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Mapping: Analysing and presenting your information

Now that you've done all the work to gather your information, the next step is to organise and present it in a way that is the most useful. Some of this can be done easily using pen and paper. A more advanced step is to display your information using online maps such as Google Maps, and still more advanced step is analysis using software called Geographic Information Systems (GIS). You don't want to do more work than you need to, so think basic. Remember, the point is to display your results so that they communicate what you want to whom you want.

The basics – what you can do on your own

In general the idea is to gather everything you've collected and put it onto one shared map. You'll want to pay attention to the

colours and symbols you use to represent your information.

Paper-based analysis

This approach is the simplest. Get a large blank map of your study area (A0 prints can be obtained from photocopy shops for about £20). Go through all of the information you collected and begin copying it all onto the large blank map to summarise your results.

If you are doing *Community Priorities Mapping* this can get a little messy, especially if you've collected many comments. First you should review all the responses and begin to look for common themes, or topics that are mentioned often. For example, in Marks Gate almost all the comments fell into one of seven themes. To display this on a common map you could colour-code each comment by theme (see **Figure 6**).



Figure 6: Final Community Priorities Map for Marks Gate, created with a GIS

If you are doing an *Evidence Gathering* exercise you'll have to think about the best way to display this information. In the Archway shutter survey example, a point for each shop front is placed on the common map with a colour according to the density of the shutter (see **Figure 7**).

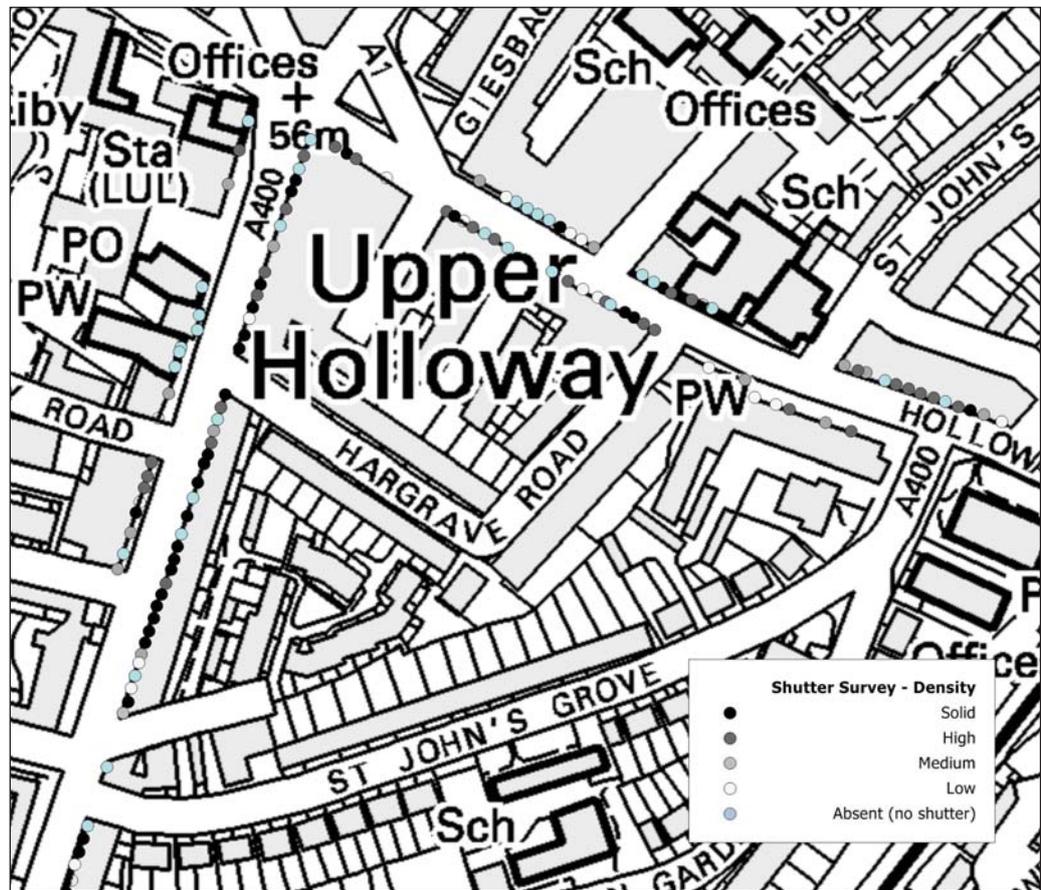


Figure 7: Archway Shutter Survey Results

For the pedestrian survey on the other hand, you'd need to calculate the average number of people at each observation point and then enter each one on the map using colours and arrows to represent the flow numbers (see **Figure 8**).

