



20mph Research Study

Supporting Technical Appendix
Case Study Description Report

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All street view images included in this report are taken from Google Maps (www.google.co.uk/maps).

1. Introduction

1.1. Introduction

This document summarises the characteristics of the 12 ‘core’ case studies which form the basis for this research.

1.2. Scheme descriptions

The chosen case study schemes cover a range of geographical locations, authority types, scheme typologies and context. Eleven of the case studies comprise schemes implemented between March 2012 and June 2015. The twelfth scheme was implemented before 2010, allowing longer term impacts to be observed.

Table 1. Summary of case study schemes (12 core schemes)

| Case Study ID | Typology | Area-wide / Standalone | Geography | Authority Type | Implementation Date |
|--|---|-------------------------------|--|----------------------------------|---------------------|
| R-SM1 Walsall | Predominantly residential and schools | Small scale standalone scheme | Large city Midlands | Metropolitan unitary authority A | Mar 2014 |
| R-SM2 Winchester (Stanmore) | Predominantly residential and schools | Small scale standalone scheme | Medium town / city South of England | Large county authority A | Jul 2014 |
| R-AW1a (Area A) Liverpool (Area 7) | Predominantly residential and schools (city centre periphery) | Area-wide scheme | Large city North of England | Metropolitan unitary authority B | Apr 2014 |
| R-AW1b (Area B) Liverpool (Area 2) | Predominantly residential and schools | Area-wide scheme | Large city North of England | Metropolitan unitary authority B | Jan 2015 |
| R-AW2 Middlesbrough | Predominantly residential and schools | Area-wide scheme | Large industrial town North of England | Urban unitary authority A | Mar 2012 – Jun 2013 |
| R-AW3 Calderdale (Phase 1) | Predominantly residential and schools | Area-wide scheme | Large urban area North of England | Metropolitan unitary authority C | Jun 2015 |
| R-AW4 Nottingham (Bestwood) | Predominantly residential and schools | Area-wide scheme | Large city Midlands | Urban unitary authority B | Apr 2014 |
| R-AW5 Brighton (Phase 2) | Predominantly residential and schools | Area-wide scheme | Large town / city South of England | Urban unitary authority C | Jun 2014 |
| R-AW6 Portsmouth | Predominantly residential and schools | Area-wide scheme | Large town / city South of England | Urban unitary authority D | Pre-2010 |
| R-AW7¹ Chichester | City centre + residential and schools | Area-wide scheme | Small town / city South of England | Large county authority B | Jul 2013 |
| TC-AW1 Brighton (Phase 1) | City centre and adjacent residential areas | Area-wide scheme | Large town / city South of England | Urban unitary authority C | Apr 2013 |
| TC-AW2 Winchester (City Centre) | City centre and adjacent residential areas | Small scale standalone scheme | Medium town / city South of England | Large county authority A | Sep 2014 |

¹ Classified as ‘predominantly residential’ to reflect the area used for the social research.

The schemes have been selected from nine authorities (three metropolitan, two county and four urban unitary), with three authorities providing two case study schemes (either two separate schemes or two contrasting areas of a large area-wide scheme).

The schemes have been categorised as:

- either **predominantly residential areas (including schools)**, or **city centre and adjacent residential areas**; and
- **small scale standalone schemes** comprising a small cluster of self-contained residential roads surrounded by conventional 30mph roads, or **area-wide** covering a larger proportion of the town or city.

This gives the following breakdown:

- predominantly residential and schools – small scale standalone (R-SM) (**two schemes**);
- predominantly residential and schools – area-wide (R-AW) (**eight schemes**) - *reflecting the main focus of 20mph schemes more widely*;
- city or town centre and adjacent residential areas (TC-AW) (**two schemes**).

Pre-existing traffic calming measures

The majority of schemes have some pre-existing 20mph Zones (20mph limits with physical traffic calming) in place, or had previously introduced physical traffic calming measures (speed humps or chicanes) on some streets but retained the 30mph speed limit.

Pre-existing traffic calming measures are most common in Liverpool, where 70% of the 20mph roads in Area 7 (city centre periphery) and 51% in Area 2 (suburban area, NW of city centre) are covered by a pre-existing 20mph Zone.

There are also a few examples of pre-existing 20mph Limits.

1.3. How have the limits been signed?

Table 2 summarises the signing approach in each of the case study schemes.

Street view images from Google Maps (www.google.co.uk/maps) have been used by the study team to assess:

- compliance with pre-2016 signing regulations (TSRGD); and
- frequency and visibility of signing

for each case study area.

Most of the schemes adopt a similar approach to signing, comprising posted-mounted signs on the entrance to the limit area, and smaller post-mounted repeater signs within the limit area.

Most schemes also use '20' roundels on the carriageway, either at the entrances to the limit area (to increase awareness of the change to the speed limit), or within the limit area at junctions or mid-way along streets (to remind drivers of the limit). Some schemes use red background paving to increase visibility.

A few schemes use '20' roundels instead of post-mounted repeater signs - Winchester (Stanmore), Winchester (City Centre), Chichester - to reduce street clutter (and reduce costs).

Table 2. Signing approach in each of the case study schemes (12 core schemes)

| Case Study ID | Description of signing approach in new 20mph Limit areas | Frequency and visibility of signing |
|--|--|-------------------------------------|
| R-SM1 Walsall | <p>All entrances have two post-mounted terminal signs on either side of carriageway (consistent with pre-2016 requirements), with coloured paving and '20' roundels used to create a 'gateway' to the scheme area. Smaller repeater signs are placed at regular intervals along Barns Lane (the main through and access route) and 'SLOW' markings have been painted on the carriageway (some markings pre-date the 20mph limit). Elsewhere, '20' roundel markings are used to indicate the speed limit, generally located at junctions.</p> <p>The approach reflects the Council adopted specifications regarding signage and road markings for its 20mph pilot schemes:</p> <ul style="list-style-type: none"> On roads where mean speeds are less than 24mph, a gateway treatment and roundels marked on the carriageway are recommended. Where pre-implementation mean speeds were in excess of 24mph, repeater signs are erected at regular intervals to reinforce the new speed limit. These roads are also targeted through the Vehicle Activated Speed Sign programme to reinforce the message and will be subject to periodic speed enforcement. Power points have been installed at strategic locations to allow the deployment of mobile vehicle activated signs. <p>Compliance with pre-2016 signing regulations (TSRGD) assessed as: Excellent</p> | Moderate |
| R-SM2 Winchester (Stanmore) | <p>The entrances to the scheme area are clearly marked. They generally comprise two post-mounted terminal signs on either side of carriageway (consistent with pre-2016 requirements), along with a '20' roundel on the carriageway; although in a small number of cases, only one terminal sign has been installed. The interior of the area contains no (or few) post-mounted repeater signs but there are frequent '20' roundels marked on the carriageway.</p> <p>Compliance with pre-2016 signing regulations (TSRGD) assessed as: Good</p> | Moderate |
| R-AW1a (Area A) Liverpool (Area 7) | <p>Post-mounted 20mph terminal signs have been located at every entrance to the area. Some entrances have two signs (meeting pre-2016 regulations), but others only have one. There are occasional smaller lamppost-mounted repeater signs within the scheme area. '20' roundels on the carriageway have not been used.</p> <p>Compliance with pre-2016 signing regulations (TSRGD) assessed as: Poor-Moderate</p> | Low - Moderate |
| R-AW1b (Area B) Liverpool (Area 2) | <p>Post-mounted 20 mph terminal signs have been located at every entrance to the area, but in general only one sign has been installed (rather than the two required in the pre-2016 regulations). There are occasional smaller lamppost-mounted repeater signs within the scheme area. '20' roundels on the carriageway have not been used.</p> <p>Compliance with pre-2016 signing regulations (TSRGD) assessed as: Poor</p> | Low - Moderate |
| R-AW2 Middlesbrough | <p>Most entrances are marked by two post-mounted terminal signs, often accompanied by '20' roundels on the carriageway. However, in some case only one terminal sign has been installed, along with a '20' roundel; and there are also examples of entrances being signed with just a '20' roundel (neither of which meets the pre-2016 signing regulations). There are occasional smaller lamppost-mounted repeater signs within the limit area, but no '20' roundels on the carriageway.</p> <p>Compliance with pre-2016 signing regulations (TSRGD) assessed as: Moderate to Good</p> | Low - Moderate |
| R-AW3 Calderdale (Phase 1) | <p>Entrances are marked with a mix of one and two 20mph terminal signs. There are smaller lamppost-mounted repeater signs within the limit area. There are '20' roundels on the carriageway.</p> <p>Compliance with pre-2016 signing regulations (TSRGD) assessed as: Moderate</p> | Moderate |

| | | |
|---|---|-----------------------|
| R-AW4 Nottingham (Bestwood) | Some entrances are marked with two 20mph terminal signs (as per pre-2016 signing regulations), but in many cases only one sign has been installed. There are smaller lamppost-mounted repeater signs within the limit area. No roundels were marked on the carriageway as part of this scheme (although there are some pre-existing ones). Compliance with pre-2016 signing regulations (TSRGD) assessed as: Poor | Moderate |
| R-AW5 Brighton (Phase 2) | Post-mounted 20mph signs are located at all entrances to the limit area and are sometimes accompanied by roundels on the carriageway. Inside the limit there are occasional smaller lamppost-mounted 20 mph signs and roundels on the carriageway – generally one feature per road only, but some roads contain neither. The signs are relatively small and not always clearly visible, particularly where there are lots of parked vehicles on the street, potentially creating some uncertainty about the limit in some areas. Compliance with pre-2016 signing regulations (TSRGD) assessed as: Poor to Moderate | Low - Moderate |
| R-AW6 Portsmouth | Entrances to the 20mph limit areas, from the strategic network, are clearly marked by two post-mounted 20mph terminal signs and '20' roundels on the carriageway ("to provide psychological traffic calming"). Within the limit itself, smaller lamppost-mounted repeater signs are situated approximately halfway along the road. In the case of limited visibility, occasional roundels are also provided adjacent to the repeater signs. (The high density of parked vehicles can make some signs difficult to see). Compliance with pre-2016 signing regulations (TSRGD) assessed as: Excellent | Moderate |
| R-AW7² Chichester | Entrances to the new 20 mph limit are marked by post-mounted signs, occasionally accompanied by '20' roundels marked on the carriageway on red backgrounds. In many cases only one terminal sign has been provided (rather than the regulatory two), and where two are provided they are often staggered. Within the 20mph limit area, most roads are very clearly marked with '20' roundels at frequent intervals. These are used as substitutes for repeater posts/plates, to reduce street clutter (and reduce costs). Decisions on the type and location for signs was based on dialogue with the public using a walk-talk-build approach. Compliance with pre-2016 signing regulations (TSRGD) assessed as: Poor | High |
| TC-AW1 Brighton (Phase 1) | Entrances to the limit area are clearly marked, generally with two post-mounted terminal signs on either side of the carriageway, often accompanied by 20 roundels marked on the carriageway. Most 'A' roads with a 20mph limit contain '20' roundels, which are occasionally accompanied by smaller lamppost-mounted repeater signs. On minor roads there are occasional '20' roundels on the carriageway or lamppost-mounted signs repeater signs, but these are rather sporadic. Compliance with pre-2016 signing regulations (TSRGD) assessed as: Good | Low - Moderate |
| TC-AW2 Winchester (City Centre) | Entrances to the 20 mph scheme are clearly marked with post-mounted signs on both sides of the road. Much of the retail area inside the limit is pedestrianised, however non-pedestrianised streets have '20' roundels markings on the carriageway. The north of the area is primarily residential and streets are often narrow with parking on both sides of the carriageway. Entrances to the area are clearly marked by two post-mounted 20 mph signs, and roads inside the limit contain many '20' roundels on the road, often more than once on a carriageway. Compliance with pre-2016 signing regulations (TSRGD) assessed as: Good | High |

Compliance with pre-2016 signing regulations (Traffic Signs Regulations and General Directions, TSRGD) assessed as: Excellent, Good, Moderate, or Poor

² Classified as 'predominantly residential' to reflect the area used for the social research.

Example of posted-mounted signs on the entrance to 20mph limit area and roundels on the carriageway (Winchester – Stanmore)



Example of post-mounted signs on entrance to 20mph limit area, along with '20' roundel on red background (Chichester)



Example of smaller lamppost-mounted repeater signs within limit area (Nottingham)



Images from Google StreetView

1.4. Area characteristics

A description of the area characteristics in each case study area is provided in Chapters 2 – 13, based on:

- area type and affluence / deprivation categories developed for this study (see below);
- a general description the housing stock and road environments; and
- the percentage of the population aged under 16.

Relative affluence and area type categories developed for this study

As part of the desktop audit of the case study areas undertaken at the start of the study, each scheme area was divided into broadly homogenous sub-areas based on land-use, housing type, road geometry and environment, level of on-street parking, relative affluence / deprivation, proportion of children, etc. These factors were all identified during the study scoping stage as having the potential to affect 20mph outcomes. For example, research shows that areas of high deprivation are associated with higher levels of casualties,

and the variation in 20mph outcomes in areas of different levels of affluence / deprivation is therefore of interest.

Indices for Multiple Deprivation (produced by the UK Data Service) were not available in sufficient spatial detail to distinguish between different sub-areas, so instead, income data for the relevant OA, LSOA, or MSOA³ was identified to provide an indication of relative levels of affluence / deprivation within each area.

Each of the sub-area has been assigned a broad affluence / area type category based on the above criteria. The criteria for each category was defined by the study team, for the purpose of this study. The scores identified below are relative scores used to distinguish different sub-areas.

Table 3. Area type and affluence / deprivation categories

| Category | Criterion |
|--|--|
| Category 1: Highly deprived area, very high housing density, and constrained environment (Score = 0-0.1) | <ul style="list-style-type: none"> • High level of terraced dwellings • Limited space between dwellings and the road • Narrow Streets • High-level of on-street parking • Limited no. of schools; green spaces; sports & recreation centres • Very low-low level of income • Limited visibility |
| Category 2: Moderately deprived area, high housing density, and constrained environment (Score = 0.1-0.2) | <ul style="list-style-type: none"> • Fewer terraced dwellings • Limited space between dwellings and the road • Narrow Streets • High-level of on-street parking (some off-street available in areas) • Limited no. of schools; green spaces; sports & recreation centres • Low level of income • Limited visibility |
| Category 3: Moderate incomes, moderate housing density and open space (Score = 0.2-0.3) | <ul style="list-style-type: none"> • Fewer terraced with sporadic semi-detached/detached dwellings in places • Limited space between dwellings and the road, increasing in part due to front gardens/yards • Streets widening in places but still considered to be narrow • High-level of on-street parking (some off-street available in areas) • Limited no. of schools; green spaces; sports & recreation centres but increasing in areas • Low-moderate level of income • Limited visibility, improving at points |
| Category 4: Moderately affluent, wider roads and more open space (Score = 0.3-0.5) | <ul style="list-style-type: none"> • Little to no terraced dwellings. Generally semi-detached/detached dwellings with reasonably sized front gardens • Streets widening but still considered to be narrow in places • Low-moderate level of on-street parking more off-street available • Higher no. of schools; green spaces; sports & recreation centres but increasing in green spaces in particular • Moderate level of income • Increase in visibility |
| Category 5: Affluent area, wider roads and more open space (Score = +0.5) | <ul style="list-style-type: none"> • Little to no terraced dwellings. Generally semi-detached/detached dwellings with reasonably sized front gardens • Streets widening but still considered to be narrow in places • Low-moderate level of on-street parking more off-street available • Higher no. of schools; green spaces; sports & recreation centres but increasing in green spaces in particular • Moderate level of income • Increase in visibility |

³ Super Output Areas were designed to improve the reporting of small area statistics and are built up from groups of output areas (OA). There are now 181,408 OAs, 34,753 lower layer super output areas (LSOA) and 7,201 middle layer super output areas (MSOA) in England and Wales.

The above process was used to identify sample areas for the questionnaire analysis, which were individually homogenous (to minimise 'noise' in the data) but collectively reflected a broad range of characteristics likely to influence 20mph limit outcomes.

Note - These categories were only used for selecting sub-areas for the questionnaire samples. They were not used in the questionnaire regression analysis (which used LSOA-based Indices of Multiple Deprivation, along with separate variables covering road width, amount of open space, etc.).

Percentage population under 16

This data comes from the 2011 Census, for the relevant OA, LSOA, or MSOA⁴. Areas with a high proportion of children may have different attitudes towards 20mph limits and may result in different 20mph outcomes, potentially encouraging greater safety awareness and higher compliance. This has been tested as part of the regression analysis.

1.5. Extent of 20mph limits

Liverpool (Phases 1 and 2), Middlesbrough (Phase 1 and Phase 2), Calderdale (Phase 1), Nottingham (Bestwood), Brighton (Phase 1 and 2), Portsmouth, and Chichester are all area-wide schemes covering all or the majority of residential roads within these areas. Virtually all residential roads in these areas are now covered by a 20mph limit, either as part of a pre-existing 20mph Zone / Limit or as part of the case study scheme recently introduced.

