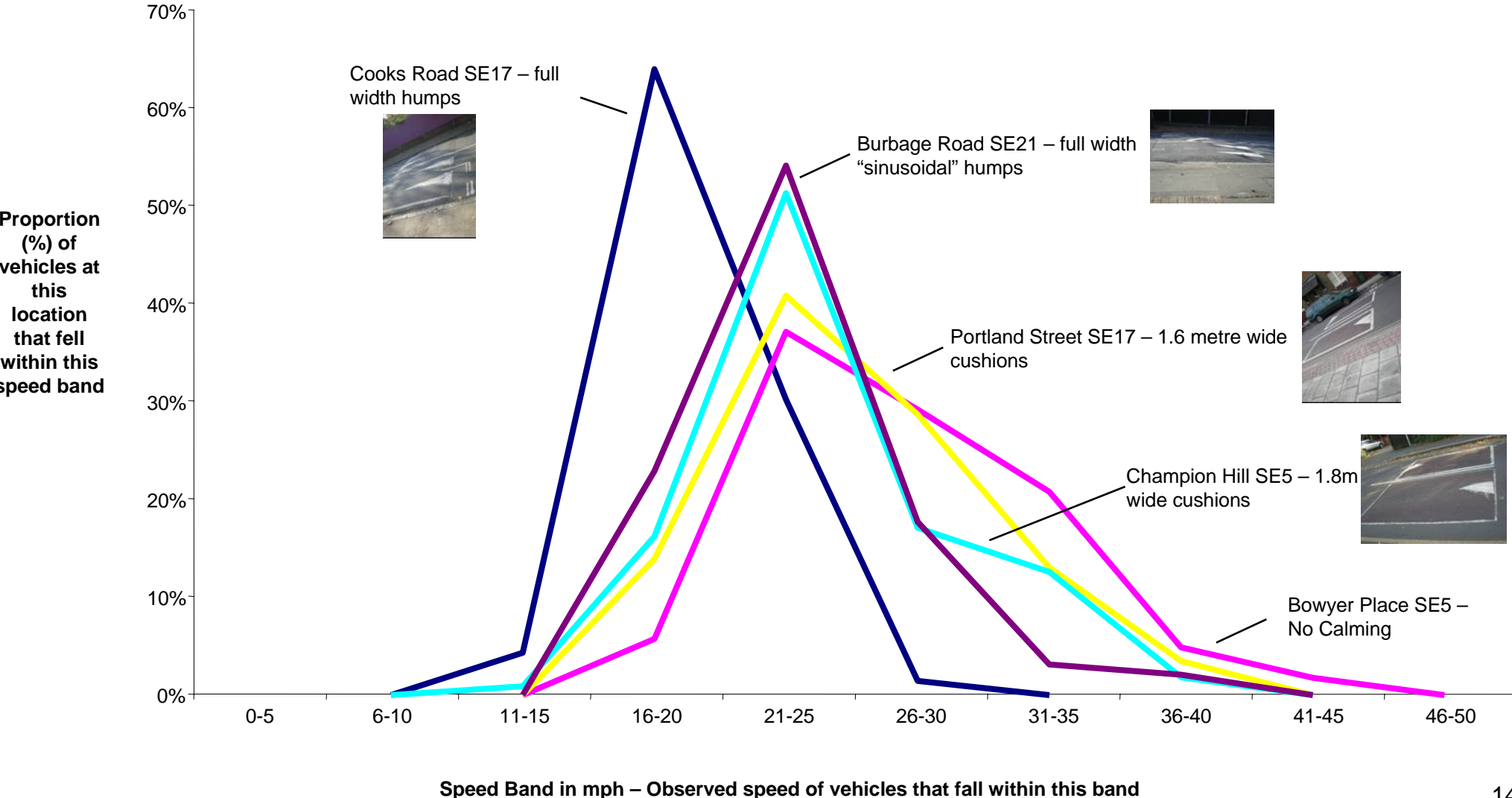
3. Speed Gun Data. Our study of the effect of different forms of calming around the borough allows us to compare the effect of cushions/full width humps with locations where there is no calming.

- The vehicle speed data was obtained using a recently calibrated and checked radar speed gun and the results are shown in the chart below. The study was undertaken in conjunction with Phil Thompson, the Council Officer in charge of obtaining vehicle speed data throughout the Borough of Southwark.
- The data for streets 1, 2 & 5 below was gathered from 10am to 2pm on Friday 2nd Nov 2007 and, for streets 3 & 4, it was gathered from 10am to 1pm on Tuesday 6th Nov 2007. Speeds were noted of vehicles that were flowing freely along each road (ie not being slowed by vehicles in front of them) over the period of an hour. The reading noted was the maximum obtained by the vehicle over the stretch of road that was being assessed. Pedal cycles were not included.