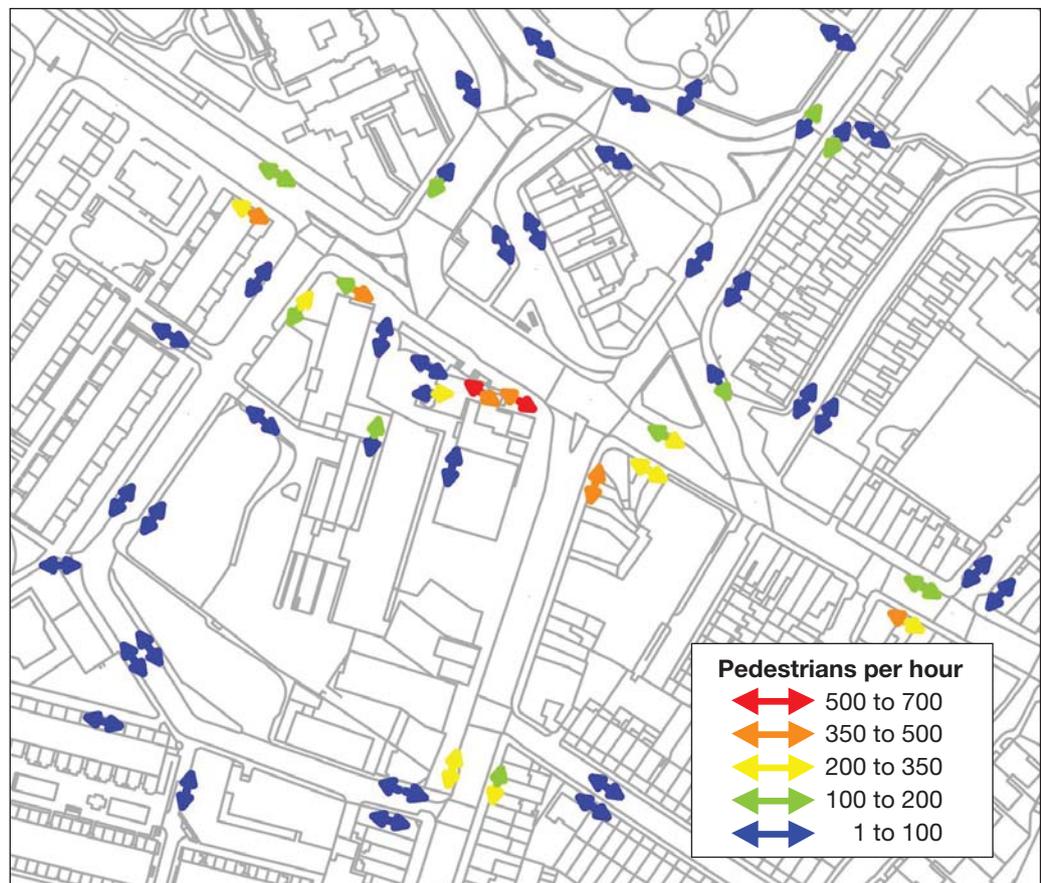


Figure 8: Pedestrian Flow Map (produced by Space Syntax and London 21)

Google Maps

You may decide you want to display some of your information in a digital format. This can be useful if you want to share your results with others who are outside of your immediate area, or if you want to include things like photographs in your map. The free online maps provided by Google offer you the chance to do this (www.google.co.uk/maps).

Google maps let you place your own information over the top of their maps (see **Figure 9**). Not only is this a good way to display your information, but because you can add/delete/edit entries easily (and without having to use a new paper map each time.) it can be a good way to organise your information before you are ready to produce your final display.

Each item you enter onto a Google Map can store its own associated information (such as the full comment from a *Community Priorities Mapping* entry, or a picture). The associated information is stored internally, and only appears when you click on the specific entry (see **Figure 10**). So it can allow you to include more information than you could on a paper map.

Getting started in Google Maps is very simple. You just need an account, and a few basic instructions. Visit www.google.co.uk/maps and click on the "MyMaps" tab.