The Walsall (Rushall) and Winchester (Stanmore) are both part of a programme of pilots across the authority in question.

⁴ Output Area (OA), Middle Super Output Area (MSOA), and Lower Super Output Area (LSOA).

2. Walsall (R-SM1)

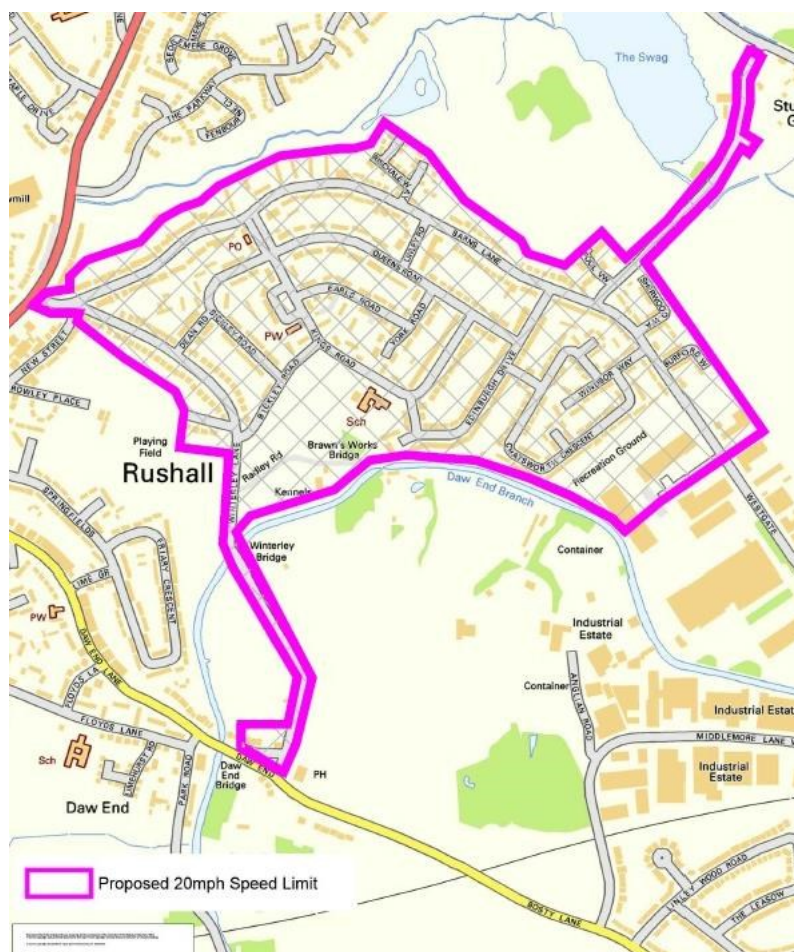
2.1. Scheme description (Predominantly residential and schools)

Rushall is one of five residential 'pilot' 20 mph speed limit schemes implemented in the borough since January 2014.

The Rushall scheme (**implemented March 2014**) covers a small area bounded by two classified roads, a local distributor road, and green space. There is an industrial area to the east of the scheme, and two routes through the estate are used as 'rat-runs'. Population within scheme area is estimated at a couple of thousand. The 20mph limit covers all residential areas within scheme boundary (all minor roads).

The limit operates 24 hours a day, 7 days a week.

Figure 1. Scheme location (Rushall)



Reasons for scheme implementation

Implemented to address speed related issues identified following a Speed Limit Review of roads in the borough; and complaints from residents regarding general vehicle speeds through the estate, particularly following a number of high profile collisions on Barns Lane. The route is heavily used by HGVs, which were seen as presenting a particular safety risk, due to excessive and inappropriate speeds. Consideration was given to other types of traffic calming on Barns Lane, such as weight restrictions and rerouting of HGVs, but these were considered inappropriate. There was strong support for the scheme from the local Councillor.

In addition, the wider 20mph pilot programme was seen as a means of integrating several policy areas, including public health, sustainable travel, journeys to school, and casualty reduction.

Specific objectives

- Deliver a reduction in vehicle speeds that would be noticeable to residents following the introduction of the speed limit.
- Address concerns about HGV speeds.
- Make it easier for residents to adopt a healthier lifestyle.
- Improve the social environment by shifting the bias away from the car on the estate.
- Encourage cycling and walking.
- Adopt advice given by NICE in their report regarding 20mph speed limits.
- Support the A-Stars Programme (Active Sustainable Travel and Road Safety Programme).

Speed limits and presence of pre-existing traffic calming measures in study area

Winterley Lane was already subject to a 20mph speed limit, with traffic calming (speed humps) under a previous local safety scheme; and there were speed cushions on Kings Road to resolve issues outside The Radley's School. No other pre-existing traffic calming was in place.

The table below shows that majority of 20mph roads within the study area are 'New 20mph (signed only)' roads (84%).

| Speed limit category (Rushall, Walsall) | Before Speed | After Speed | Length of road (kms) |
|---|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 5.8 kms (84%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 0 kms (0%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 0 kms (0%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 1.1 kms (13%) |

No additional traffic calming measures have been installed as part of this scheme.

What parking policies operate in the area?

Parking is unrestricted across the estate.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

Other safety schemes have been implemented on main routes excluded from the 20mph speed limits.

2.2. How has the limit been signed?

20mph road signs and coloured paving have been installed at the 'gateways' to the scheme area. Smaller repeater signs are placed at regular intervals along Barns Lane (the main through- and access-route) and 'SLOW' markings have been painted onto the road surfaces (some markings pre-date the 20mph limit). Elsewhere, '20' roundel markings are used to indicate the speed limit, generally located at junctions.

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **moderate**, in comparison with the other case study authorities.

Winterley Lane (Gateway treatment)



Barns Lane (20mph repeater sign and 'SLOW' marking)



Queens Road ('20' roundel marking on entrance to road)



Images from Google StreetView

2.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|---|
| Education and Engagement | <u>Pre-implementation</u> Consultation questionnaire to all residents in affected areas - used as a mechanism to help people understand 20mph signed only schemes as well as identify levels of support. Public exhibitions / drop in sessions for local residents. Council website. |
| Enlightenment | Public awareness campaign based around the slogan ("Take Responsibility"). Used on beer mats, posters, FAQ leaflets etc. |
| Encouragement | Gateway treatments at the scheme entrances, including red High Friction Surfacing (HFS) and painted roundels on the road surface. Repeater signs installed at strategic locations. |
| Enforcement | Police enforcement in line with approach for 30mph limits. Council considering using Vehicle Activated Signs and Automatic Number Plate Recognition signs in 20mph areas, to provide the Police with the information to undertake targeted enforcement activity for repeat offenders. Developing a speed awareness course for 20mph offenders, jointly with Police and Fire & Rescue. |

2.4. Area characteristics

The area comprises a mix of inter-war semi-detached housing, and some new areas with terraced housing and flats/apartments.

Roads are typically long and reasonably wide (approx. 6m wide). Many houses have large frontages, and are set back from the road. There is a mix of on and off-street parking.

The level of deprivation / affluence across the area is 'moderate' (category 3). Approximately a fifth of the population is aged under 16.

2.5. Other existing / planned 20mph limits in the authority

The other pilot areas are in Summer Hayes, Broadway, Brookhouse, Pheasey (also implemented in March 2014); and Park Farm (delivered later).

3. Winchester - Stanmore (R-SM2)

3.1. Scheme description (Predominantly residential and schools)

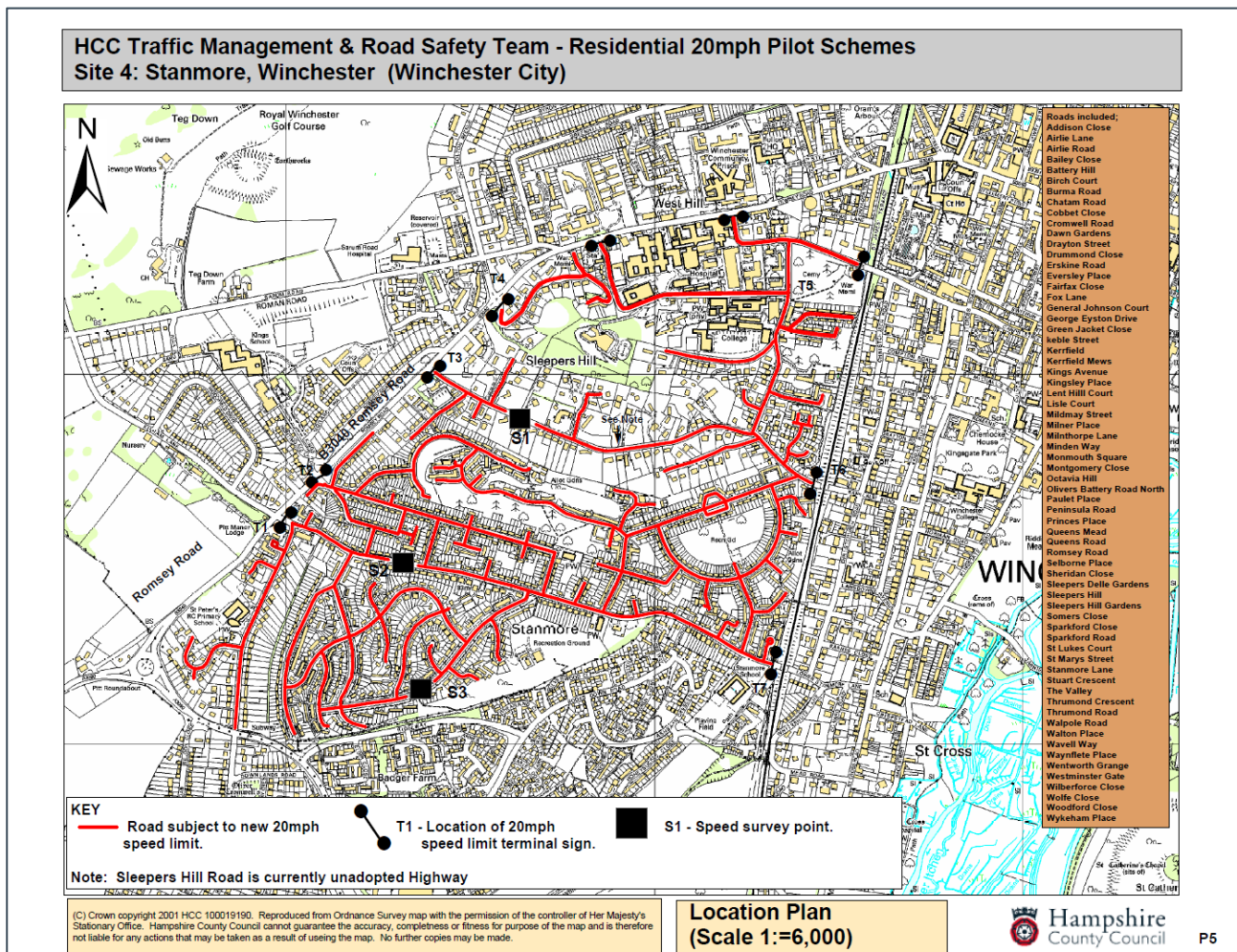
Description

The scheme is one of a number of 20mph pilot schemes being implemented across the County. It was implemented in July 2014, and is the largest of the pilot schemes.

The area is located approximately 1km to the south of the City Centre. It is a self-contained area bound by the railway line to the east, and Romsey Road to the West. It comprises predominantly residential streets, but also includes the University of Winchester and the Royal Hampshire County Hospital, and a primary school in the south-west corner. Population within scheme area is estimated at a couple of thousand.

The 20mph limit covers all roads within the scheme boundary (except for a short section of 10mph limit outside the hospital). All roads are unclassified. The limit operates 24 hours a day, 7 days a week.

Figure 2. Stanmore 20mph scheme



Reasons for scheme implementation

Part of a programme of pilot schemes to create a better environment within residential areas. A list of potential locations was identified by Councillors, and short-listed based on a range of criteria including evidence of concerns or community support, size of area and number of entry points, likely requirement for enforcement, and indicative cost. Stanmore was selected because it was a large self-contained area with few through routes.

Specific objectives

- To improve quality of life.
- Formalise the speed at which the majority already travelling.

Speed limits and presence of pre-existing traffic calming measures in study area

All roads in the area had a 30mph limit prior to the introduction of the 20mph scheme (except for a short section of 10mph limit outside the hospital). However, there was substantial traffic calming in place (speed humps and chicanes) on three sections of road: Stanmore Lane, The Valley, and Airlie / Sparkford / Erskine Rd.

The table below shows that majority of 20mph roads within the study area are 'New 20mph (signed only)' roads (92%).

| Speed limit category (Stanmore, Winchester) | Before Speed | After Speed | Length of road (kms) |
|---|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 13.5 kms (92%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 1.2 kms (8%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 0 kms (0%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 0 kms (0%) |

Sparkford Road (Example of pre-existing traffic calming)



The Valley (Example of pre-existing traffic calming)



Images from Google StreetView

No additional traffic calming measures have been installed as part of this scheme.

What parking policies operate in the area?

Parking is unrestricted across the estate.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

The Council has produced a Cycling Strategy which encourages the implementation of 20 mph speed limits to encourage more people to walk and cycle; and was drafting a Walking Strategy, which is also intended to encourage the introduction of 20mph speed limits to give pedestrians a better walking experience.

3.2. How has the limit been signed

The entrances to the scheme area are clearly marked with post-mounted 20 mph signs and '20' roundels on the carriageway. The interior of the area contains no (or few) post-mounted repeater signs but there are frequent '20' roundels marked on the carriageway.

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **moderate**, in comparison with the other case study authorities.

St James Lane (Entrance to 20mph limit area)



Stanmore Lane (Example of roundels marked on the carriageway)



Images from Google StreetView

3.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|---|
| Education and Engagement | <u>Pre-implementation</u> Public exhibition / consultation event held prior to scheme implementation. Leaflets and questionnaires to all residents in affected areas. Council website. |
| Enlightenment | - |
| Encouragement | - |
| Enforcement | Police enforcement in line with approach for 30mph limits. |

3.4. Area characteristics

The area is one of the less affluent parts of the City and includes some Council-owned housing. There are a large number of students living in the area.

It comprises predominantly residential streets, but also includes the University of Winchester and the Royal Hampshire County Hospital in the north, and a primary school in the south-west corner.

The majority of the area comprises predominantly inter- and post-war houses. The roads are generally wide (approx. 6 metres), and a number are long and straight. The houses are set away from the road, separated by large front gardens and wide pavements / verges. There is a mix of on and off-road parking, with some parking bays and pockets located on some streets. There are also areas of open space and recreational ground.

The area in the north generally contains more affluent houses, often setback from the road and screened behind vegetation; as well as mixed land-use associated with the university and hospital. Some of the roads are quite narrower streets (3.2-4.5m, often single lane, one-way). There is limited open space.

Most of this area is categorised as 'affluent' (category 5); but contains pockets of 'moderately deprived areas' (category 2). The proportion of the population aged under 16 varies between 15% and 25%.

Stanmore Lane (Area characteristics: south)



Waverley Way (Area characteristics: south area)



Images from Google StreetView

Cromwell Road (Area characteristics: central area)



Images from Google StreetView

3.5. Other existing / planned 20mph limits in the authority

A 20mph scheme was implemented in the City Centre in July 2014. The two schemes are separated by an area of 30mph limits.

Other residential pilot schemes were implemented in Highcliffe and Winnall in May 2014.

4. Liverpool (R-AW1a and 1b)

4.1. Scheme description (Predominantly residential and schools)

There are two case studies in Liverpool:

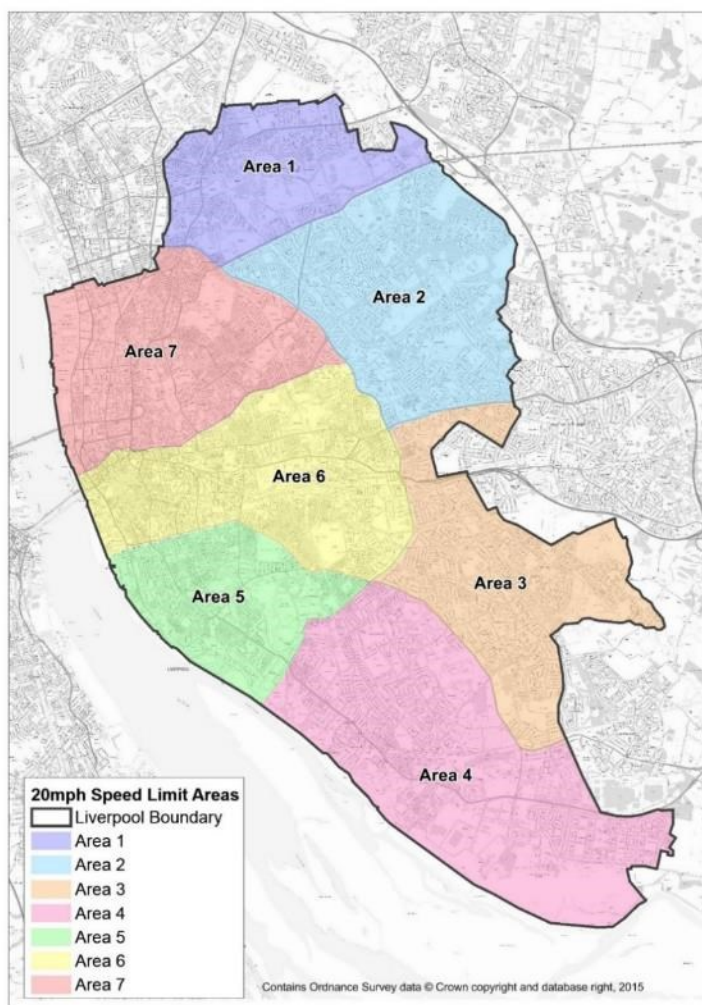
- **Area 7** (R-AW1a) just north of the city centre (city centre periphery); and
- **Area 2** (R-AW1b), a more suburban area, north-east of the city centre.