Street (number of vehicles checked)	Type of Calming & Average Spacing between Objects	Speed Limit	Average Vehicle Speed	85th % Speed	% of vehicles over 20mph	The stretch of road observed	The calming used
1. Bowyer Place (SE5) (n = 226)	No calming	30mph	27mph	33mph	94%		
2. Portland Street (SE17) (n = 115)	1.6 metre cushions. Spacing – 70 metres	20mph	26mph	30mph	86%		
3. Champion Hill (SE5) (n = 111)	1.8 metre cushions. Spacing – 45 metres	20mph	24mph	26mph	83%		
4. Burbage Road (SE21) (n = 96)	Full width sinusoidal humps. Spacing – 55 metres	20mph	23mph	27mph	77%		
5. Cooks Road (SE17) (n = 139)	Full width humps. Spacing 40 metres	20mph	19mph	23mph	32%		

3. Speed Gun Data. Only the use of full width rounded humps that are closely spaced together (every 40 metres) in Cooks Rd succeeded in reducing the vast majority of vehicles to below 20mph.

Speed Gun Data – The Structure Of Vehicle Speeds And Different Types Of Calming



Appendix 1. Data from the East Walworth 20mph Zone undertaken by Southwark Council before (PRE) and after (POST) the introduction of the scheme. PART ONE - Cushions