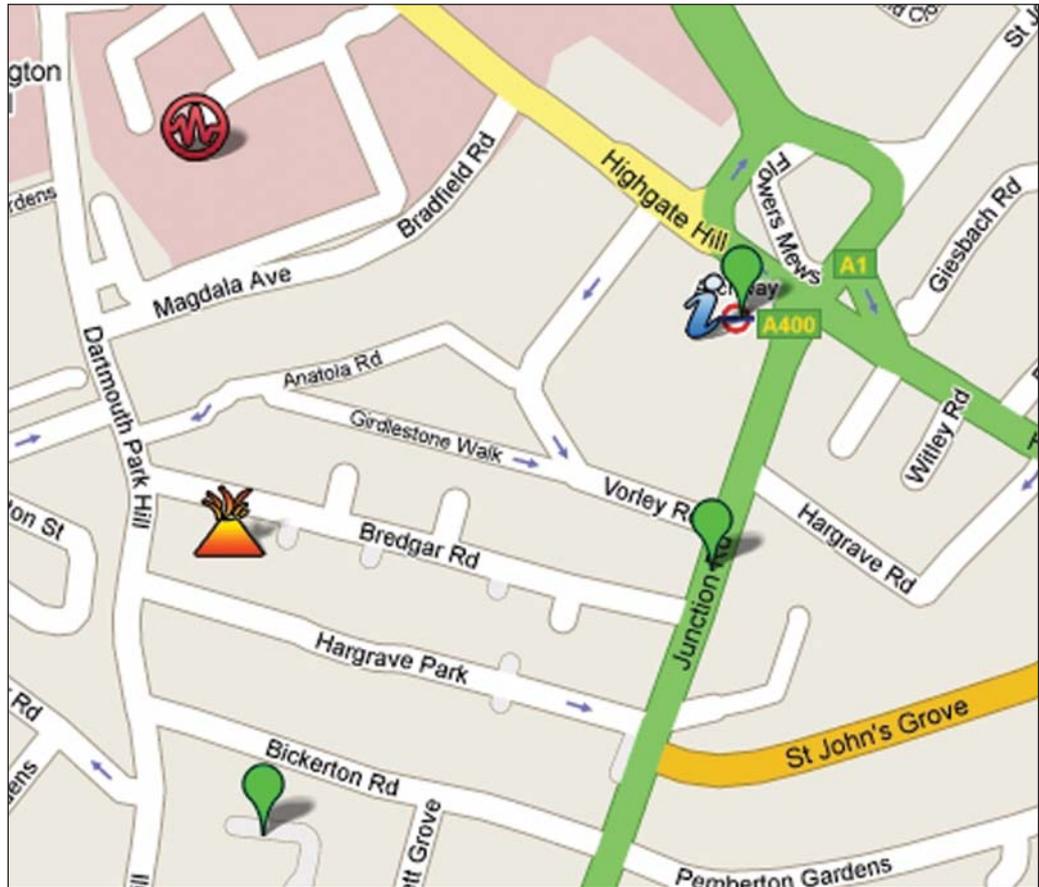


Figure 9: Google Map overlaid with landmarks identified by Archway primary school students

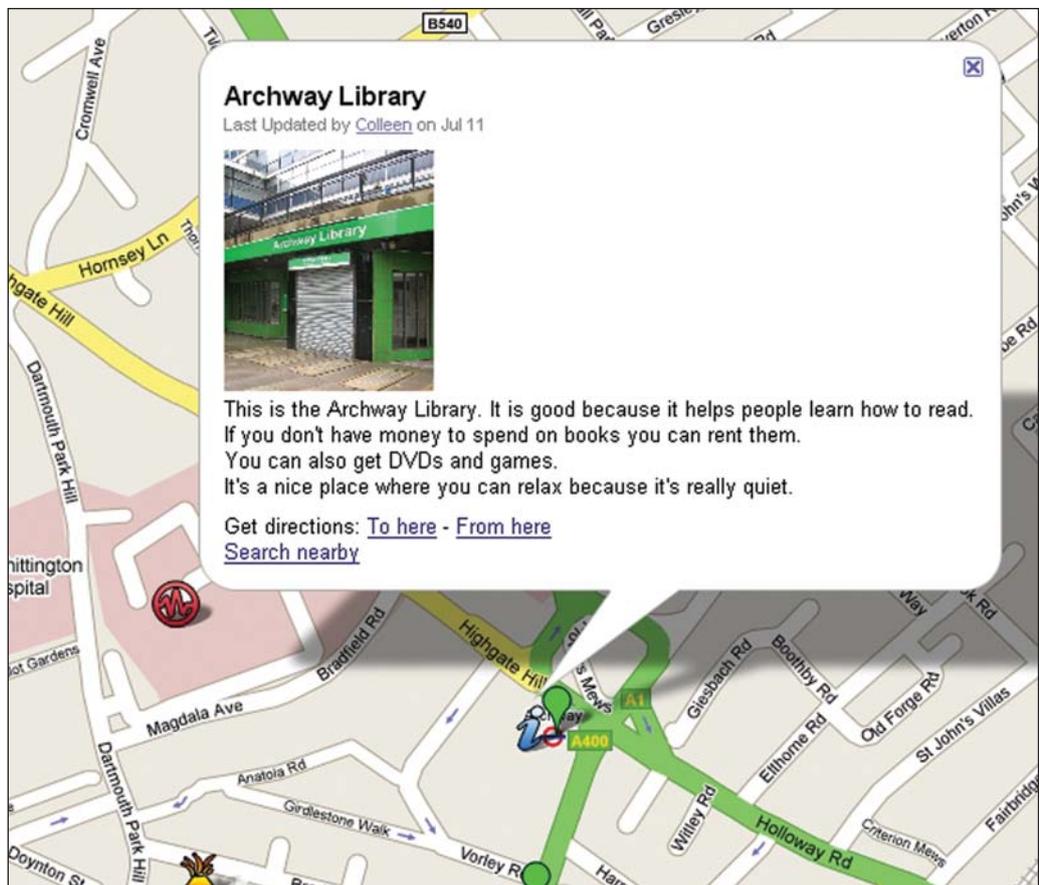


Figure 10: Google Map with information added by Archway students

Click on “Learn More” for a full guided tour and instructions. You can also access instructions at:
<http://maps.google.com/support/bin/answer.py?answer=68480>.