Description

The Council have undertaken a programme called '**The 20 Effect**', which includes the introduction of a city-wide 20mph speed limit only scheme, covering the majority of the city's residential roads (approximately 70% of the city's streets).

To aid implementation, the city was split into seven areas (all located within the city boundary), with 'A' roads acting as natural dividers (Figure 3).

Figure 3. Liverpool area-wide 20mph limit scheme



The implementation process began in 2012 and the last areas completed in 2016.

Area 6 (covering the City Centre) was the first area to be implemented in early 2013. Area 7 (R-AW1a) followed in **April 2014**, and then Area 2 (R-AW1b) in **January 2015** – reflecting the severity of accident rates in different areas.

The three most southern areas were implemented later in 2015 and 2016.

The scheme excludes classified 'A' and 'B' roads, main bus routes with high frequency services, distributor roads, industrial estates, roads with no residential frontages, and roads which are wider than one carriageway. However, 20mph limits have been introduced on some shopping streets classified roads or main bus routes, due to the high levels of pedestrian activity. A small number of non-residential roads have had 20mph limits introduced, to promote them as quiet cycling routes (these often run parallel to busier main roads). Advisory 20mph signs have been introduced where schools are located on main roads.

The scheme operates 24 hours a day, 7 days a week.

The nature of each of the seven areas varies, in terms of land use, demographics and housing types. Consequently, for the purpose of the 20mph research, two of the city's 20mph limit areas are being used as

case studies - Areas 2 and 7. Area 7 encompasses the area to the north of the city centre, and Area 2 covers a more residential area in the north east of the city.

Supporting measures – The Council commissioned a public engagement company to undertake a high profile and widespread awareness and education campaign before, during and after scheme implementation. A key element of this involved identifying ‘local influencers’ from the community (including local celebrities) who could quickly connect with and influence the public.

Reasons for scheme implementation

The city-wide scheme was implemented to:

- address the poor and worsening casualty rate in the city, particularly in terms of KSIs relating to pedestrians, cyclists and children, which are highest of residential roads;
- to ‘give the streets back to the community’.

Specific objectives

- To improve road safety - reduce the number of KSIs (especially those involving children and vulnerable users) and reduce the number of pedestrian and cyclist collisions.
- Improving health and well-being - Reduced hospital admissions by improving perceptions of safety for walking and cycling and encouraging healthier lifestyles with more active travel.

Speed limits and presence of pre-existing traffic calming measures in study area

All seven areas across the city have existing traffic calming measures in place from a previous 20mph Zone programme implemented as part of a safety initiative. The traffic calming measures have been left in place, as have the 20mph Zone signs (in most locations).

The tables below show that both case study areas include substantial areas of ‘Old 20mph Limits (with calming)’. In general, the new 20mph Limits have filled the gaps, so that near all residential roads in these areas now have a 20mph limit in place. The majority of new 20mph Limit areas, have no pre-existing traffic calming in place, but there are a few streets with substantial pre-existing traffic calming (primarily road humps):

- Cresswell St, Queens Rd, Byng Rd / Alleyne Rd, Latimer St (in Area 7);
- Westgate, Sherbourn Rd, Parklands Rd, Kingham Rd, Swanfield Dr (in Area 2).

| Speed limit category – Area 7 (city centre periphery) | Before Speed | After Speed | Length of road (kms) |
|---|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 52 kms (30%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 0.7 kms (0%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 0 kms (0%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 122 kms (70%) |

| Speed limit category – Area 2 (suburban area, NW of city centre) | Before Speed | After Speed | Length of road (kms) |
|--|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 84 kms (49%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 0 kms (0%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 0 kms (0%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 88 kms (51%) |

No additional traffic calming measures have been installed as part of this scheme

What parking policies operate in the area?

There are widespread parking issues in the north of the city, with high levels of on street parking caused by a high proportion of terraced housing.

In Area 7, there are a number of residential parking schemes, including several around the two football stadiums (Goodison Park, and Everton). In Area 2, Alder Hey Hospital is being relocated (on a park adjacent to the existing Alder Hey Hospital). This has caused some parking issues between residents, staff and construction workers; and consequently, a residents parking scheme is being implemented.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

A number of 20mph zones were implemented as part of previous safety campaigns.

4.2. How has the limit been signed

Area 7 (city centre periphery)

In new 20mph Limit areas, post-mounted 20 mph signs have been located at every entrance to the area, and there are occasional smaller lamppost-mounted repeater signs within the scheme area, but '20' roundels on the carriageway have not been used. For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **low- moderate**, in comparison with the other case study authorities.

Gem Street (Post-mounted signs on entrance to 20mph limit area)



Shaw Street / Everton Brow (Post-mounted signs on entrance to 20mph limit area)



Images from Google StreetView

In old 20mph Zones there are post-mounted 20mph signs at entrances, but little signage within the area itself.

County Road / Lind Road (Pre-existing 20mph zone sign, still in place)



Area 2 (suburban area, NW of city centre)

In new 20mph Limit areas, post-mounted 20 mph signs have been located at every entrance to the area, and there are occasional smaller lamppost-mounted repeater signs within the scheme area, but '20' roundels on the carriageway have not been used.

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **low-moderate**, in comparison with the other case study authorities.

Darley Drive / Eaton Road (Post-mounted signs on entrance to 20mph limit area)



Deysbrook Lane (Example of an occasional smaller lamppost-mounted repeater sign within the limit area)



Images from Google StreetView

Again, in the old 20mph Zones there are post-mounted 20mph signs at the entrances, but very little additional signage within the area itself.

4.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|--|
| Education and Engagement | <p><u>Pre-implementation</u></p> <p>Leaflets and questionnaires to all residents in affected areas.</p> <p>Local influencers (e.g. community groups) identified in each area to lead local engagement at a local level.</p> <p>Programme of high visibility engagement activities designed with the local community to raise awareness of the policy, build support for the initiative, and encourage a culture of self-enforcement (e.g. mock trial of speeding driver in School's Parliament; debate with pre-drivers in further education establishments; and community activities such as 'yarn bombing', art projects, mass cycle events).</p> <p>Roadside Education initiative (e.g. information bus).</p> <p>Formal consultation with key stakeholders such as councillors and Police.</p> <p>Public exhibitions.</p> <p>Council website, dedicated website and social media.</p> <p>Local radio and mainstream television coverage.</p> <p><u>Post implementation</u></p> <p>Some education activities continued post implementation (e.g. information bus and Kids Court).</p> <p>Regular updates provided on dedicated website and social media (e.g. highlighting support from local businesses).</p> |
| Enlightenment | <p>External public engagement company commissioned to deliver effective high profile awareness campaign, supported by a strong recognisable brand – 'The 20 Effect' and logo.</p> <p>Dedicated 'The 20 Effect' website.</p> |
| Encouragement | <p>Larger signs implemented at more frequent intervals post-implementation, where drivers unaware of 20mph limit.</p> <p>Local businesses and organisations encouraged to display campaign logo.</p> <p>Education activities continued post implementation to continually reinforce messages and encourage the community to remain an active part of the decision to go 20.</p> |
| Enforcement | <p>Police enforcement in line with approach for 30mph limits.</p> <p>Kids Court – 20mph offenders given the option of a penalty points or attendance at jury comprising local children.</p> <p>Considering a Community Speed Watch initiative.</p> |

4.4. Area characteristics

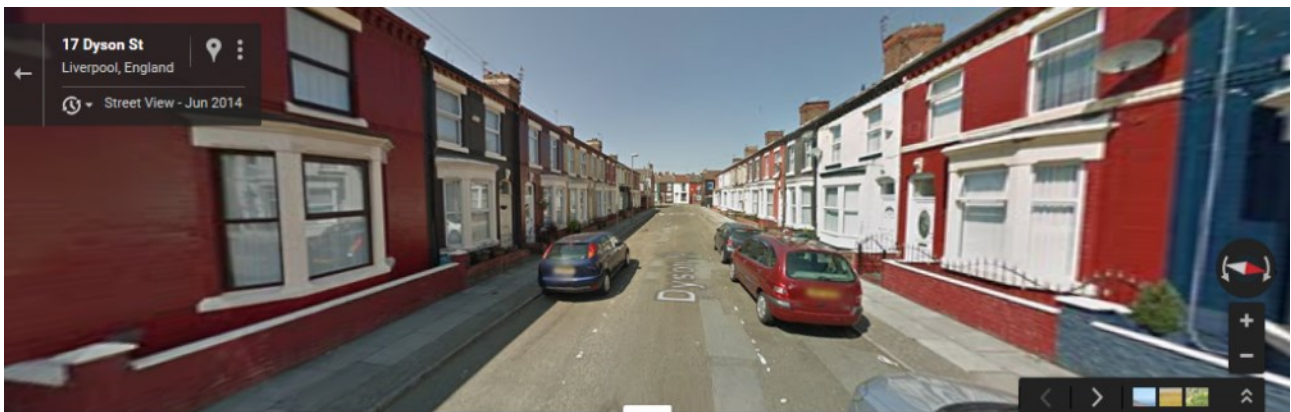
Area 7 (city centre periphery)

This area is just north of the city centre. There are significant areas of older style terraced housing, narrow roads, and on-street parking. Many of these areas are covered by pre-existing 20mph Zones.

The areas covered by new 20mph Limits tend to contain newer (1950s/60s), mixed style housing (flats, terraced, and semi-detached housing, sometime with small gardens), and a mix of on- and off-street parking.

All of this area is categorised as 'deprived' (category 1 or 2). The proportion of the population under 16 varies from 16 to 21%.

Dyston Street (Typical Victorian terraced street in Anfield, covered by 20mph Zone)



William Henry Street (Example of newer area covered by a new 20mph Limit)



Limekiln Lane (Example of newer area covered by a new 20mph Limit)



Images from Google StreetView

Area 2 (suburban area, NW of city centre)

Largely self-contained residential areas bounded by main roads, further away from the city centre. Mainly terraced and semi-detached suburban housing built last century. Mix of road widths and on- / off-street parking.

Neighbourhoods in this area vary from 'deprived' to 'moderately affluent' (category 1 – 4). The proportion of the population under 16 varies from 12 to 21%.

Blackmoor Dr (Example of area covered by a new 20mph Limit, average deprivation)



Monash Road (Example of area covered by a new 20mph Limit, deprived area)



Images from Google StreetView

4.5. Other existing / planned 20mph limits in the authority

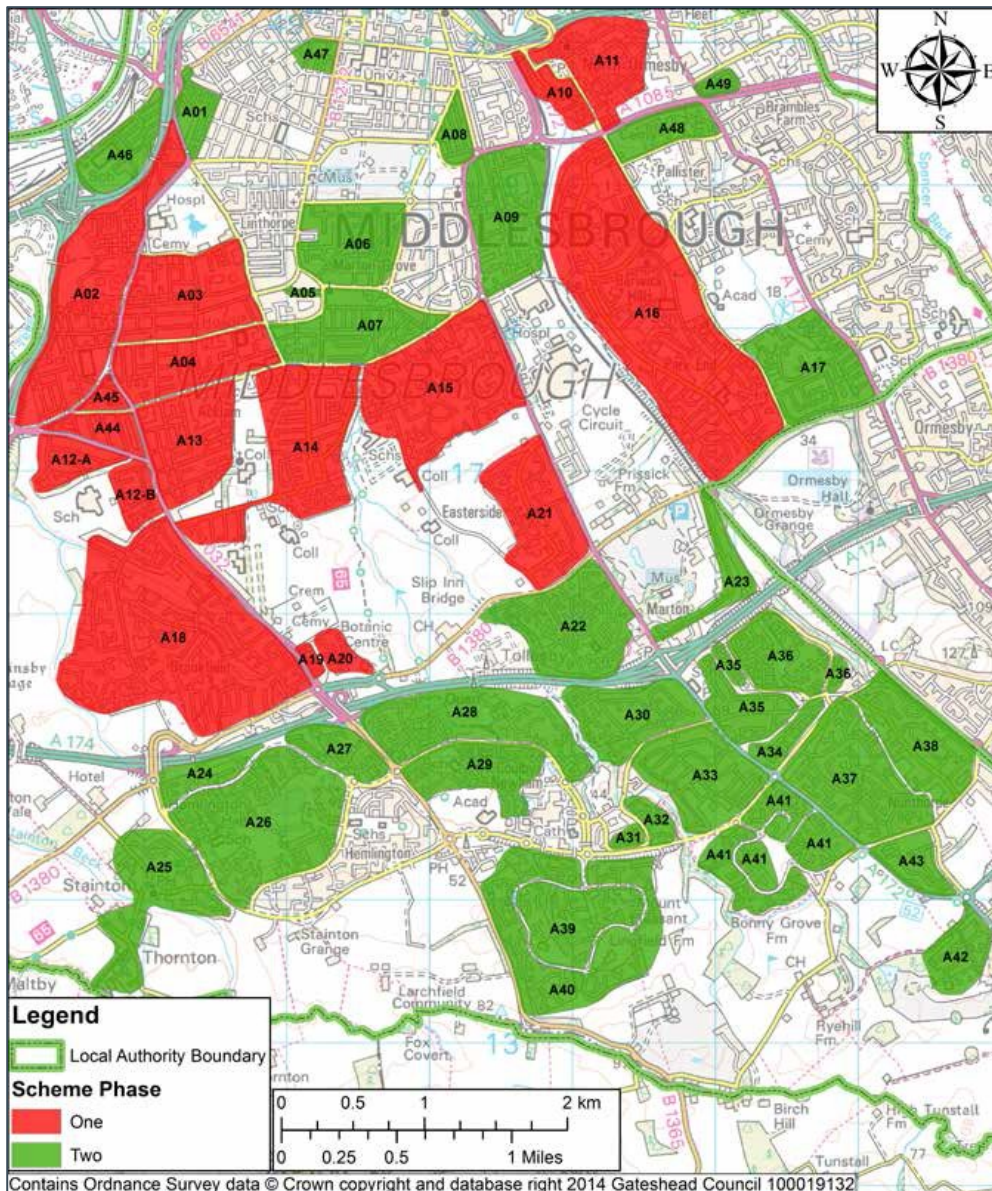
Virtually all residential streets in the City are now covered by either a 20mph Limit or pre-existing 20mph Zone.

5. Middlesbrough (R-AW2)

5.1. Scheme description (Predominantly residential and schools)

The Council has established 20mph speed limits on 44% of the total road network in the town, mainly focused on residential areas, over two phases (comprising 49 discrete areas) between March 2012 and June 2013 (Figure 4). Phase one of the implementation of these schemes ran from **March to June 2012**, while phase two was implemented a year later between **March and June 2013**.

Figure 4. Location of 20mph Speed Limit areas in Middlesbrough



The above areas comprise residential streets:

- with on-street frontage that do not serve a strategic function i.e. do not have the primary function of aiding movement between neighbouring districts;
- were previously subject to a 30mph speed limit;
- had an average 'before' traffic speed of 24mph or less (although some roads with higher speeds were included where they were part of a cluster of compliant streets, in or to avoid inconsistencies in signing).

All main roads were excluded from the speed limits to limit disruption. In addition, streets fronted by non-residential uses, residential streets with no direct frontage, wide roads that encourage high speeds, and streets with speeding problems were excluded.

The scheme operates on all days across all hours. Outside the main scheme, 20mph flashing lights operate during school hours only outside three schools which are located on roads which are still 30mph. Other schools in the borough are located within the core 20 mph speed limit areas.

Reasons for scheme implementation

In 2010, the Council had achieved all three of its headline ten year casualty reduction targets, and faced the challenge of ensuring this momentum continued over the coming years. A reduction in capital and revenue resources meant the widespread introduction of physical traffic calming measures as a means of tackling excessive speeds and casualty rates was not possible. An area-wide 20 mph speed limit signed only scheme was therefore proposed.