Street	Data Pre/ Post Scheme	Direction	Nature of Calming	85%ile Speed	Mean Speed	% over 20mph	% over 30mph
Portland Street	PRE	Northbound	Cushions - 1.6m Wide	29.6	24.0	73%	8%
Portland Street	PRE	Southbound	Cushions - 1.6m Wide	30.1	24.3	75%	10%
Portland Street	POST	Northbound	Cushions - 1.6m Wide	28.1	22.5	63%	5%
Portland Street	POST	Southbound	Cushions - 1.6m Wide	28.1	21.8	57%	5%
Rodney Place	PRE	Northbound	Cushions - 1.6m Wide	29.1	22.4	59%	8%
Rodney Place	PRE	Southbound	Cushions - 1.6m Wide	28.8	23.3	73%	6%
Rodney Place	POST	Northbound	Cushions - 1.6m Wide	28.0	21.2	52%	5%
Rodney Place	POST	Southbound	Cushions - 1.6m Wide	26.6	22.3	61%	2%
Wadding Street	PRE	Eastbound	Cushions - 1.6m Wide	25.2	20.1	40%	2%
Wadding Street	POST	Eastbound	Cushions - 1.6m Wide	24.5	20.0	32%	3%
Wansley Street	PRE	Eastbound	Cushions - 1.6m Wide	24.3	18.1	34%	2%
Wansley Street	POST	Westbound	Cushions - 1.6m Wide	22.9	16.8	22%	1%
Wansley Street	POST	Eastbound	Cushions - 1.6m Wide	22.6	16.7	20%	1%
Brandon Street	PRE	Northbound	Cushions - 1.7m Wide	24.5	19.1	31%	1%
Brandon Street	PRE	Southbound	Cushions - 1.7m Wide	24.6	19.1	35%	1%
Brandon Street	POST	Northbound	Cushions - 1.7m Wide	18.9	14.8	5%	0%
Brandon Street	POST	Southbound	Cushions - 1.7m Wide	16.6	12.8	3%	0%
Congreve Street	PRE	Northbound	Cushions - 1.7m Wide	22.8	17.2	22%	1%
Congreve Street	PRE	Southbound	Cushions - 1.7m Wide	22.4	16.8	20%	1%
Congreve Street	POST	Northbound	Cushions - 1.7m Wide	19.6	14.4	9%	0%
Congreve Street	POST	Southbound	Cushions - 1.7m Wide	17.1	13.4	3%	0%
Darwin Street	POST	Westbound	Cushions - 1.7m Wide	35.8	30.1	93%	45%
Heygate Street	PRE	Eastbound	Cushions - 1.7m Wide	35.6	29.0	89%	40%
Heygate Street	POST	Westbound	Cushions - 1.7m Wide	32.3	27.1	91%	19%
Larcom Street	PRE	Eastbound	Cushions - 1.7m Wide	26.3	21.0	52%	2%
Larcom Street	POST	Eastbound	Cushions - 1.7m Wide	25.5	20.2	45%	2%
Mina Street	PRE	Eastbound	Cushions - 1.7m Wide	30.6	24.7	76%	13%
Mina Street	PRE	Westbound	Cushions - 1.7m Wide	30.0	23.7	68%	11%
Mina Street	POST	Eastbound	Cushions - 1.7m Wide	27.2	21.7	54%	4%
Mina Street	POST	Westbound	Cushions - 1.7m Wide	27.1	21.1	51%	4%
Phelp Street	PRE	Northbound	Cushions - 1.7m Wide	22.5	17.5	21%	1%
Phelp Street	PRE	Southbound	Cushions - 1.7m Wide	23.3	18.2	25%	0%
Phelp Street	POST	Northbound	Cushions - 1.7m Wide	20.2	15.6	10%	0%
Phelp Street	POST	Southbound	Cushions - 1.7m Wide	20.5	16.3	11%	0%
Searles Road	PRE	Eastbound	Cushions - 1.7m Wide	24.2	18.4	34%	0%
Searles Road	PRE	Westbound	Cushions - 1.7m Wide	25.7	20.0	44%	3%
Searles Road	POST	Eastbound	Cushions - 1.7m Wide	24.0	18.0	28%	1%
Smyrk's Road	PRE	Westbound	Cushions - 1.7m Wide	22.2	16.9	20%	1%
Smyrk's Road	PRE	Eastbound	Cushions - 1.7m Wide	23.1	17.9	24%	2%
Smyrk's Road	POST	Westbound	Cushions - 1.7m Wide	15.8	12.3	5%	0%
Smyrk's Road	POST	Eastbound	Cushions - 1.7m Wide	17.3	13.5	10%	0%
Slead Street	PRE	Westbound	Cushions - 1.7m Wide	29.3	23.1	69%	7%
Slead Street	POST	Westbound	Cushions - 1.7m Wide	28.1	22.1	60%	5%
Barlow Street	PRE	Northbound	Cushions - 1.9m Wide	21.8	16.3	17%	0%
Barlow Street	PRE	Southbound	Cushions - 1.9m Wide	21.0	16.1	15%	0%
Barlow Street	POST	Northbound	Cushions - 1.9m Wide	20.1	15.3	10%	0%
Barlow Street	POST	Southbound	Cushions - 1.9m Wide	19.3	14.9	7%	0%
Beckway Street	PRE	Northbound	Cushions - 1.9m Wide	18.4	14.0	2%	0%
Beckway Street	PRE	Southbound	Cushions - 1.9m Wide	18.5	13.8	3%	0%
Beckway Street	POST	Northbound	Cushions - 1.9m Wide	16.4	13.0	1%	0%
Beckway Street	POST	Southbound	Cushions - 1.9m Wide	17.2	13.3	2%	0%
Chatham Street	PRE	Eastbound	Cushions - 1.9m Wide	28.8	21.7	52%	9%
Chatham Street	PRE	Westbound	Cushions - 1.9m Wide	26.9	19.7	40%	7%
Chatham Street	POST	Eastbound	Cushions - 1.9m Wide	26.3	20.0	40%	5%
Chatham Street	POST	Westbound	Cushions - 1.9m Wide	27.5	19.9	40%	8%
Cotham Street	PRE	Northbound	Cushions - 1.9m Wide	21.1	15.9	11%	0%
Cotham Street	PRE	Southbound	Cushions - 1.9m Wide	21.1	16.8	15%	0%
Cotham Street	POST	Northbound	Cushions - 1.9m Wide	19.6	14.9	6%	0%
Cotham Street	POST	Southbound	Cushions - 1.9m Wide	20.2	15.5	11%	1%
Darwin Street	PRE	Eastbound	Cushions - 1.9m Wide	20.0	15.9	8%	0%
Darwin Street	POST	Eastbound	Cushions - 1.9m Wide	20.1	15.6	10%	1%
Dean's Buildings	PRE	Eastbound	Cushions - 1.9m Wide	24.2	18.1	31%	1%
Dean's Buildings	PRE	Westbound	Cushions - 1.9m Wide	23.9	17.0	28%	1%
Dean's Buildings	POST	Eastbound	Cushions - 1.9m Wide	20.3	16.3	9%	0%
Dean's Buildings	POST	Westbound	Cushions - 1.9m Wide	31.1	23.5	67%	15%
Horsley Street	PRE	Northbound	Cushions - 1.9m Wide	15.6	12.5	0%	0%
Horsley Street	PRE	Southbound	Cushions - 1.9m Wide	15.5	12.1	0%	0%
Horsley Street	POST	Northbound	Cushions - 1.9m Wide	14.3	15.3	2%	0%
Horsley Street	POST	Southbound	Cushions - 1.9m Wide	14.9	13.3	2%	0%
Madron Street	PRE	Northbound	Cushions - 1.9m Wide	21.6	16.1	17%	0%
Madron Street	PRE	Southbound	Cushions - 1.9m Wide	26.2	18.4	33%	5%
Madron Street	POST	Northbound	Cushions - 1.9m Wide	20.1	15.3	10%	0%
Madron Street	POST	Southbound	Cushions - 1.9m Wide	16.5	13.2	2%	0%
Marrow Street	POST	Westbound	Cushions - 1.9m Wide	9.8	9.1	3%	0%
Villa Street	PRE	Northbound	Cushions - 1.9m Wide	21.7	16.7	18%	1%
Villa Street	PRE	Southbound	Cushions - 1.9m Wide	23.0	17.3	23%	1%
Villa Street	POST	Northbound	Cushions - 1.9m Wide	24.4	18.1	29%	1%
Villa Street	POST	Southbound	Cushions - 1.9m Wide	24.1	18.2	27%	3%