Once you’re ready to use Google Maps you can start thinking about how you might display your information. As an example, for a noise survey you could produce a map of all the noise meter readings over a certain level. Or with a little more work you could work out the average reading in an area (say a 50meter square) and draw that onto your Google Map.

Analysis that requires more help

What is GIS?

While there is a lot you can do without any special skills, some of the more advanced analysis and display can only be done with the help of Geographic Information Systems (GIS). GIS is a combination of computer software and methodologies that help people to store,

analyse, manipulate and display spatial data. Spatial data is simply information that is associated with a certain location. All of the information you collect in a community mapping project is spatial data.

What can you do with GIS?

Some of the more sophisticated tasks you might like to do with your information needs to be done in a GIS by someone who is trained. For example, with a GIS you can produce a *thematic map*. This is a map that displays objects based on a theme (i.e. colour-coded according to category; see **Figure 6**).

You can also perform more advanced analysis such as the type used to produce the Pepys Noise Pollution Map (see **Figure 11**). As mentioned above, you would still be able to present some information from a noise survey on paper or on Google Maps, but the most advanced level does require the use of GIS.

For more information on GIS, computer mapping, and other helpful mapping resources please see Appendix 3.

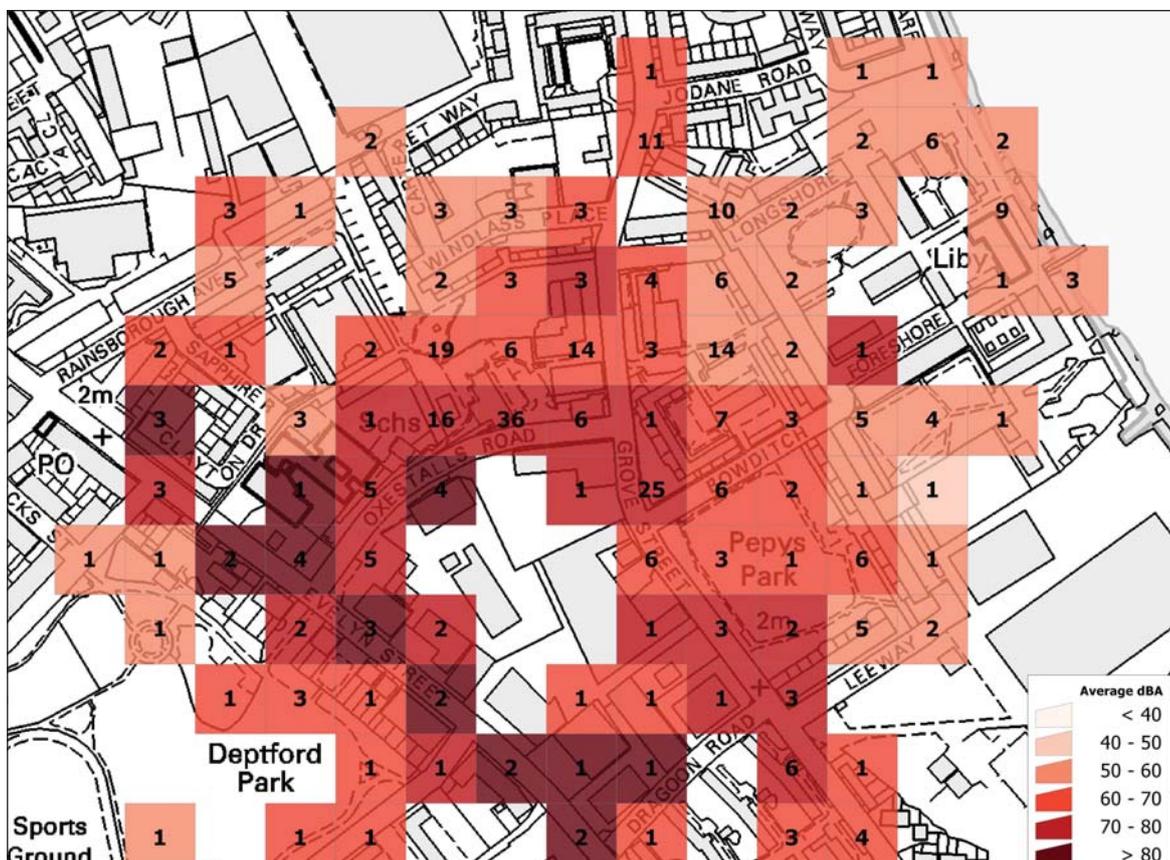


Figure 11: Pepys Noise Map

Appendix 1: Summary of available online environmental and social data

Category	Online information	Where to find it	What is available	Tips and comments
Industrial Pollution	Environment Agency: Pollution Inventory	<p>Direct Link: http://www.environment-agency.gov.uk/business/444255/446867/255244/</p> <p>From EA website: http://www.environment-agency.gov.uk/Business and Industry > How Green are businesses in England and Wales > Data and information on business performance > Pollution Inventory Home Page</p>	<ul style="list-style-type: none"> Information on many types of pollution (air and water) in your area, and also the main polluters Can search by postcode, town, local authority, or for specific emitter Can view information as a map of your area 	<ul style="list-style-type: none"> The pollution inventory is massive. Most of the information is quite technical (i.e. types of pollutant and exact levels) Can get specific information on polluters in your area Maps are not very detailed and may be difficult to interpret
Air Pollution	National Atmospheric Emissions Inventory	<p>Direct Link: http://www.naei.org.uk/mapping/mapping_2005.php</p>	<ul style="list-style-type: none"> Pollution maps available for a range of pollutants including SO₂, CO, PM₁₀ and heavy metals You can view a pollution map for the whole of the UK for each type of pollution 	<ul style="list-style-type: none"> Most recent data available in maps is 2005 Good for a quick overview, but not very clear what the various levels mean – may be a bit hard to interpret

(continued)



Category	Online information	Where to find it	What is available	Tips and comments