At the same time, the Council's Local Development Framework included a strong focus on regeneration, which included improving residential areas, providing safer and more attractive conditions for pedestrians and cyclists, and overall revitalisation of communities. The delivery of an area wide 20 mph speed limit was identified as offering the opportunity to achieve enhanced quality of life and encourage more sustainable travel behaviours.

Specific objectives

- Improve road safety (tackle excessive speeds and reduce casualty rates further).
- Secure quality of life and community benefits (support regeneration and improve the quality of the public realm).
- Encourage more sustainable travel behaviours.

Speed limits and presence of pre-existing traffic calming measures in study area

A number of roads within the scheme were covered by existing 20mph Zones or had pre-existing traffic calming measures in place, mainly in older residential areas around the town centre (Figure 5).

The table below shows that majority of 20mph roads within the study area are 'New 20mph (signed only)' roads (82%).

| Speed limit category (Middlesbrough, Phases 1 and 2) | Before Speed | After Speed | Length of road (kms) |
|--|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 97 kms (82%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 12 kms (10%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 3 kms (3%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 7 kms (6%) |

No additional traffic calming measures have been installed as part of this scheme.

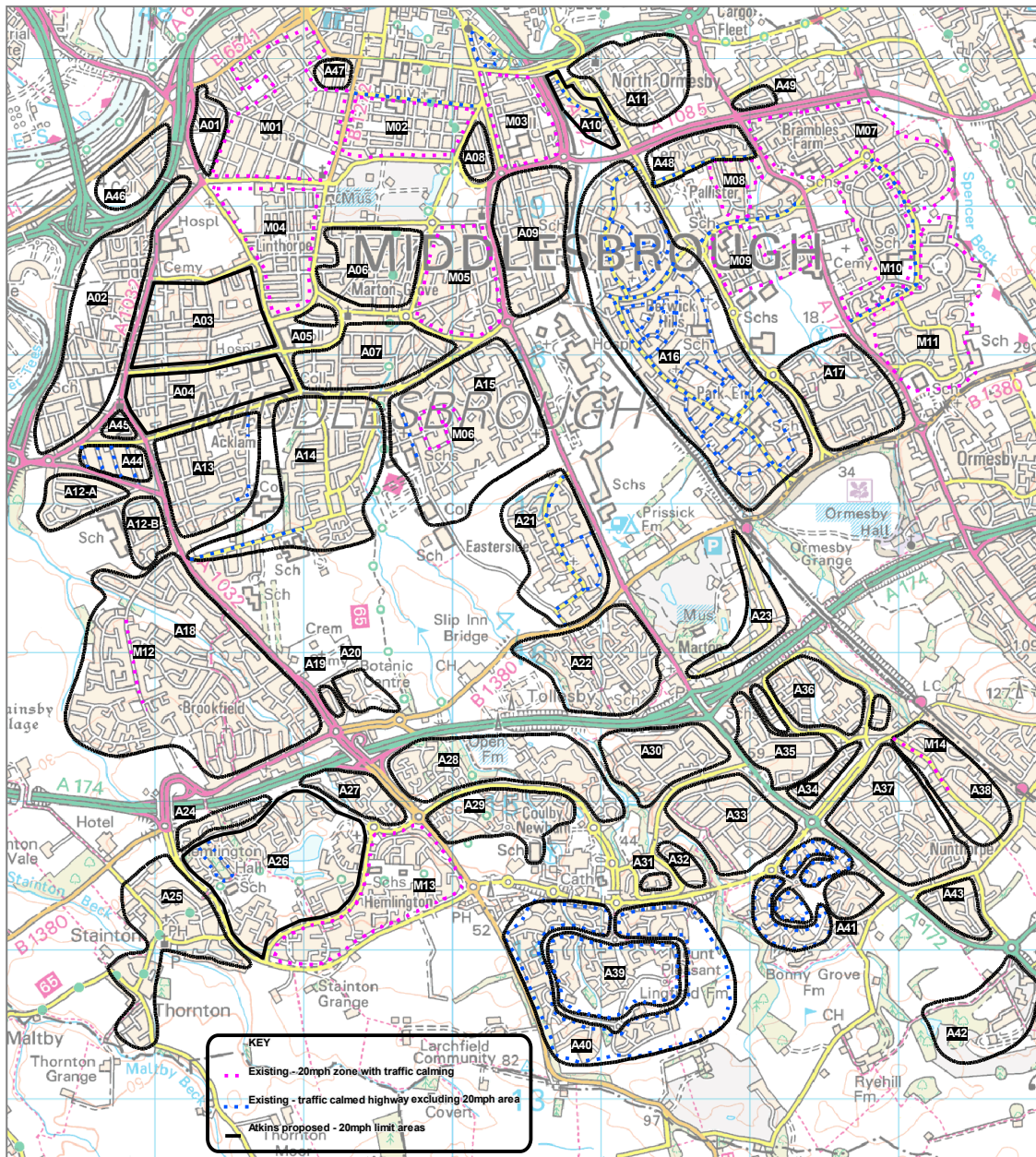
What parking policies operate in the area? (Scoping Report)

Area A15 has residential parking permits due to the nearby hospital and associated issues with parking.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

- Cycling and walking education programmes.
- Young driver interventions.
- Other safety schemes implemented on main routes excluded from the 20mph speed limits, to address casualties in these locations.

Figure 5. Location of pre-existing traffic calming



Source: Middlesbrough Borough Wide 20mph Speed Limit Programme Technical Note (Atkins, 2010).

Pink indicates pre-existing 20mph Zones (with physical traffic calming). Blue indicates other roads with pre-existing traffic calming (in previous 30mph areas).

5.2. How has the limit been signed

In new 20mph Limit areas, post-mounted 20 mph signs have been located at every entrance to the area, along with '20' roundels on the carriageway. There are occasional smaller lamppost-mounted repeater signs within the limit area, but no '20' roundels on the carriageway.

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **low - moderate**, in comparison with the other case study authorities.

Pritchett Road (Post-mounted signs and roundels on carriageway on entrance to 20mph limit area)



Harrow Road (Lampost-mounted repeater signs within limit area)



Images from Google StreetView

5.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|---|
| Education and Engagement | <u>Pre-implementation</u> Radio interviews. Council website and Frequently Asked Questions page. Presentations to the public at Parish / Community Council Meetings – with vote at end of meeting to determine levels of support. Statutory consultation with key stakeholders. Worked with local schools to help reinforce the message that driving at 20mph in residential areas is fast enough. |
| Enlightenment | The Council informed the public of the wider benefits rather than focussing on the scheme's primary aim to reduce average speeds to 20 mph. Existing evidence of wider achievement/impacts of other UK and EU 20 mph case studies was used to support the public consultation exercise. |
| Encouragement | Additional signage and markings installed post-implementation. Speed activated signs in use. |
| Enforcement | Police enforcement in line with approach for 30mph limits. Speed surveys also undertaken to assess the situation. Community Speed Watch initiative considered where speeding identified as a problem. |

5.4. Area characteristics

The area covered by the limit is primarily residential.

Southern area (Phase 2, south of A174)

The area to the south comprises newer properties in self-contained estates comprising a large number of crescents and cul-de-sacs, with predominantly off-street parking, gardens, and wide roads (Phase 2).

Most of this area is categorised as 'affluent' or 'moderately affluent' (categories 4 and 5), but contains a pocket of deprivation in the south-west corner. The proportion of the population under 16 varies from 11-23%.

Ash Green (Area characteristics: A39, south)



Grange Crescent (Area characteristics: A33, south)



Images from Google StreetView

Central area (mainly Phase 1)

The central section across the Borough comprises mixed housing.

Levels of deprivation vary from 'deprived', through to 'affluent'. The proportion of the population under 16 varies from 12-24%.

Northern area (Phase 1 and 2)

The area to the north (closest to the city centre) is predominantly semi-detached/terraced housing with small front gardens. Generally narrow streets with some or limited green spaces; but some wider roads in the east. A mix of on and off-street parking.

These areas are categorised as 'deprived' or 'moderately affluent'. The proportion of the population aged under 16 varies from 20-23%.

Hambledon Road (Area characteristics: A03, north)



Maria Street (Area characteristics: A11, north)



Images from Google StreetView

5.5. Other existing / planned 20mph limits in the authority

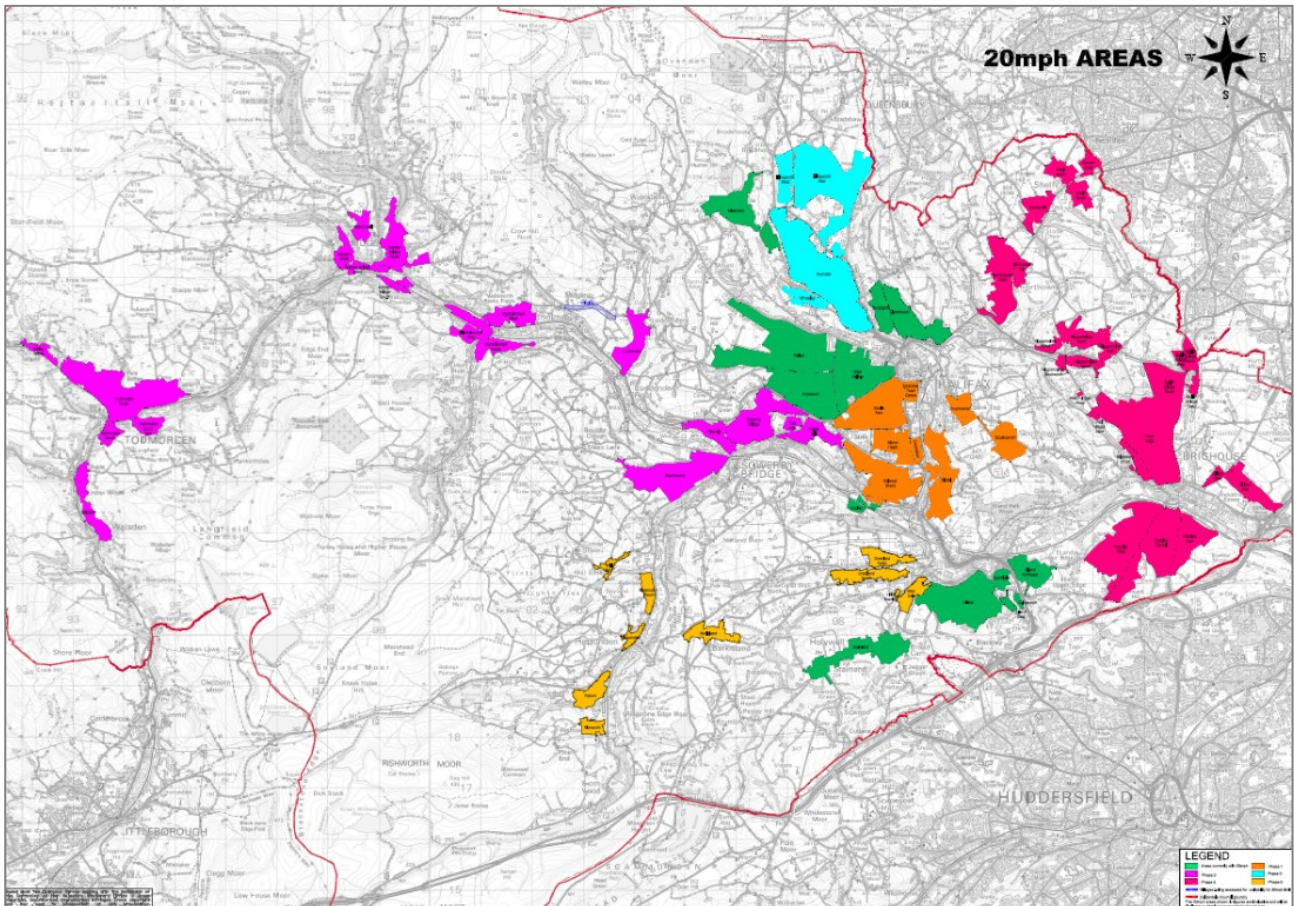
A large proportion of residential streets in the City are now covered by either a 20mph Limit or pre-existing 20mph Zone.

6. Calderdale (R-AW3)

6.1. Scheme description (Predominantly residential and schools)

The Council are introducing 20mph speeds limits across a wide area between 2015 and 2017 (see Figure 6).

Figure 6. Location of 20mph Speed Limit areas in Calderdale



Source: <http://www.calderdale.gov.uk/v2/sites/default/files/overview-20mph.pdf>

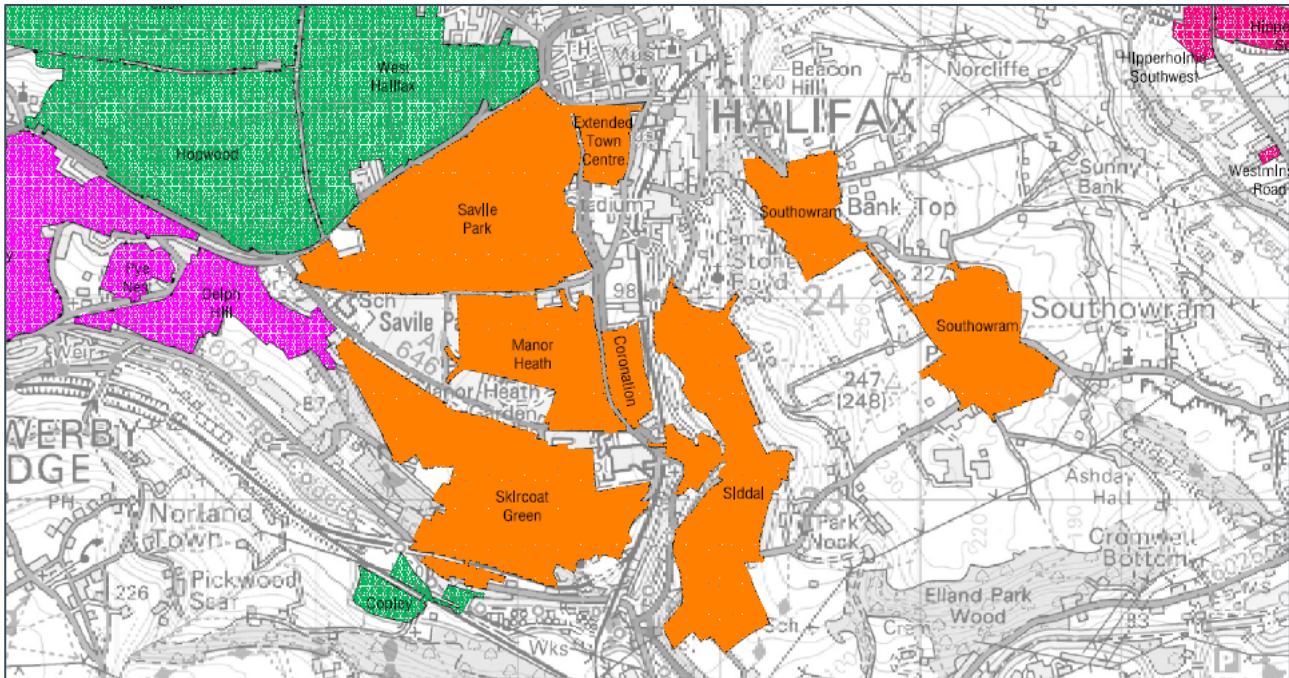
All residential roads (approximately 510km) are included in the scheme. The scheme has been implemented in five phases, with those area with higher numbers of casualties (killed and seriously injured) and near existing 20mph areas being delivered first.

Phase 1 (orange) focused on the areas to the south of Halifax, and form the focus for this case study (see Figure 7). Siddal and Southowram were **implemented in June 2015**; followed by Skircoat Green, Saville Park, Manor Heath, Coronation and the Extended Town Centre in **July 2015**. The scheme took approximately 9 months to complete (October 2014 – June 2015).

Phase 2 implementation commenced September 2015, with Phase 3 implemented in 2016 / 2017. Phase 4 was implemented in 2016/17 and Phase 5 in 2017.

The scheme operates on all days across all hours.

Figure 7. Phase 1 areas (implemented June and July 2015)



Reasons for scheme implementation

The decision to implement an area-wide scheme came on the back of the success of a number of isolated 20mph schemes which had been implemented in recent years. In addition:

- There were requests from the community for speed reduction initiatives, as well as specific requests for 20mph schemes.
- There was a sporadic casualty issue across the area meaning specific engineering solutions were not suitable interventions.
- The Public Health team were keen to increase the levels of physical activity by “making the streets feel safer and making people feel safer when walking and cycling”.

The widespread roll out of 20mph schemes was seen as a cost-effective means of addressing these issues, and demonstrating that concerns of residents were being addressed.

Specific objectives

- Reduce number and severity of collisions.
- Create a community environment which encourages walking and cycling.
- Make 20mph the 'social norm'.
- Support other health initiatives, e.g. "Dementia Friendly Town"

Speed limits and presence of pre-existing traffic calming measures in study area

There are a small number of pre-existing 20mph Zones in the case study area, including:

- Horton Street (Extended Town Centre) and Law Lane (Southowram).