Appendix 1. Data from the East Walworth 20mph Zone undertaken by Southwark Council before (PRE) and after (POST) the introduction of the scheme. PART TWO - Others

Street	Data Pre/ Post Scheme	Direction	Nature of Calming	85%ile Speed	Mean Speed	% over 20mph	% over 30mph
Mason Street	PRE	Eastbound	Existing Cushions	27.6	22.2	57%	5%
Mason Street	PRE	Westbound	Existing Cushions	24.7	18.9	35%	1%
Mason Street	POST	Eastbound	Existing Cushions	27.5	22.1	57%	5%
Mason Street	POST	Westbound	Existing Cushions				
Browning Street	PRE	Eastbound	No Calming	30.0	24.3	76%	10%
Browning Street	PRE	Westbound	No Calming	28.5	22.3	59%	6%
Browning Street	POST	Eastbound	No Calming	29.2	23.4	70%	7%
Browning Street	POST	Westbound	No Calming				
Balfour Street	PRE	Northbound	Not in Traffic Orders	23.0	17.6	23%	1%
Balfour Street	PRE	Southbound	Not in Traffic Orders	24.8	18.1	29%	5%
Balfour Street	POST	Northbound	Not in Traffic Orders	21.0	16.2	14%	0%
Balfour Street	POST	Southbound	Not in Traffic Orders				
Trafalgar Street	PRE	Westbound	Planned Calming Missing?	27.3	21.5	56%	4%
Trafalgar Street	POST	Westbound	Planned Calming Missing?	28.0	21.8	54%	6%
Elephant Road	PRE	Northbound	Raised Tables	22.7	16.6	20%	0%
Elephant Road	PRE	Southbound	Raised Tables				
Elephant Road	POST	Northbound	Raised Tables	23.3	17.1	24%	1%
Elephant Road	POST	Southbound	Raised Tables				
Liverpool Grove	PRE	Eastbound	Raised Tables	20.9	15.9	14%	0%
Liverpool Grove	PRE	Westbound	Raised Tables	21.3	16.2	15%	1%
Liverpool Grove	POST	Eastbound	Raised Tables	8.9	6.6	14%	2%
Liverpool Grove	POST	Westbound	Raised Tables	8.8	6.7	13%	1%
Flint Street	PRE	Northbound	Some Raised Crossings	31.9	27.1	88%	16%
Flint Street	PRE	Southbound	Some Raised Crossings	30.6	25.2	81%	10%
Flint Street	POST	Northbound	Some Raised Crossings	33.3	27.7	92%	23%
Flint Street	POST	Southbound	Some Raised Crossings				
Rodney Road	POST	Northbound	Some Raised Crossings	29.5	24.4	81%	6%
Rodney Road	POST	Southbound	Some Raised Crossings	28.4	23.5	74%	4%
Thurlow Street	PRE	Northbound	Some Raised Crossings	28.8	23.8	77%	5%
Thurlow Street	PRE	Southbound	Some Raised Crossings	29.1	24.1	79%	5%
Thurlow Street	POST	Northbound	Some Raised Crossings				
Thurlow Street	POST	Southbound	Some Raised Crossings				
Albany Road	PRE	Eastbound	Width Reductions	32.2	24.7	69%	19%
Albany Road	PRE	Westbound	Width Reductions	30.7	24.4	74%	13%
Albany Road	POST	Eastbound	Width Reductions	27.5	21.2	48%	5%
Albany Road	POST	Westbound	Width Reductions	26.6	21.6	50%	4%