Air Pollution	London Air Quality Network	Direct Link: http://www.londonair.org.uk From here you can enter your own postcode directly	<ul style="list-style-type: none"> Information is available from recording sites all over London measuring a variety of pollutants By entering your postcode you can view the recording sites nearest to you You can also get information on “pollution episodes” – incidents where pollution rises sharply 	<ul style="list-style-type: none"> Not all recording sites report all the time. Local authorities are responsible for maintaining their recording sites Lots of background information available on this site on how measurements are taken, and pollution episodes (e.g. during heat wave of 2003)
Noise Pollution	Defra: Noise Maps	Direct Link: http://noisemapping.defra.gov.uk/wps/portal/noise/maps	<ul style="list-style-type: none"> You can view noise maps for the UK for noise from road, rail, industry and air You can search by postcode (and then pan/zoom in map) 	<ul style="list-style-type: none"> Note that these maps are made from mathematical models and not from actual measurements The maps report noise individually (e.g. noise from rail, road etc) but in neighbourhoods noise is cumulative and this data doesn't show that You may find this is not an accurate representation of noise in your local area
Social Information	Up My Street: Information about your local area	Direct Link: http://www.upmystreet.com Enter your postcode on homepage to see all the information available for your area	<ul style="list-style-type: none"> Lots of local information from crime statistics to local council performance indicators to house prices Environment statistics like waste and recycling collection 	<ul style="list-style-type: none"> This site doesn't offer information as maps, but it is a good place to get a wide variety of general information about your local area and compare to overall English averages Website is easy to use

(continued)

Category	Online information	Where to find it	What is available	Tips and comments
<p>Quality of Life</p>	<p>Audit commission: Quality of Life Indicators</p>	<p>http://www.audit-commission.gov.uk/ Then click on “Local area” and search for your local authority Quality of life indicators report available at: http://www.audit-commission.gov.uk/Products/NATIONAL-REPORT/0D488A03-8C16-46fb-A454-7936FB5D5589/QofL2005.pdf</p>	<ul style="list-style-type: none"> • Lots of reports available on how your council is performing • Quality of life report has interesting background and case studies of council’s using the indicators • Information on 10 Quality of Life Indicators, such as community cohesion, environment and transport 	<ul style="list-style-type: none"> • Case studies of councils using these indicators well (according to the Audit Commission) • Good tool for comparing areas
<p>Deprivation</p>	<p>Index of Multiple Deprivation (IMD) from Department for Communities and Local Government</p>	<p>Direct Link: http://www.communities.gov.uk/communities/neighbourhoodrenewal/deprivation/ From here you have many choices of how to view the information</p>	<ul style="list-style-type: none"> • You can download a summary report of the 2007 IMD • You can also download tables which show IMD at Local Authority level across the country 	<ul style="list-style-type: none"> • This statistic is usually reported at the Super Output Area level (SOA). An SOA is a small area, usually consisting of about 1500 households • IMD is often used by policy-makers, so it can be useful to see how your area performs • For more help you can email: indices.deprivation@communities.gsi.gov.uk



Appendix 2: Survey sheet examples (Noise mapping, Pedestrian mapping)



Pepys | Noise Mapping



Name: Date:

All the data collected will be processed anonymously. Your name is only requested here so that we can contact you with any technical queries.