A small number of roads also have pre-existing traffic calming in place, but previously had a 30mph limit, including:

- Saville Park Road (Saville Park), Jubilee Road (Siddal), and Pinnar Lane (Southowram).

The table below shows that majority of 20mph roads within the study area are ‘New 20mph (signed only)’ roads (98%).

| Speed limit category (Calderdale, Phase 1) | Before Speed | After Speed | Length of road (kms) |
|--|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 76 kms (98%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 1 kms (1%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 0.4 kms (1%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 0.3 kms (0%) |

No additional traffic calming measures have been installed as part of this scheme.

What parking policies operate in the area?

The parking policies vary in each area. There is a hospital located in the Skircoat Green area (Phase 1) and parking restrictions align to this land use with for example, resident permit schemes, timed parking and parking on-street restrictions in operation.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

-

6.2. How has the limit been signed?

In new 20mph Limit areas, post-mounted 20 mph signs have been located at entrances to the area, with smaller lamppost-mounted repeater signs within the limit area. There are '20' roundels on the carriageway.

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **moderate**, in comparison with the other case study authorities.

Harrison Road (Lamppost-mounted repeater sign within the limit area)



Heath View Street, Extended Town Centre (Post-mounted signs on entrance to 20mph limit area)



Images from Google StreetView

6.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|---|
| Education and Engagement | <p><u>Pre-implementation</u></p> <p>Open days held to advertise the 20mph proposals to the public and stakeholders. 20mph proposals covered in the local press, local radio station and online. Council and dedicated website.</p> <p>Consultation questionnaire undertaken via online survey, ward forums and open days, and talkback. A further thousand surveys were undertaken by the road safety charity Brake, and another two thousand by another external organisation.</p> <p>The Council are also in the process of creating an online “education toolkit” for 20mph speed limits, to improve people’s understanding of 20mph schemes.</p> <p><u>Post implementation</u></p> <p>The Council have an on-going campaign largely using electronic media to encourage drivers to change their behaviour and understand the benefits of 20mph schemes.</p> |
| Enlightenment | <p>The Council focused on delivering a message that the 20mph scheme would enhance community ownership of local roads. The campaign name “Love Our Streets” deliberately avoided using ‘20mph’. It focused on encouraging the public to appreciate their streets, and helping residents to recognise the wider potential benefits that 20mph can deliver.</p> <p>Dedicated website.</p> |
| Encouragement | <p>On-going campaign to encourage drivers to change their behaviour and understand the benefits of 20mph schemes.</p> <p>The Council have also ran a competition to win an in-car CCTV camera to encourage people to travel a safe distance from cars in front. This is supported car stickers stating “smile you are on camera”, to deter drivers who tailgate.</p> |
| Enforcement | <p>Police enforcement in line with approach for 30mph limits.</p> <p>The Council are working with the National Driver Offending Retraining Scheme (NDORS) to introduce a Speed Awareness Course for 20mph offenders.</p> |

6.4. Area characteristics

Siddall

Siddall is part of the built up area of Halifax. It comprises a combination of older style terraced housing on narrow streets (some time cobbled), and newer areas, but generally with limited off-street parking.

Images of Siddall



Images from Google StreetView

Southowram

Southowram is a small settlement / village, just over 2kms from the centre of Halifax, but not part of the continuous built up area. It comprises a range of different housing and environment types.

Images of Southowram



Images from Google StreetView

Saville Park, Manor Heath, Skircoat Green

Saville Park, Manor Heath, and Skircoat Green are all suburbs to the south-west of the town centre. They comprises a range of different housing and environment types.

Images of Saville Park



Images of Manor Heath



Images of Skircoat Green



Images from Google StreetView

6.5. Other existing / planned 20mph limits in the authority

Other phases of the scheme were being delivered during 2015 to 2017. Phase 2 (pink areas in Figure 6) focuses on the settlements along the River Calder, linked by the A646; to the west of Halifax. Todmorden and Walsden was implemented in late 2015, Sowerby Bridge in December 2015, and Hebden Bridge in March/April 2016. Phase 3 (cyan areas in Figure 6) covering Illingworth and Ovendon, to the north-west of Halifax, became operational in October 2016. Phase 4 (dark pink in Figure 6) became operational between March 2017 and June 2017, and Phase 5 (orange in Figure 6) was implemented in October 2017.

In addition, a number of 20mph limits / zones were implemented across the borough, as part of a previous initiative. In recent years, the Council has implemented 20mph limits in Stainland, Elland, Pellon, Boothtown, Mixenden, Hopwood and St Johns. Of the areas identified appropriate for 20mph limits (approximately 650km of road), 140km of roads in Calderdale had a 20mph limit in place prior to the current phase of implementation.

By the end of 2017, virtually all residential streets in the borough were covered by a 20mph limit.

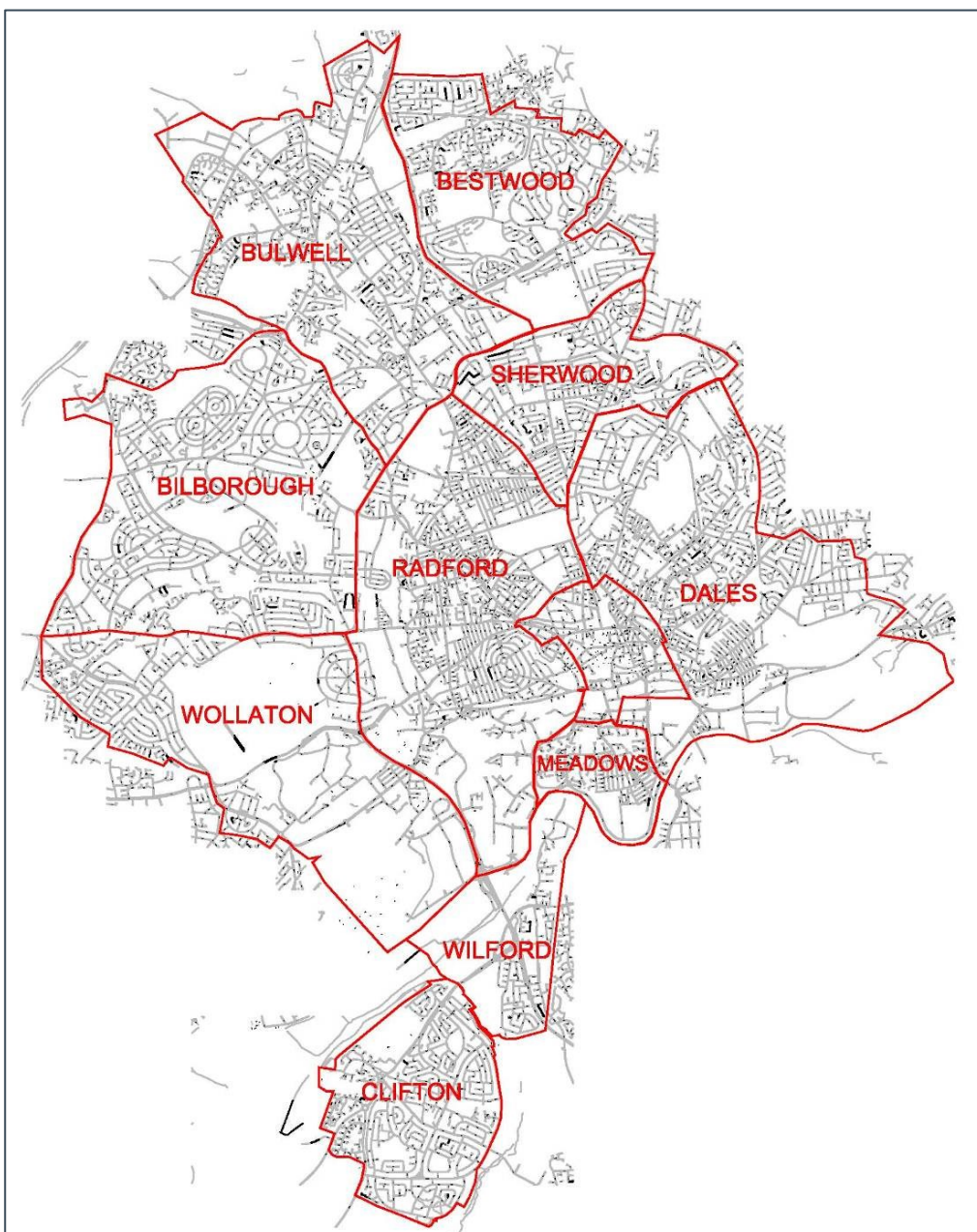
7. Nottingham (Bestwood) (R-AW4)

7.1. Scheme description (Predominantly residential and schools)

In 2006 Nottingham started implementing 20mph limits outside schools, as part of the School Safety Initiative. They began with a roll out of 5 schools a year (as part of the Local Transport Plan programme), which then accelerated to 10 a year. Following the change in Government guidelines for signed only 20mph limits, the Council decided to roll this out to a city wide level. A programme to undertake this work was approved by the Executive Board in April 2013.

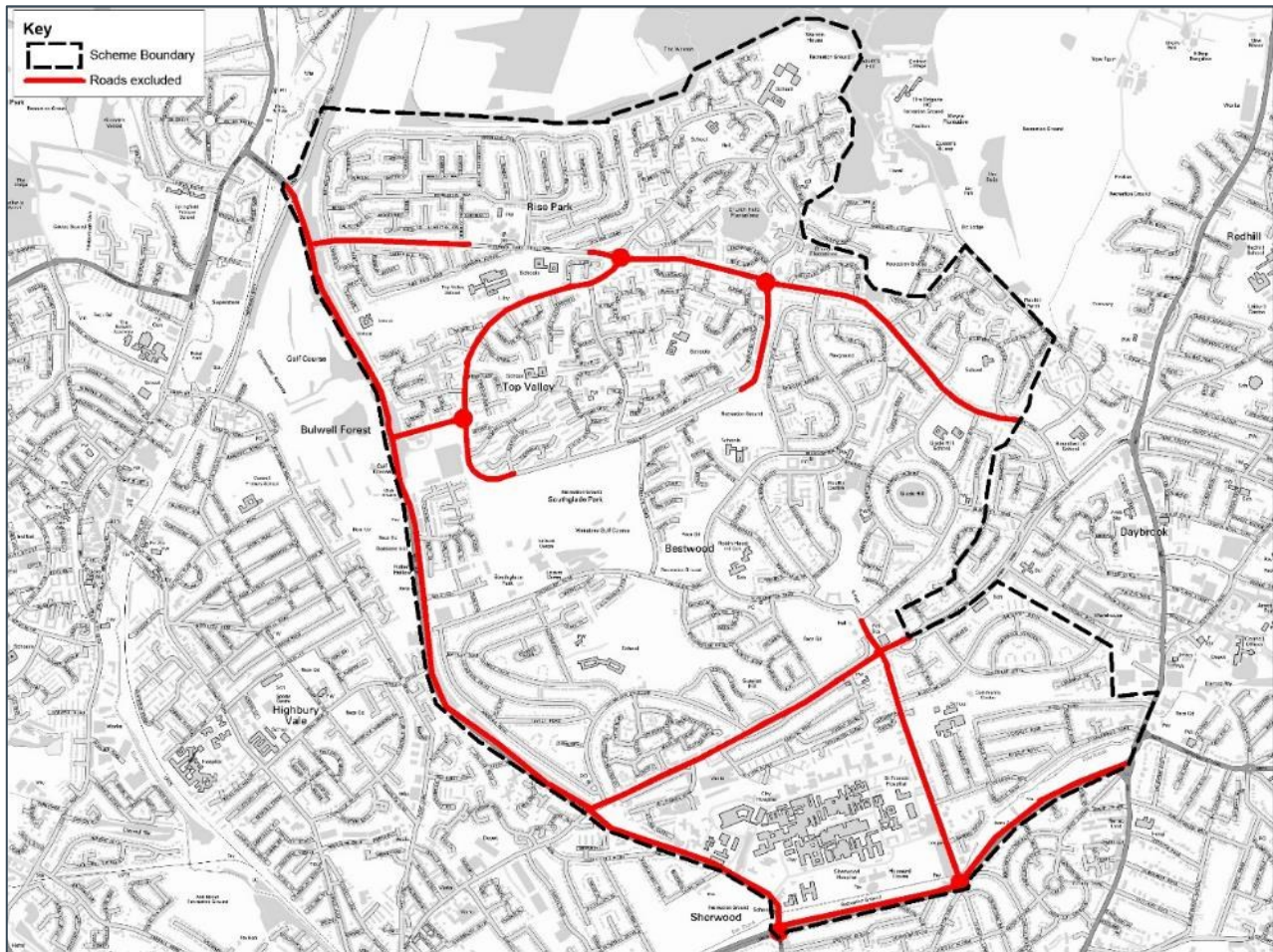
The programme has been rolled out as 11 schemes, 10 of which are phased across the city's residential areas, and one covering the city centre. The pilot 20mph scheme (Sherwood) was implemented in April 2013, with the remaining areas implemented between January 2014 and March 2015. The City Centre was last to be implemented.

Figure 8. Nottingham 20mph Scheme Areas



The case study area for this study focuses on Bestwood, an area north of Nottingham City Centre - the third area to be implemented, in April 2014.

Figure 9. Bestwood 20mph Scheme, Nottingham



Reasons for scheme implementation

The area-wide scheme evolved from the School Safety Initiative, and was seen as a lower cost means of promoting sustainable travel, and making families and children feel safer. The initiative had strong political support, and was a commitment in Labour's 2011 local manifesto.

Specific objectives

- Improve community cohesion.
- Improve health and wellbeing.
- Encourage sustainable transport use.

Speed limits and presence of pre-existing traffic calming measures in study area

There are small sections of pre-existing 20mph Zones in the case study area (comprising signs, road humps and chicanes, 'SLOW' markings and '20' roundels on the carriageway, including:

- a section of Ridgeway (adjacent to recreation ground);
- a section of Beckhampton Rd (adjacent to infant school and recreation ground); and
- Longmead Drive / Rosecroft Drive.

Beckhampton Road (Pre-existing '20' roundel marked on the carriageway in old 20mph Zone)



Images from Google StreetView

Some roads also have pre-existing traffic calming in place, but previously had a 30mph limit.

The table below shows that majority of 20mph roads within the study area are 'New 20mph (signed only)' roads (78%).

| Speed limit category (Bestwood, Nottingham) | Before Speed | After Speed | Length of road (kms) |
|---|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 60 kms (78%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 12 kms (16%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 0 kms (0%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 5 kms (6%) |

No additional traffic calming measures have been installed as part of this scheme.

What parking policies operate in the area?

The city has a substantial number of residential parking permit schemes in operation. There are also a number of areas where meters are in operation.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

Considerable attention has been given to addressing road safety to date through speed enforcement along main routes (coordinated through the Nottinghamshire Safety Camera Partnership); the implementation of 20mph school safety zones; and an ongoing programme of education, training and publicity aimed at all road users (including the innovative child LIFECYCLE training initiative and BAREbones and Shiny Side Up motorcyclist education campaigns). The Council were also the first authority outside London to implement a cycle super highway.

The Council have also set out a number of other initiatives in their LTP in order to improve active travel and road safety, these include:

- Pedestrian improvements: making people friendly streets, PROW improvements and more information provision on walking;
- Cyclist improvements: encouraging cycle partnerships, improving cycle infrastructure and promoting and supporting cycling;
- Air and noise improvements: Develop actions plans for both air and noise; and
- Road safety improvements: Safer routes to schools, road safety education and targeted road user training.

Other initiative included improving street lighting and improving safety on public transport.

7.2. How has the limit been signed

Post-mounted 20 mph signs have been located at entrances to the area, with smaller lamppost-mounted repeater signs within the limit area. No roundels were marked on the carriageway as part of this scheme (although there are some pre-existing ones).

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **moderate**, in comparison with the other case study authorities.

In the pre-existing 20mph Zones, zone signs have been removed and replaced with limit signs, providing a consistent signing approach across the scheme area.

Gladehill Road (Post-mounted signs on entrance to 20mph limit area)



Bestwood Park Drive (Post-mounted signs on entrance to 20mph limit area)



Old Farm Road (Lamppost-mounted repeater sign within the limit area)



Images from Google StreetView

7.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|---|
| Education and Engagement | <u>Pre-implementation</u> Leaflets and questionnaires to all residents in affected area. Formal consultation, including a number of local community events where people could go and give feedback to Council Officers and the Police. Statutory consultation with key stakeholders. Information leaflets available in local Police stations and other locations. Launch event held to mark the implementation of the 20mph limit. Council website. <u>Post implementation</u> On-going programme of education, linked to 'safer routes to schools' initiative. |
| Enlightenment | - |
| Encouragement | More signage introduced near schools. |
| Enforcement | Police enforcement in line with approach for 30mph limits. The Council are also planning on using Community Road Safety groups to support Community Speed Watch initiatives. Currently looking at introducing a Speed Awareness Course for 20mph offenders. |

7.4. Area characteristics

This area is predominantly residential, with a number of schools, recreational areas, and small clusters of retail.

Housing comprises largely of semi-detached properties with gardens, town houses with three or four residences each, or terraced housing built in 1930s and 50s (+ some newer). Housing is arranged in self-contained estates and cul-de-sacs, linked by wide distributor roads. Roads generally wide, with some on-street parking. There are a number of recreational parks and open spaces. The area includes a large council estate, with high levels of crime.

The area contains a number of pockets of deprivation, but other areas are more affluent. The proportion of the population under 16 varies from 12 to 28%.

Elsewhere in the city, housing types and environments vary considerably. However, there are a large number of areas where on-street parking causes narrowing of streets.

7.5. Other existing / planned 20mph limits in the authority

Virtually all residential streets in the city are now covered by a 20mph limit.

8. Brighton Area 2 (R-AW5)

8.1. Scheme description (Predominantly residential and schools)

In 2010 a Scrutiny Committee recommended the implementation of 20mph limits across Brighton and Hove. Due to the size of the project, and availability of funds, the implementation of the scheme was staggered and was delivered in three separate phases:

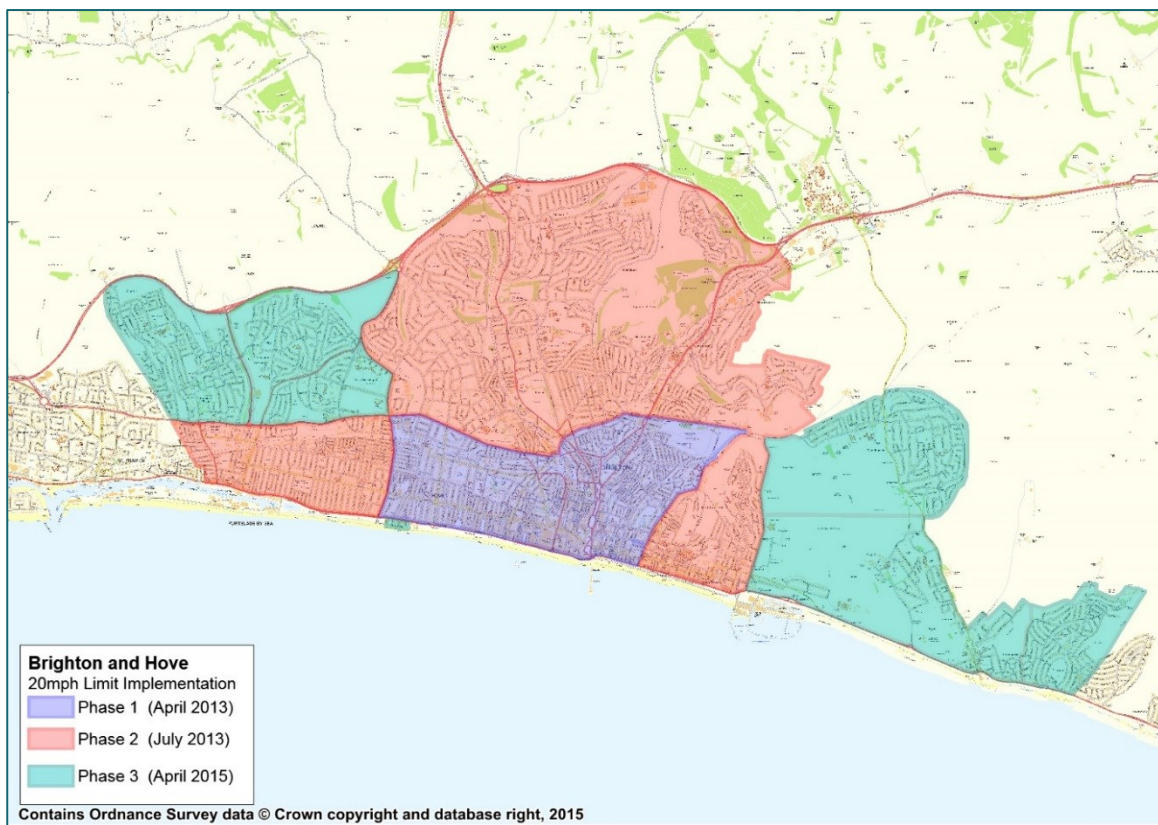
- Phase 1, comprising the city centre of Brighton and Hove was implemented in **April 2013**;
- Phase 2, consisting of the surrounding areas of Phase 1 was implemented in June 2014;
- Phase 3, which contains the remaining areas of Brighton and Hove was implemented in June 2015.

Phases 1 and 2 both form separate case studies for this research. This chapter focuses on Phase 2, which is a predominantly residential area, and Chapter 11 focuses on Phase 1 covering the city centre and adjacent roads.

The scheme covers the entirety of the administrative boundary of Brighton and Hove. Notable exceptions are main roads and key arterial routes, where, due to their strategic nature, 30mph limits remain in place. However, some A and B roads were included on the basis of flow, speeds, casualties, and layout; particularly in the city centre area. All limits operate 24 hours a day, seven days a week.

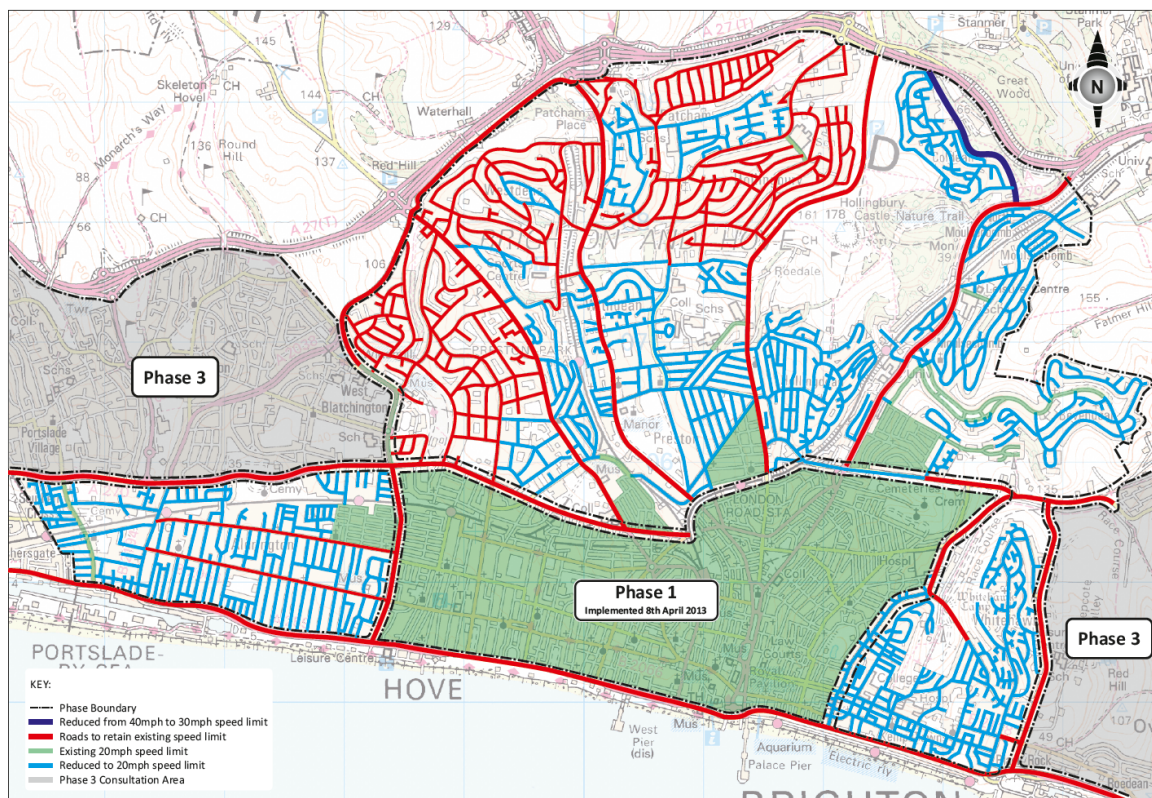
No additional traffic calming measures have been installed as part of this scheme.

Figure 10. Brighton 20mph Speed Limit Scheme (Phases 1 to 3)



Phase 2 covers suburban areas of the City, to the north, west, and east of the city centre. Residents were consulted on whether they wanted their street to be included in the scheme or not. Where there was a clear lack of interest, the limit was not changed.

Figure 11. Phase 2 implementation (roads included / excluded)



Source: <https://www.brighton-hove.gov.uk/content/parking-and-travel/travel-transport-and-road-safety/safer-streets-better-places>

Reasons for scheme implementation

The key drivers behind the city-wide 20mph scheme were:

- a poor safety record in the City which had not been addressed for some time;
- demands from members of the public about speeds and casualty levels, including residents petitions for 20mph schemes (particularly near schools); and,
- political recognition of the need to improve safety in the City (particularly in terms of severity), supported by a political mandate to deliver a 20mph scheme based on a commitment to deliver a 20mph scheme in the local party manifesto.

In addition, the City already had some 20mph zones in place, and had already started to look at implementing small clusters of 20mph limit schemes around schools. Interest in an area-wide 20mph scheme appears to be related to the introduction of an area-wide scheme in a nearby authority.

Specific objectives

- Reduce the number and severity of collisions and casualties on the city's roads.
- Improve the street environment for all road users, including car drivers, and make the city a safer and better place to live in.
- Encourage more cycling and walking, especially for local trips.
- Bring road safety benefits, improve overall health and wellbeing, and reduce congestion.

Speed limits and presence of pre-existing traffic calming measures in study area

Prior to the implementation of the city-wide scheme, the city already had some 20mph Zones in place, and had already started to look at introducing small clusters of 20mph limits around schools.

- West section - A handful of roads contain substantial pre-existing traffic calming (mainly road humps) – generally close to schools.

- North section - A handful of roads contain substantial pre-existing traffic calming (mainly road humps and SLOW markings on the carriageway) – generally along residential roads.
- East section - Pre-existing traffic calming exists in three main areas. Two of these areas are solely residential and contain only road humps at frequent, regular intervals. The other area is outside a school and comprises road humps and chicanes.

Vale Road, West Section (Example of pre-existing traffic calming, close to school)



Haybourne Road (Pre-existing road humps in a residential area)



Images from Google StreetView

The table below shows that majority of 20mph roads within the study area are 'New 20mph (signed only)' roads (85%).

| Speed limit category (Brighton, Phase 2) | Before Speed | After Speed | Length of road (kms) |
|--|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 160 kms (85%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 5 kms (3%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 5 kms (3%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 18kms (10%) |

What parking policies operate in the area?

Many of the roads in the city are covered by Residents Parking Schemes. All schools have enforceable zig-zags.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

-

8.2. How has the limit been signed?

Phase 2 (West)

The streets in this area follow a grid structure. Post-mounted 20mph signs are located at all entrances to the limit area and are sometimes accompanied by roundels on the carriageway. Inside the scheme there are occasional smaller lamppost-mounted 20 mph signs and roundels on the carriageway – generally one feature per road only. The signs are relatively small and not always clearly visible, particularly where there are lots of parked vehicles on the street.

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **low - moderate**, in comparison with the other case study authorities.

Braemore Road (Post-mounted sign on entrance to limit area)



Raphael Road (Smaller lamppost-mounted sign within limit area)



Images from Google StreetView

Phase 2 (North)

This area contains a combination of straight grid like roads and curve roads. Entrances to the limit are clearly marked with post-mounted signs. Inside the limit there is a combination of smaller lamppost-mounted signs and roundels on the carriageway. Not all roads inside the limit contain either of the above. Certain residential areas inside the 20 mph limit lead to residential areas with a 30 mph limit.

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **low - moderate**, in comparison with the other case study authorities due to low signage inside the limit.

Entrance to Bishops Road (Example of a 30 mph limit residential area leading off a 20 mph limit residential area)



Phase 2 (East)

The area to the east of the city centre comprises a combination of straight grid-like roads along the seafront, and curved roads. There are post-mounted 20mph signs located at all entrances to the limit area. Inside the limit there often '20' roundels on the carriageway and sometimes smaller 20 mph lamppost-mounted signs. However, not all roads contain either of these, potentially creating some uncertainty about the limit.

Eastern Road ('20' roundel on the carriageway inside the limit area)



Entrance to Wiston Road (post-mounted signs at the entrance to the scheme)



Images from Google StreetView

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **low - moderate**, in comparison with the other case study authorities due to low signage inside the limit.

8.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|--|
| Education and Engagement | <u>Pre-implementation</u> Consultation exercise undertaken across the City with the public and stakeholders. Stakeholders consulted with early on in the process. Council website. <u>Post implementation</u> On-going marketing, communication and road safety campaigns undertaken to ensure a high level of awareness amongst the public. |
| Enlightenment | - |
| Encouragement | Eight Vehicle Activated Signs in operation that display the speed at which the driver is driving. These are rotated around areas where the 20mph speed limit has not had the expected outcome. |
| Enforcement | Police enforcement in line with approach for 30mph limits. |

8.4. Area characteristics

Phase 2 contains newer housing in more suburban areas, comprising a mix of ages and styles.

Phase 2 (West)

This area is predominantly residential, with a small park and small office / industrial area in the far west.

The streets follow a grid structure. The roads are typically wide and offer good visibility for drivers. There are substantial levels of on-street parking on many roads, even where houses have off-street parking. Parking spaces and gardens typically offer houses some distance from the road

Levels of deprivation vary from 'moderately deprived' to 'affluent' areas further west. The percentage of population under 16 varies from 9% to 22%.

Images of Phase 2 (West)



Images from Google StreetView



Images from Google StreetView

Phase 2 (North)

The area to the north is predominantly residential, along with a number of schools and small pockets of retail. The area contains a combination of straight grid like roads and curved roads.

The area west of Ditchling Road is generally 'affluent'. The percentage of population under 16 varies from 17% to 23%. Roads with a 20mph limit in place are generally wide, and contain a mix of on- and off-street parking, reflecting the different housing styles.

The area to the east of Ditchling Road is generally less affluent. The percentage of population under 16 varies from 10% to 26%. Roads are generally wide, and most houses have off-street parking, resulting in limited on-street parking.

Images of Phase 2 (North) – Affluent area



Images from Google StreetView

Images of Phase 2 (North) – Less affluent area



Images from Google StreetView

Phase 2 (East)

The area to the east is predominantly residential. The area along the seafront mainly consists of apartments arranged on straight grid like roads with on-street parking. Further away from the seafront are more modern-style estates, with curved roads, cul-de-sacs, fewer parked vehicles on the road.



Images from Google StreetView

8.5. Other existing / planned 20mph limits in the authority

A large proportion of residential streets in the city are now covered by a 20mph limit.

9. Portsmouth (R-AW6)

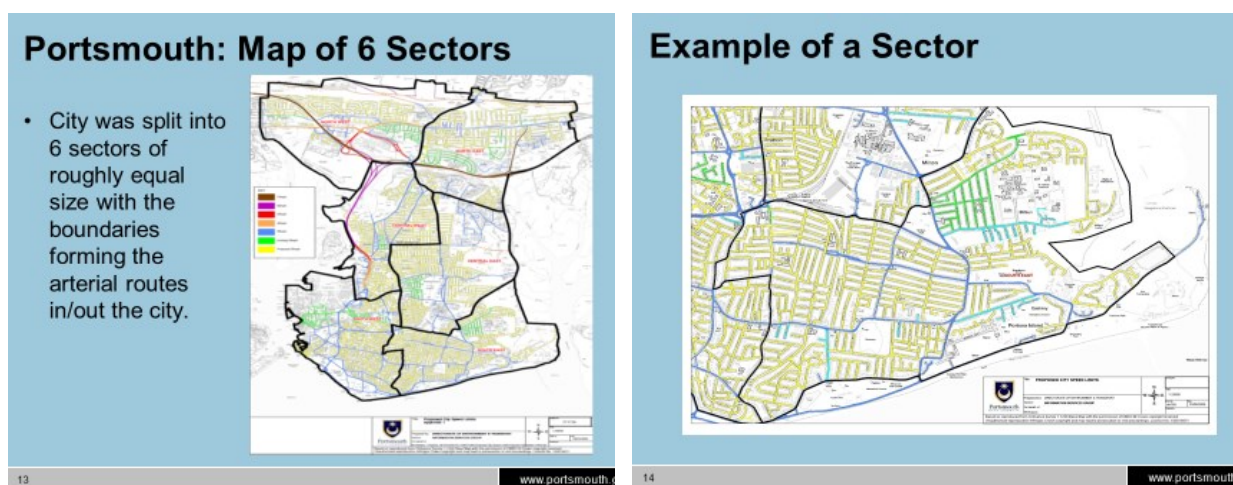
9.1. Scheme description (Predominantly residential and schools)

Portsmouth City Council was the first local authority in England to implement an extensive area-wide 20mph Speed Limit Scheme, covering most of its residential roads, and minor roads with schools and shops.