(1) Mark the location of this reading on the attached map with "X1"

Time	1st Sound Reading (dBA)	2nd Sound Reading (dBA)	3rd Sound Reading (dBA)

Please circle any words that describe the quality and intensity of the sound:

Silent	High pitched	Constant	Enjoyable
Extremely Quiet	Shrill	Repetitive	Relaxing
V. Quiet	Sharp	Intermittent	Comfortable
Quiet	Spikey	Abrupt	Acceptable
Audible	Hollow	Random	Annoying
Loud	Deep	Indistinct	Exhausting
V. Loud	Bassy		Disturbing
Extremely Loud	Low pitched		Threatening
Painful			Agonising

What is the loudest sound(s) you hear:

Additional comments:

(2) Mark the location of this reading on the attached map with "X2"

Time	1st Sound Reading (dBA)	2nd Sound Reading (dBA)	3rd Sound Reading (dBA)

Please circle any words that describe the quality and intensity of the sound:

Silent	High pitched	Constant	Enjoyable
Extremely Quiet	Shrill	Repetitive	Relaxing
V. Quiet	Sharp	Intermittent	Comfortable
Quiet	Spikey	Abrupt	Acceptable
Audible	Hollow	Random	Annoying
Loud	Deep	Indistinct	Exhausting
V. Loud	Bassy		Disturbing
Extremely Loud	Low pitched		Threatening
Painful			Agonising

What is the loudest sound(s) you hear:

Additional comments:

(3) Mark the location of this reading on the attached map with "X3"

Time	1st Sound Reading (dBA)	2nd Sound Reading (dBA)	3rd Sound Reading (dBA)

Please circle any words that describe the quality and intensity of the sound:

Silent	High pitched	Constant	Enjoyable
Extremely Quiet	Shrill	Repetitive	Relaxing
V. Quiet	Sharp	Intermittent	Comfortable
Quiet	Spikey	Abrupt	Acceptable
Audible	Hollow	Random	Annoying
Loud	Deep	Indistinct	Exhausting
V. Loud	Bassy		Disturbing
Extremely Loud	Low pitched		Threatening
Painful			Agonising

What is the loudest sound(s) you hear:

Additional comments:

(overleaf)



Pepys | Noise Mapping



Name:

Date:

All the data collected will be processed anonymously. Your name is only requested here so that we can contact you with any technical queries.

(4) Mark the location of this reading on the attached map with "X4"

Time	1st Sound Reading (dBA)	2nd Sound Reading (dBA)	3rd Sound Reading (dBA)

Please circle any words that describe the quality and intensity of the sound:

Silent	High pitched	Constant	Enjoyable
Extremely Quiet	Shrill	Repetitive	Relaxing
V. Quiet	Sharp	Intermittent	Comfortable
Quiet	Spikey	Abrupt	Acceptable
Audible	Hollow	Random	Annoying
Loud	Deep	Indistinct	Exhausting
V. Loud	Bassy		Disturbing
Extremely Loud	Low pitched		Threatening
Painful			Agonising

What is the loudest sound(s) you hear:

Additional comments:

(5) Mark the location of this reading on the attached map with "X5"

Time	1st Sound Reading (dBA)	2nd Sound Reading (dBA)	3rd Sound Reading (dBA)

Please circle any words that describe the quality and intensity of the sound:

Silent	High pitched	Constant	Enjoyable
Extremely Quiet	Shrill	Repetitive	Relaxing
V. Quiet	Sharp	Intermittent	Comfortable
Quiet	Spikey	Abrupt	Acceptable
Audible	Hollow	Random	Annoying
Loud	Deep	Indistinct	Exhausting
V. Loud	Bassy		Disturbing
Extremely Loud	Low pitched		Threatening
Painful			Agonising

What is the loudest sound(s) you hear:

Additional comments:

(6) Mark the location of this reading on the attached map with "X6"

Time	1st Sound Reading (dBA)	2nd Sound Reading (dBA)	3rd Sound Reading (dBA)

Please circle any words that describe the quality and intensity of the sound:

Silent	High pitched	Constant	Enjoyable
Extremely Quiet	Shrill	Repetitive	Relaxing
V. Quiet	Sharp	Intermittent	Comfortable
Quiet	Spikey	Abrupt	Acceptable
Audible	Hollow	Random	Annoying
Loud	Deep	Indistinct	Exhausting
V. Loud	Bassy		Disturbing
Extremely Loud	Low pitched		Threatening
Painful			Agonising

What is the loudest sound(s) you hear:

Additional comments:

(Developed by: London 21, UCL and Christian Nold)



Gate observations
Saturday 03/03/07

A B C D E F G H J K

ALL ZONES

Gate location sheet for all zones

Gates located at all access points to Archway area – The space adjacent to the Archway Mall was omitted from the study due to the Farmers' Market