The scheme was implemented during 2006-2008 - The first sector (South East) went live in June 2007 and the last sector South West) went live in March 2008. It covers 94% of roads on the PCC road network (410km of the 438km of road length) that previously had a 30mph limit. Strategic routes have been excluded.

The limit operates 24 hours a day, seven days a week.

Figure 12. Portsmouth 20mph Limit scheme



Reasons for scheme implementation

The key drivers were:

- a political desire to address community concerns about safety;
- a random casualty problem in densely populated and congested residential areas;
- an aspiration to give the streets back to the residents; and
- the need for a cost-effective solution.

The area-wide implementation of the 20 mph Speed Limit signing scheme was a result of four years development work:

- In 2004, PCC carried out a Traffic Calming Review which divided the city into ten potential 20 mph Zones, prioritised on the basis of weighted road casualty data to emphasise vulnerable road users. The Council agreed to implement two 20mph zones (with traffic calming) per year over a five year period at a cost of approximately £200,000 per zone or £2 million to complete the programme. The strategy was intended to address the high number of randomly located person injury accidents in residential streets; but was very expensive, piecemeal in nature and unsustainable.
- Whilst consultation on the first 20mph zone was being undertaken, a triple fatality led to the need to react swiftly to public demand for the speeds on one of the city's routes to be lowered. An experimental 20mph limit only scheme was therefore trialled. In addition, measurement of the speed and volume of traffic on the surrounding roads showed that existing speeds on these roads were sufficiently low for them to be included in the Traffic Order.

- At the same time, School Travel Plans were being developed across the City, and many schools were asking for reduced speeds outside their school gates. Consultation on a 'Safer Routes to School' scheme near the triple fatality indicated a public wish for a 20mph speed limit outside the school and in the surrounding estate roads.
- The need for a cost-effective solution led to the concept of an area-wide 20mph limit only scheme, and a shift away from the originally envisaged ten 20mph zones. The urban geography of Portsmouth was felt to be particularly suited to an area wide limit:
 - there is a clear difference between residential side roads and the main arterial roads, in terms of width, visibility, and usage;
 - 20mph was considered an appropriate speed for the type and nature of residential roads in Portsmouth, and would improve road safety for pedestrians and cyclists, particularly for children and other vulnerable users;
 - typical speeds were already around 20mph, but with some incidents of faster driving.

Specific objectives

- To reduce casualty numbers.
- To encourage appropriate driving speeds in residential areas (amongst those driving at higher speeds).
- Make 20 mph an 'acceptable' driving speed / reassure those driving at 20mph that this is an acceptable speed to be driving in residential areas.
- Discourage rat-running through residential areas, and focus traffic on arterial routes (particularly commercial vehicles).
- Improve the quality of environment for local residents (including traffic noise and improved air quality).
- Give back the streets to local communities, and improve the walking and cycling environment.

Speed limits and presence of pre-existing traffic calming measures in study area

In 2005/06 an experimental 20mph Speed Limit Scheme was implemented on one of the city's roads, following a triple road fatality. Some surrounding roads were also included in the Traffic Order.

A small number of 20mph zones were subsequently implemented on other roads, to address specific speeding or safety issues.

The table below shows that majority of 20mph roads within the study area are 'New 20mph (signed only)' roads (96%).

| Speed limit category (Portsmouth) | Before Speed | After Speed | Length of road (kms) |
|-----------------------------------|--------------|-------------|----------------------|
| 20mph (signed only) | 30 mph | 20 mph | 341kms (96%) |
| 20mph (with calming) | 30 mph | 20 mph | 14 kms (4%) |

What parking policies operate in the area?

Many of the roads in the city are covered by Residents Parking Schemes. All schools have enforceable zig-zags.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

The scheme represents a major component of the Council's Road Safety Plan, and was intended to deliver the LTP2 objective to 'improve the levels of safety beyond the national 2010 targets for all road users especially children and other vulnerable groups'.

9.2. How has the limit been signed?

Entrances to the 20mph limit areas, from the strategic network, are clearly marked by post-mounted 20mph signs and '20' roundels on the carriageway. Within the limit itself, smaller lamppost-mounted repeater signs are situated approximately halfway along the road. In the case of limited visibility, occasional roundels are also provided adjacent to the repeater signs. (*The high density of parked vehicles can make some signs difficult to see*).

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **moderate**, in comparison with the other case study authorities.

Clive Road (Post-mounted signs and '20' roundels on entrance to 20mph limit area)



Samuel Road (Post-mounted signs on entrance to 20mph limit area)



Images from Google StreetView

9.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|--|
| Education and Engagement | <p><u>Pre-implementation</u></p> <p>Public information about the scheme disseminated via the media and community involvement: This involved:</p> <ul style="list-style-type: none">• Consultations with Neighbourhood Forums and residents' associations.• Exhibition of plans and posters in all schools and public buildings, including Council Offices.• All school pupils sent home with a leaflet about the 20mph scheme in their local area.• Articles in local press. Interviews on local / national television and radio.• News flashes on the Council website and intranet.• Statutory TRO advertisements published in the local press, and FAQ website link included in the Traffic Regulation Order. <p><u>Post implementation</u></p> <p>Education & Enforcement Days run by the Council and Fire & Rescue Service, in order to help re-enforce the key messages.</p> |
| Enlightenment | - |

| | |
|---------------|---|
| Encouragement | Additional white '20' roundals on the road – to provide psychological traffic calming. Vehicle Activated Signs installed in problem locations for up to a month. |
| Enforcement | Police enforcement in line with approach for 30mph limits. Community Speed Watch initiatives. Education & Enforcement Days run by the Council and Fire & Rescue Service (as an alternative to Fixed Penalty Notice / points). |

9.4. Area characteristics

The city has three strategic entry and exit routes and a number of primary roads, interlinked by a network of primary and secondary distributor roads, many of which pass through residential areas. The city has one of the highest densities of population within Europe. A great number of the city's residential streets form a closely packed network of terraced housing, developed in the 19th Century or earlier, with little or no off-street parking. As a consequence of high volume of on-street parking, the available carriageway space is often narrowed to a point where the roads operate as informal one-way streets. Standoff situations often arise when drivers fail to give way to each other.

Thus the layout of Portsmouth's roads was considered to lend itself well to the provision of speed limit signs alone without the need for complementary, additional physical traffic calming measures.

Levels of deprivation / affluence vary substantially across the city, but there are pockets of very high deprivation near the city centre (which are amongst the most deprived areas in the south-east of England).

The proportion of the population under 16 also varies substantially across the city, from 9 to 24%.

Typical residential roads in Portsmouth



Images from Google StreetView



9.5. Other existing / planned 20mph limits in the authority

Virtually all residential streets in the city are now covered by a 20mph limit.

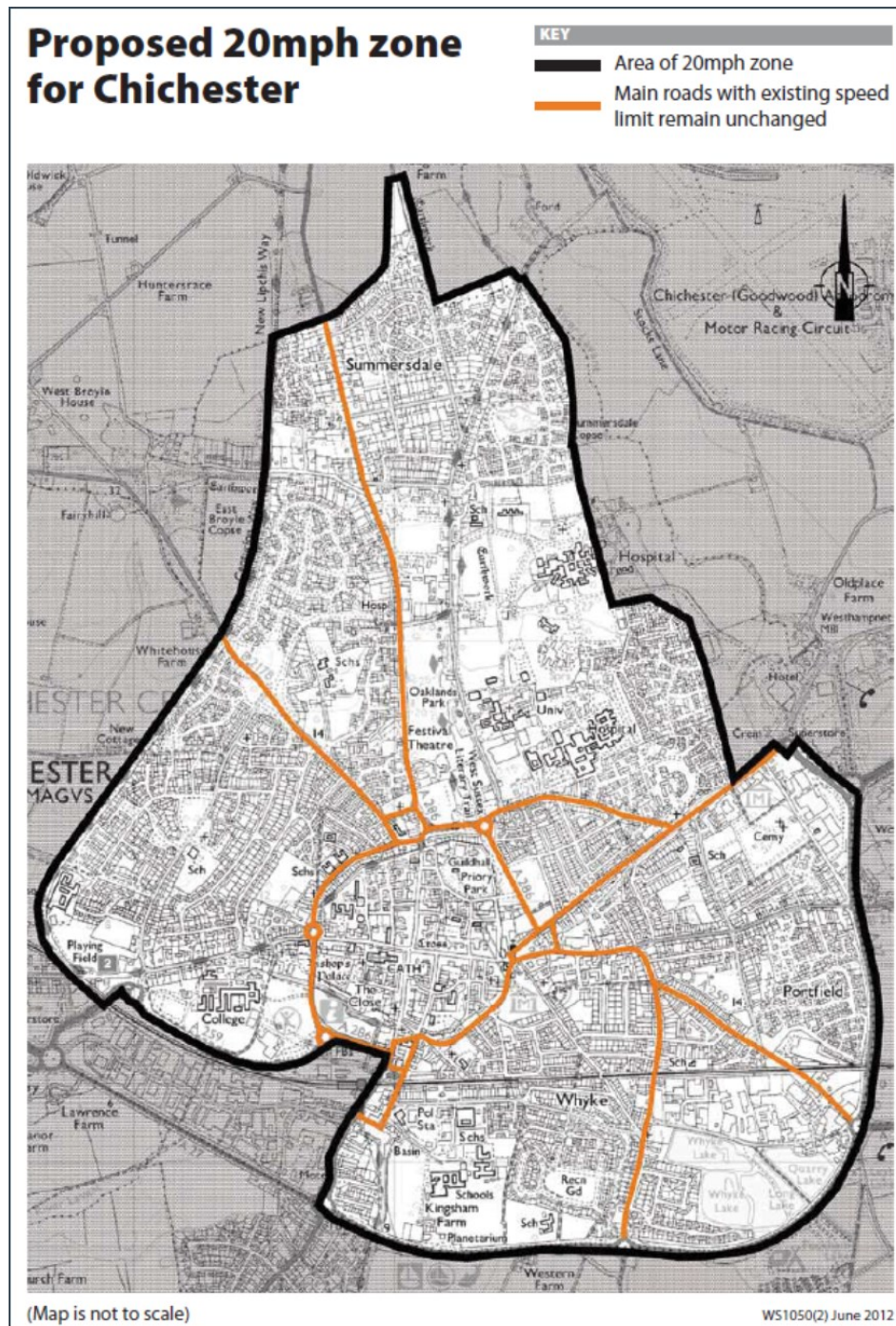
There is currently political and public pressure to implement a 20mph scheme on Queens Street (in the City Centre). There is lots of student accommodation in area, and casualty numbers are high, however, speed is not necessarily a contributory factor.

10. Chichester (R-AW7)

10.1. Scheme description (Predominantly residential and schools)

The Chichester scheme was proposed in 2010 and implemented in **July 2013**. It covers all residential streets in the City. The main strategic routes into the city have been excluded due to their strategic function.

Figure 13. Chichester 20mph scheme



The scheme operates on a 24 hour a day basis.

Supporting measures – Working in partnership with Sustrans, the Council ran a 12 month awareness and education campaign. Following implementation, a dedicated 20mph Officer was taken on (3 days/wk) to

increase awareness of the new limit, ensure compliance, and encourage take-up of active travel modes. Engagement activities were focused around various pop-up events, on-street interventions, and doorstep conversations in known 'hotspots' in the city for speed-related issues.

Reasons for scheme implementation

The key drivers behind the scheme were:

- Effective lobbying by local road safety campaigners and strong community support - The scheme was developed to respond to a community-led campaign and a strong political drive for implementation. The '20's Plenty for Chichester' community group campaigned to make 20mph the default speed limit in residential areas. The group obtained support from over 2,900 members of the community with many letters of support received from schools, resident associations, health organisations and churches. The group was set-up by the same individuals that established the 'ChiCycle' pressure group, which aims to improve cycling infrastructure and cycle up-take in the city.
- 'Big Society' political context – The campaign coincided with the Government's 'Big Society' agenda, which gave it momentum and profile with the Council. The scheme was seen as a means of demonstrating that the Council could work with the local community, in a relatively low cost way.
- Budget cuts for sustainable travel initiatives – Thirdly, the Council was looking to meet a growing demand for better walking and cycling infrastructure, but were faced by long term reductions in the grants from central government. The 20mph limit was seen as a way of providing a safer environment for non-motorised users, in a cost-effective way.

Specific objectives

- To reduce vehicle speeds on residential streets which may create a perception of a safer highway environment and encourage more cycling and walking.
- Contribute to a reduction in the number of and severity of casualties, less congestion, reduced carbon emissions and improved health & well-being outcomes.

Speed limits and presence of pre-existing traffic calming measures in study area

The city centre area was covered by a 20mph Limit (with occasional traffic calming), prior to the roll out of the main scheme.

In most of the residential areas, there were no pre-existing traffic calming measures in place, except on a few particular roads where there are substantial pre-existing measures:

- Westgate (humps and chicanes), Sherborne Road (humps), Parklands Road (humps), Kingsman Avenue (humps), and part of Swanfield Drive (humps).

The table below shows that majority of 20mph roads within the study area are 'New 20mph (signed only)' roads (87%).

| Speed limit category (Chichester) | Before Speed | After Speed | Length of road (kms) |
|-----------------------------------|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 67 kms (87%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 3 kms (4%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 7 kms (9%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 0 kms (0%) |

No additional traffic calming measures have been installed as part of this scheme.

What parking policies operate in the area?

Parking policies have not been changed since the introduction of the scheme. A number of residents parking schemes are in place.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

The scheme was seen by the Council as a low-cost method of achieving higher active travel take-up, and an alternative solution to investing in 'hard' cycling infrastructure. As a result the Council was not planning considerable investment in schemes such as segregated cycle ways in the medium term.

10.2. How has the limit been signed?

Entrances to the new 20 mph limit are marked by post-mounted signs, occasionally accompanied by '20' roundels marked on the carriageway on red backgrounds. Within the 20mph limit area, most roads are very clearly marked with '20' roundels at frequent intervals. These are used as substitutes for repeater posts/plates, to reduce street clutter (and reduce costs).

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **high** in comparison with the other case study authorities.

College Lane (Post-mounted signs on entrance to 20mph limit area, along with '20' roundel on red background)



Summersdale Road (Example of frequent '20' roundels on carriageway)



Images from Google StreetView

The city centre Old 20mph Limit is clearly signed by post-mounted 20mph signs at the entrance to the area. Most roads in this area are narrow (requiring little need for physical traffic calming), although the area does contain occasional chicanes and speed humps.

10.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|---|
| Education and Engagement | <p><u>Pre-implementation</u></p> <p>The consultation lasted 12-weeks and concluded with a referendum. The main consultation included:</p> <ul style="list-style-type: none"> • A letter drop to all residents, with a dedicated email address to allow residents to respond electronically. • A web page on the Council website, which informed the community about the consultation, provided a link to the campaign group and allowed residents to respond on-line. • A display in the City library, Council reception, District Council reception, and City Council reception, raising awareness of the consultation, next to a touch screen kiosk which allowed residents to respond. • Display material delivered to other public buildings, residents' associations and local businesses. • Local publications and other standard communication channels were also used to highlight the ways in which residents could respond. • Informal views sought from a range of stakeholders. <p><u>Post implementation</u></p> <p>In-going awareness and education campaign (see Enlightenment section).</p> |
| Enlightenment | <p>During the consultation period pro-scheme campaigners took an active role in promoting the wider benefits of 20mph schemes and selling a vision focused on creating a safe and pleasant environment for cycling.</p> <p>The scheme launch was marked with a street party, balloon launch, scooter decorating competition and a 30mph piñata.</p> <p>Since implementation the Council has employed a 20mph Officer (for a year) to encourage take-up of active travel modes, as part of a partnership between the Council and Sustrans. The aim is to inspire the users of the city to respect the new speed limit. This involves door-knocking within known "speed hotspots" in the city, pop-up events and on-street engagement (including a survey around behaviours and well-being).</p> |
| Encouragement | On-going education and awareness campaign. |
| Enforcement | Police enforcement in line with approach for 30mph limits. |

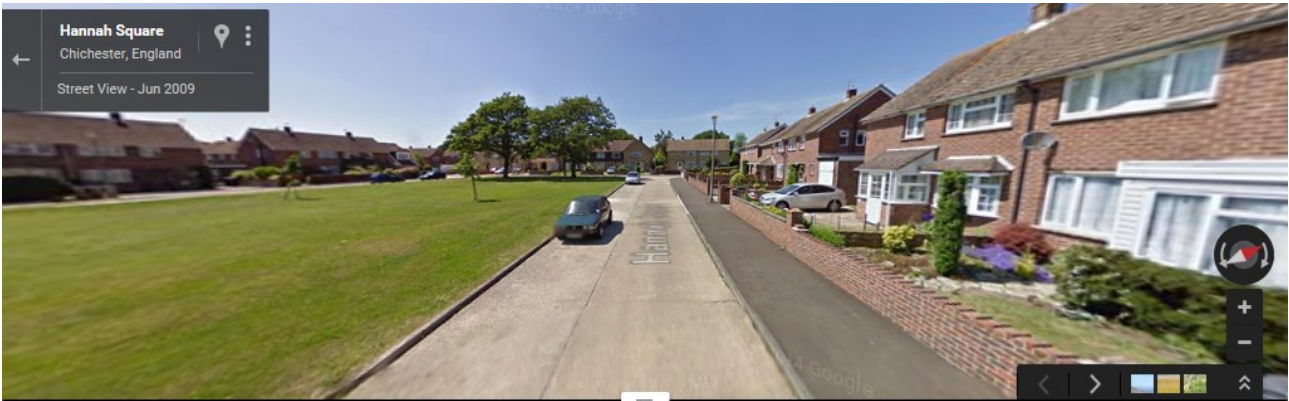
10.4. Area characteristics

Many of the roads are older character with high levels of on-street parking. City Centre streets are narrow, reflecting the City's roman origins, and there is a clear distinction between residential and non-residential roads. Elsewhere, the street layout comprises self-contained communities and cul-de-sacs, which are generally not conducive to rat running.

The majority of the city is categorised as 'affluent', although there are a few pockets of less affluent areas. The proportion of the population aged under 16 varies from 9% and 19%.

Images of Chichester





Images from Google StreetView

10.5. Other existing / planned 20mph limits in the authority

This is the largest such scheme to be implemented in the County. Smaller schemes have been implemented in one of the County's smaller town centres (Horsham) and on a number of streets in a nearby village (Westbourne), with a similar scheme planned for another nearby village (Felpham).

The current position of Council is not to impose 20mph limits across the County, but to only pursue them where there is an evidence of strong interest from a local community in introducing the 20mph limit.

11. Brighton City Centre (TC-AW1)

11.1. Scheme description (City centre and adjacent residential roads)

In 2010 a Scrutiny Committee recommended the implementation of 20mph limits across Brighton and Hove. Due to the size of the project, and availability of funds, the implementation of the scheme was staggered and was delivered in three separate phases:

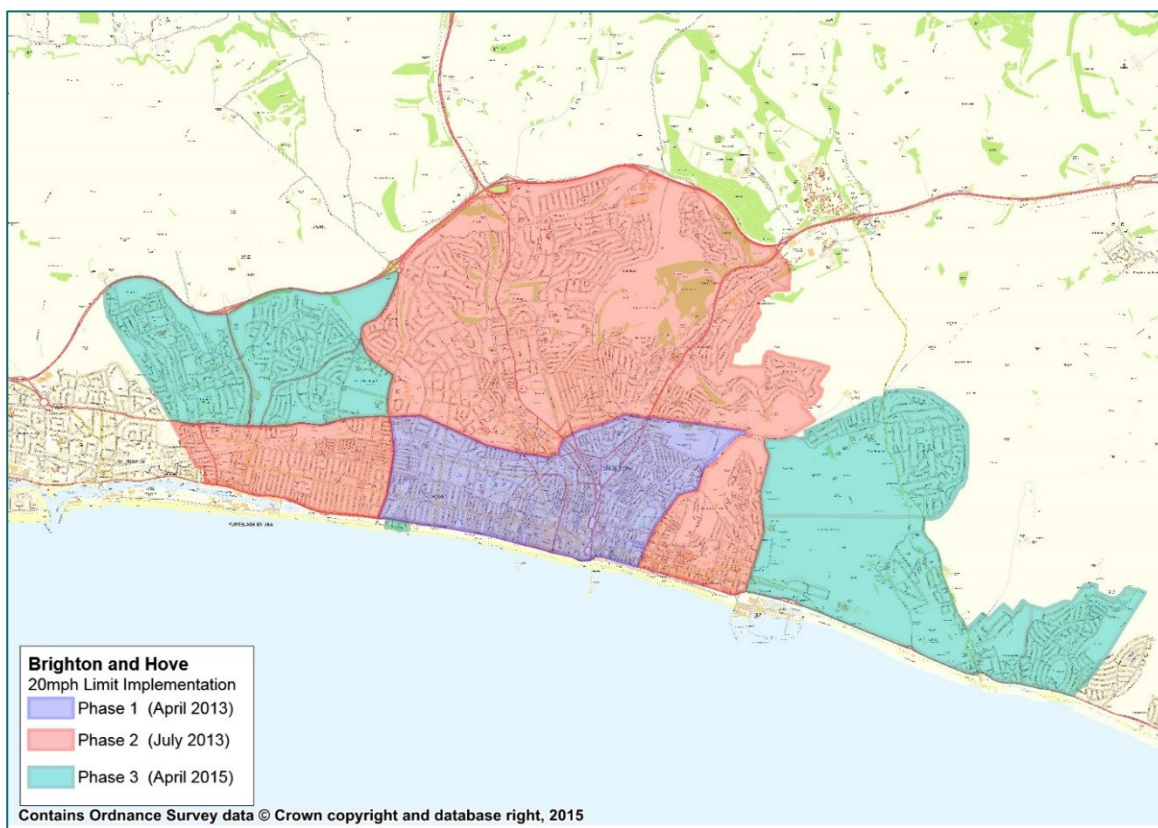
- Phase 1, comprising the city centre of Brighton and Hove was implemented in **April 2013**;
- Phase 2, consisting of the surrounding areas of Phase 1 was implemented in **June 2014**;
- Phase 3, which contains the remaining areas of Brighton and Hove was implemented in **June 2015**.

Phases 1 and 2 both form separate case studies for this research. This chapter focuses on Phase 1 covering the city centre and adjacent roads.

The scheme covers the entirety of the administrative boundary of Brighton and Hove. Notable exceptions are main roads and key arterial routes, where, due to their strategic nature, 30mph limits remain in place. However, some A and B roads were included on the basis of flow, speeds, casualties, and layout; particularly in the city centre area. All limits operate 24 hours a day, seven days a week.

No additional traffic calming measures have been installed as part of this scheme.

Figure 14. Brighton 20mph Speed Limit Scheme (Phases 1 to 3)



Phase 1 covers the historic Brighton City Centre and adjacent residential areas, including parts of Hove. A number of A and B roads have been included in the scheme, including the A23, A270, A2010, and the B2066 and B2120.

Reasons for scheme implementation

The key drivers behind the city-wide 20mph scheme were:

- a poor safety record in the City which had not been addressed for some time;
- demands from members of the public about speeds and casualty levels, including residents petitions for 20mph schemes (particularly near schools); and,
- political recognition of the need to improve safety in the City (particularly in terms of severity), supported by a political mandate to deliver a 20mph scheme based on a commitment to deliver a 20mph scheme in the local party manifesto.

In addition, the City already had some 20mph zones in place, and had already started to look at implementing small clusters of 20mph limit schemes around schools. Interest in an area-wide 20mph scheme appears to be related to the introduction of an area-wide scheme in a nearby authority.

Specific objectives

- Reduce the number and severity of collisions and casualties on the city's roads.
- Improve the street environment for all road users, including car drivers, and make the city a safer and better place to live in.
- Encourage more cycling and walking, especially for local trips.
- Bring road safety benefits, improve overall health and wellbeing, and reduce congestion.

Speed limits and presence of pre-existing traffic calming measures in study area

Prior to the implementation of the city-wide scheme, the area already had six pre-existing 20mph Zones or Limits in place, with a variety of physical traffic calming measures:

- The retail area between the Brighton Pavilion and Train Station is an Old 20mph Limit. The area is labelled as a 20mph Zone, but contains little physical traffic calming measures. The roads are narrow and laid out in a grid, and physical measures have not been deemed necessary.
- There are two large pre-existing 20mph Limits further north. These are also signed as Zones, but contain very little physical traffic calming measures.

There are also three smaller Old 20mph Zones, two next to schools, and one residential area.

Whitecross Street (Entrance to a pre-existing 20mph Limit in city centre)



Images from Google StreetView

The table below shows that majority of 20mph roads within the study area are 'New 20mph (signed only)' roads (81%).

| Speed limit category (Brighton, Phase 1) | Before Speed | After Speed | Length of road (kms) |
|--|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 108 kms (81%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 0 kms (0%) |

| | | | |
|-------------------------|--------|--------|--------------|
| Old 20mph (signed only) | 20 mph | 20 mph | 15 kms (11%) |
| Old 20mph (with calming | 20 mph | 20 mph | 10 kms (8%) |

No additional traffic calming measures have been installed as part of this scheme

What parking policies operate in the area?

Many of the roads in the city are covered by Residents Parking Schemes. All schools have enforceable zig-zags.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

-

11.2. How has the limit been signed?

Entrances to the limit area are clearly marked with post-mounted 20mph signs. Most 'A' roads with a 20mph limit contain '20' roundels, which are occasionally accompanied by smaller lamppost-mounted repeater signs. On minor roads there are occasional '20' roundels on the carriageway or lamppost-mounted signs repeater signs, but these are rather sporadic.

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **low - moderate**, in comparison with the other case study authorities.

No additional traffic calming measures have been installed as part of this scheme.

Entrance to Madeira Place (post-mounted 20 mph signs entering the limit area)



A23 ('20' roundels and lamppost-mounted sign on main city centre roads)



Images from Google StreetView

11.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|---|
| Education and Engagement | <u>Pre-implementation</u> Consultation exercise undertaken across the City with the public and stakeholders. Stakeholders consulted with early on in the process. Council website. <u>Post implementation</u> On-going marketing, communication and road safety campaigns undertaken to ensure a high level of awareness amongst the public. |
| Enlightenment | - |
| Encouragement | Eight Vehicle Activated Signs in operation that display the speed at which the driver is driving. These are rotated around areas where the 20mph speed limit has not had the expected outcome. |
| Enforcement | Police enforcement in line with approach for 30mph limits. |

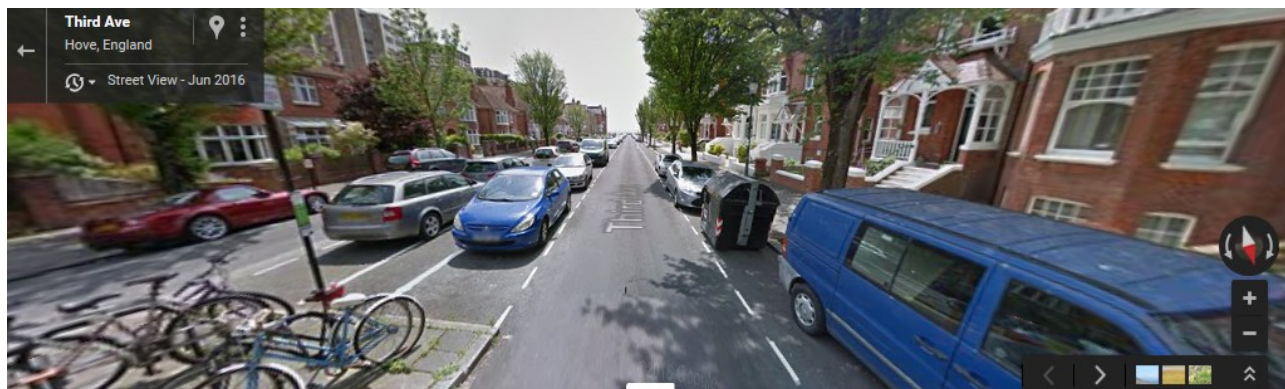
11.4. Area characteristics

Phase 1 contains the historic city centre, comprising predominantly retail uses and narrow, straight roads. Much of the city centre was covered by an old pre-existing 20mph Limit. The current scheme has extended the coverage and included most of the strategically important A-roads.

The adjacent residential areas comprise predominantly straight roads of varying widths, with terraced housing or apartments, and substantial on-street parking.

The area is generally categorised as 'affluent', 'moderately affluent', or 'moderately deprived'. The proportion of aged under 16, at less than 10% in many areas.

Images of Brighton (Phase 1)



Images from Google StreetView



Images from Google StreetView

11.5. Other existing / planned 20mph limits in the authority

A large proportion of residential streets in the city are now covered by a 20mph limit.

12. Winchester City Centre (TC-AW2)

12.1. Scheme description (City centre and adjacent residential roads)

The scheme includes the historic city centre, including a number of B roads which circulate the pedestrianised centre; and residential areas in the city centre and small area to the north. The scheme was implemented in **September 2014**, as part of the Local Sustainable Transport Fund (LSTF) package delivered by Hampshire County Council.

The area is well defined as it matches the location of the old city walls. The City Centre is designated as a conservation area and an important tourist destination; and as such appropriate measures have been taken to make sure that the signage associated to the scheme don't cause "eye sores" within the historic city centre. Residential roads typically comprise historic terraced housing, very narrow streets, and some on-street parking where the road has sufficient width.

The scheme operates on all days, and across all hours.

Figure 15. Winchester City Centre 20mph Scheme



Reasons for scheme implementation

There were three key drivers behind scheme implementation:

- The scheme was identified as an action in the Town Access Plan - to 'reduce the negative impact of vehicle movements in the Town Centre and residential areas'.
- Requests for a 20mph speed limit from the local community – the Town Forum and residents during consultation on the Town Access Plan (Council website); and promotion of the scheme by the Town Council and local Councillors.
- Political drive from Councillors, and a need for the Council to be seen to be doing something about the high levels of traffic in the historic City Centre, and the associated consequences.

Specific objectives

- To 'reduce the negative impact of vehicle movements in the Town Centre and residential areas'. (Town Access Plan)
- To increase awareness of other road users such as pedestrians and cyclists and create a better experience for all road users.
- Reduce the severity of accidents in the City Centre.

Speed limits and presence of pre-existing traffic calming measures in study area

The scheme includes some existing 20mph limits around the historic Cathedral area, and there are also some 20mph zones (with road humps and chicanes) on a small number of historic residential streets very close to the City Centre. Many of the roads in the area are narrow lanes with historic builds lying close to the road.

The table below shows that majority of 20mph roads within the study area are 'New 20mph (signed only)' roads (95%).

| Speed limit category (Bestwood, Nottingham) | Before Speed | After Speed | Length of road (kms) |
|---|--------------|-------------|----------------------|
| New 20mph (signed only) | 30 mph | 20 mph | 14 kms (95%) |
| New 20mph (existing calming) | 30 mph | 20 mph | 0 kms (0%) |
| Old 20mph (signed only) | 20 mph | 20 mph | 0 kms (0%) |
| Old 20mph (with calming) | 20 mph | 20 mph | 0.7kms (5%) |

No additional traffic calming measures have been installed as part of this scheme

What parking policies operate in the area?

On-street residents parking schemes are in place in some streets.

Other schemes or initiatives targeted at the area to improve safety and the quality of the environment (at the time of implementation)

The Council has produced a Cycling Strategy which encourages the implementation of 20 mph speed limits to encourage more people to walk and cycle; and was drafting a Walking Strategy, which is also intended to encourage the introduction of 20mph speed limits to give pedestrians a better walking experience.

12.2. How has the limit been signed?

Entrances to the 20 mph scheme are clearly marked with post-mounted signs on both sides of the road. Much of the retail area inside the limit is pedestrianised, however non-pedestrianised streets have '20' roundels markings on the carriageway.

The north of the area is primarily residential and streets are often narrow with parking on both sides of the carriageway. Entrances to the area are clearly marked by post-mounted 20 mph signs, and roads inside the limit contain many '20' roundels on the road, often more than once on a carriageway.

For the purpose of this study, the frequency and visibility of 20mph signing has been assessed as **high** in comparison with the other case study authorities, due to the high frequency '20' roundels marked on the carriageway.

Hyde Close (Entrance to the new 20mph limit)



St Peter Street (Example of '20' roundel in the city centre)



Danes Road (Example of '20' roundel)



Hyde Street (Example of '20' roundel)



Images from Google StreetView

Eastgate Street (Example of '20' roundel)



Images from Google StreetView

12.3. Measures to encourage compliance (based on 5Es)

| Type of intervention | Description |
|--------------------------|--|
| Education and Engagement | <u>Pre-implementation</u> Public exhibitions held in four venues for two weeks, including two 'question and answer' manned sessions attended by Council officers. Council website. |
| Enlightenment | - |
| Encouragement | - |
| Enforcement | Police enforcement in line with approach for 30mph limits. A Community Speed Watch scheme was intended to be introduced, but this has not yet happened. |

12.4. Area characteristics

Residential roads typically comprise historic terraced housing, straight and very narrow streets, often one-way, and some on-street parking where the road has sufficient width.

The area is categorised as 'affluent' (category 5). The proportion of the population under 16 varies from 10% to 26%.

12.5. Other existing / planned 20mph limits in the authority

A programme of pilot schemes is being implemented across the rest of the County – see **Winchester Stanmore Case Study**. Within Winchester, pilot schemes have been implemented in Stanmore, Winnall and Highcliffe.



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