ARCHWAY

Gate observations

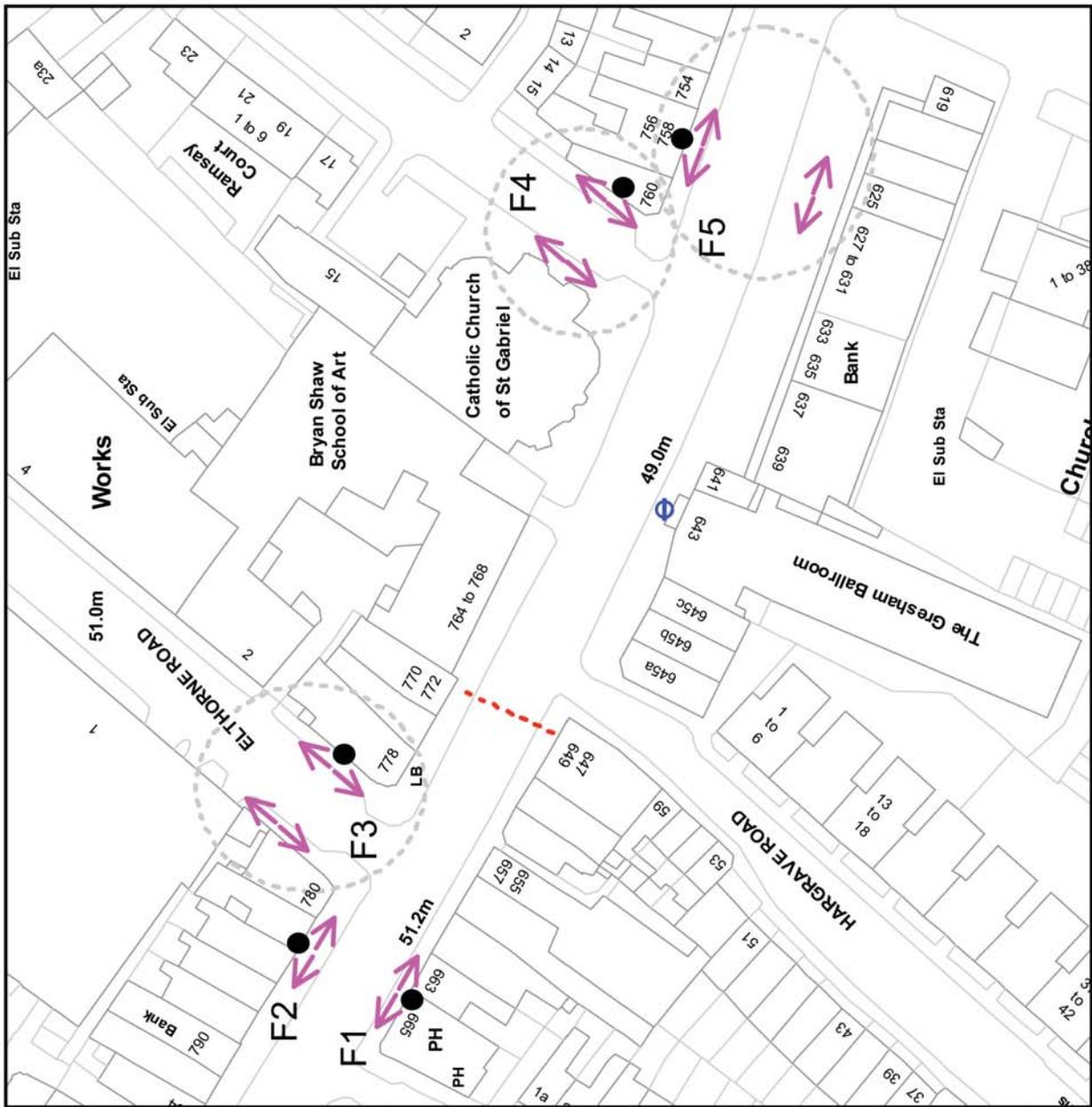
ZONE F

Where two arrows are circled please count pedestrians on both sides of the street



● Observer's position

Sample gate location sheet



Appendix 3: Useful resources: Getting help and finding out more

This toolkit has hopefully given you the ideas and ways to get started on developing your map. But there's always more to know and there's usually people who can help.

Mapping gear

There are many GIS software programmes available for purchase, ranging from the very expensive (ESRI products www.esriuk.com), to the more reasonable Manifold (www.manifold.net, at about £150) to freeware programmes such as QGIS (www.freegis.org).

Getting help locally

If you want more advice on whether or not your project would benefit from GIS analysis you could try contacting the Geography, Urban Planning or Civil Engineering department of your nearest university. These will all have GIS programmes and people who may be able to answer your questions. You may even, if you're lucky, find someone who's interested to get involved.

Other sources of help

One key place to go for advice is **Mapping for Change**. Mapping for Change is a new not-for-profit social enterprise set up by London 21 and University College London to support community-based mapping initiatives. At the time of going to press it's just starting work to build on what's in this guide. Contact us at mappingforchange@london21.org

Community Mapping Resources

There's quite a few resources that you may find useful:

BioMapping

www.biomapping.net

A London artist's creative take on community mapping.

City University's Food Mapping Toolkit

www.foodvision.gov.uk/document/view/122

A guide showing you how to map provision of healthy food in your area.

Community Maps

www.communitymaps.london21.org

Online, interactive community maps in East London.

Green Maps Across the World

www.greenmap.org

An international collection of community maps showing local natural, cultural and green living resources.

London Green Map

<http://greenmap.london21.org>

London's online interactive map of all things "green" – built up by local people.

Policy Link – Community Mapping

<http://www.policylink.org/EDTK/Mapping/default.html>

Policy Link's online guide to community mapping.

PPgis.net

<http://www.ppgis.net/>

Open Forum on participatory Geographic Information Systems and Technologies.

Raise your voice! Community Mapping Resource Guide

<http://www.indianacampuscompact.org/Portals/0/Community-Mapping.pdf>
U.S. resource for student action.

Sustainability, Community and Environment Information

There's a huge range of organisations that might be able to help. These are just some of them!

General advice

Capacity Global

Tel: 0845 034 3355 / 020 3117 0102
www.capacity.org.uk

A non-governmental organisation focusing on environmental justice in urban areas, committed to helping the people and communities that bear the brunt of urban environmental problems worldwide.

The Environment Agency

www.environment-agency.org.uk

The government agency responsible for rivers, flooding, pollution and environmental quality. Has a general enquiry line, tel: 0845 9333111, which will give you details of your nearest office.

Mapping for Change

A new social enterprise set up by that supports community-based mapping initiatives. For more information contact: mappingforchange@london21.org

Planning Aid

Tel: 0121 693 1201
www.planningaid.rtpi.org.uk

Provides free, independent and professional help, advice and support on planning issues to people and communities who cannot afford a planning consultant. Works regionally.

Friends of the Earth (FoE)

Has a developing programme of work with communities.

- FoE England, Wales and Northern Ireland
www.foe.co.uk
- FOE Scotland
www.foe-scotland.org.uk

Every Action Counts

www.everyactioncounts.org.uk

The national organisation that supports environmental action by community groups, with a wide range of resources and a useful monthly newsletter.

ACRE (Action with Communities in Rural England)

www.acre.org.uk

The national umbrella of the Rural Community Action Network (RCAN). They promote a healthy, vibrant and sustainable rural community sector.

Community Planning

www.communityplanning.net

A website with lots of useful information about organising events around planning issues within local communities.

Energy advice

Centre for Sustainable Energy (CSE)

Tel: 0117 934 1400

info@cse.org.uk

www.cse.org.uk

A national charity that works with people and communities on environmentally sound and affordable energy services.

Energy Saving Trust

Tel: 0800 512 012

www.energysavingtrust.org.uk/help_and_support/local_energy_saving_advice

A national body covering all aspects of energy saving, with a number of local advice centres.

Waste and recycling

Community Recycling Network (CRN)

Tel: 0117 942 0142

www.crn.org.uk

A network of over 400 projects. Offers advice on starting local waste projects.

ENCAMS

Tel: 01942 612621

www.encams.org

Runs the Tidy Britain campaign and can advise on community action on litter, fly-tipping and other issues.

Green spaces

BTCV

Tel: 01302 388 888

www.btcv.org.uk

The largest conservation charity. Works with about 2,500 local community groups and can advise on projects, tools, insurance and much more.

Federation of City Farms and Community Gardens

Tel: 0117 923 1800

www.farmgarden.org.uk

Links 59 city farms and almost 1,000 community gardens, and can help you get one started.

GreenSpace

Tel: 0118 946 9060

www.green-space.org.uk

Works to improve parks and green spaces by raising awareness, involving communities and supporting professionals to promote regeneration of parks and open spaces throughout the UK.

Transport

Living Streets (formerly the Pedestrians Association)

Tel: 020 7820 1010

www.livingstreets.org.uk

Works on practical projects to create safe, vibrant and healthy streets for all.

Sustrans

Tel: 0845 113 00 65 / 0117 926 8893

A sustainable transport charity, working on practical projects that benefit people's health and the environment, and responsible for the National Cycle Network.

Food

Sustain

Tel: 020 7837 1228

www.sustainweb.org

The 'alliance for better food and farming'. Links around 100 national public interest organisations and runs the Food Access Network and many other campaigns.



London 21 Sustainability Network promotes, supports and networks community-based initiatives for a greener, healthier and more sustainable Greater London. We are a network of community groups, individuals and representatives who work in all parts of Greater London. We are a registered Charity and have been operating since 2000.

Registered charity number: 1100406

London 21 Sustainability Network

Unit LS2

The Kensington Charity Centre
Fourth Floor, Charles House
375 Kensington High Street
London W14 8QH

Telephone: 020 7471 6795 / 020 7471 6796

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