



# HILLINGDON

LONDON

## Residents' and Environmental Services Policy Overview & Scrutiny Committee Review Scoping Report 2011/12

### OBJECTIVE

**Review of Mobile Technology and Telecommunications Equipment in Hillingdon Borough and beyond**

#### **Aim of review**

To look into the future growth of mobile telephone masts and ancillary equipment and the effects on the residents and environment of Hillingdon and beyond.

#### **Terms of Reference**

1. To explore the future of mobile phone technology, e.g. 4G/5G and the transmission facilities that will be required
2. To review the Council's existing planning policies on the installation of mobile phone masts generally, e.g. on roofs and specifically in relation to council owned premises;
3. To investigate the new generation of telecommunications and explore new designs of telecommunications masts;
4. To explore how local authorities liaise with mobile phone operators and their subsidiaries over mobile phone mast locations;
5. To investigate the appropriate use of phone masts in localities and their design within the local environment
6. To explore the views of residents, residents' associations and other key stakeholders who experience mobile phone masts in their vicinity or use mobile telephones, e.g. businesses.
7. To identify further opportunities for the sharing of mobile phone masts within the current regulatory framework
8. To examine best practice through information-sharing with other local authorities at home and overseas
9. To present the Committee's findings and any recommendations to Cabinet for consideration as Council policy.

### **Reasons for the review**

Although the demand for mobile and wireless products and services is increasing as technology develops and consumer demand increases, Hillingdon residents are increasingly concerned as to the escalating number of planning applications being received for larger masts and ancillary equipment and the effect these are having on the environment and landscape.

The review would investigate the following:

- views of resident and key stakeholders
- the future demand for mobile technology
- the effect on transmission facilities required
- how such technology could be shared by mobile phone operators
- how operators might be encouraged, by public opinion, or required, by regulation, to use such technology in such a way as to alleviate residents' concerns, particularly over their siting.

The review would also cover current national and local planning policies, including the Hillingdon policy dating from April 2007 following a Policy Overview Committee review: "Cabinet agreed that the moratorium is lifted and replaced with a more flexible policy that allows telecommunications equipment to be installed on Council owned property, land and buildings subject to each site being considered on an individual basis. We propose Cabinet asks officers to devise a suitable process for dealing with applications that ensures elected Members consider each site."

The review would focus primarily on 'environmental' effects rather than any health issues.

### **Supporting the Cabinet & Council's policies and objectives**

It is hoped that this review will propose a better balance of regulation / control of mobile phone masts within local environments with the overwhelming public demand for such services, which will only grow into the future.

## **INFORMATION AND ANALYSIS**

### **Key Issues**

- Concerns about the increasing number of planning applications for larger masts and ancillary equipment and the effect these were having on the environment
- Investigating future design of telecommunication masts

### **Remit**

- Phone mast operators
- Manufacturers of phone masts
- Current national and local planning policies
- The Hillingdon Policy (2007) following the review by the Policy and Overview Committee

### **Connected Policies**

Hillingdon Planning Policies

<http://www.hillingdon.gov.uk/index.jsp?articleid=12930>

Planning Policy Guidance 8: Telecommunications

<http://www.communities.gov.uk/publications/planningandbuilding/ppg8?view=Standard>

Annual Roll-Out Plan

[http://www.hillingdon.gov.uk/media/excel/0/5/roll\\_out\\_plan\\_2010\\_to\\_2011.xls](http://www.hillingdon.gov.uk/media/excel/0/5/roll_out_plan_2010_to_2011.xls)

Application form

[http://www.hillingdon.gov.uk/media/pdf/n/8/020\\_Application\\_for\\_Prior\\_Notification\\_of\\_Proposed\\_Development\\_by\\_Telecommunications\\_code\\_system\\_operation.pdf](http://www.hillingdon.gov.uk/media/pdf/n/8/020_Application_for_Prior_Notification_of_Proposed_Development_by_Telecommunications_code_system_operation.pdf)

## **EVIDENCE & ENQUIRY**

### **Witnesses**

The year long review by the Committee will take evidence from:

- Mobile Telecommunication Companies – Orange, O2, Vodafone, 3
- Mobile Operators Association
- Network Railways were replacing current systems and were installing masts – could ask for a representative to attend meeting
- The Airwave system currently used by emergency services for their own telephone network. We could ask them if they are going to be active in the future
- Apple
- BT
- Virgin Mobile
- BskyB
- Ofcom
- LBH ICT Service
- Birmingham City Council
- East Lincolnshire Council
- Haringey Council
- Greater London Authority
- Home Office
- Hillingdon Chamber of Commerce
- Royal Borough of Windsor and Maidenhead telecommunications team
- European Union: Council for Communications
- LBH Local Development Framework team
- The Phone Mast Company
- Mobile Broadband Networks Limited
- Chairman of Hillingdon Planning Committees
- St Johns Church, Hillingdon
- Residents' Associations
- Bill Ogden, Corporate Landlord, as installation of mobile phones involves the use of Council land

## Potential Lines of Enquiry

### Technology

Should we be cautious of this new technology?  
What happens if a household is near to several different transmitters at the same time?  
What is a 'beam of greatest intensity'?  
Isn't the difference that mobile phones use 'pulsed' radio waves?  
Do mobile phone transmitters interfere with other electrical devices?  
Do masts affect members of the public who wear pacemakers?  
How much power is emitted by a phone mast?  
What is the frequency of the radiation?  
How do these figures compare with the radiation emitted by a domestic wireless router? And a mobile phone?  
Where locally is there an example of a similar mast/flagpole already in operation that we could visit?  
Can antenna be placed inside lampposts?  
Do 3G phones use lower frequencies?

### Science

What are radio waves?  
Does 3G technology mean more masts? Or mast sharing?  
What is the 'heating effect'?  
How close do you have to be to experience the heating effect?  
Shouldn't we use the precautionary approach in dealing with phone masts?  
What research is there?  
Does all this research suggest that the authorities are worried - and that we are right to be as well?  
What is the difference between good and bad quality science?

### Mast Locations

Do we need new masts?  
How do you choose new sites?  
Do you need agreement from the property owner?  
Do you need planning permission?  
What are the main issues on deciding on an application for a phone mast?  
Is visual amenity and character of the area taken into consideration?  
What is the radius for network around a phone mast?

### General

What are telecommunications developments?  
Do all telecommunications developments require permission?  
How can I find out about any proposals for mobile phone masts near to me?  
What are the main issues in deciding on an application for this type of development?

How do I comment on applications for mobile phone masts?  
 Can I object to a mobile phone mast because of concerns over health impact?  
 Can I find out where existing telecommunications masts or antennae are near to my home or work?  
 What forms of mast sharing can take place?  
 How much does a mast cost to manufacture?  
 What is the time delay between gaining planning permission and placing a mast?  
 Does European Law affect placement of masts within the UK?  
 What are the advantages in placing a phone mast?  
 Can signal boosters be used in place of phone masts?  
 How do phone masts connect to the phone network?  
 To what extent does phone mast placement affect house prices?

### Information & Intelligence

Research into reviews already undertaken in this area by other local authorities

### Consultation and Communications

Views of residents, residents associations and other stakeholders by SNAP survey online and emails

## PROPOSALS

*To be announced*

## LOGISTICS

### Proposed timeframe & milestones \*

Meeting	Action
26 July 2011	Agree Scoping Report
13 September 2011	Witness Session 1
6 October 2011	Witness Session 2
15 November 2011	Witness Session 3
7 December 2011	Witness Session 4
17 January 2012	Witness Session 5
15 February 2012	Conclusions and Recommendations
7 March 2012	Draft Final Report
10 April 2012	Agree Final Report

\* Specific meetings can be shortened or extended to suit the review topic and needs of the Committee.

## BACKGROUND

A mast is a freestanding structure which supports antennas at a height where they can transmit and receive radio waves. When you make a call, your mobile phone transmits a signal to the nearest base station; the signal is then

transmitted through mobile and fixed line networks to connect to the person receiving the call.

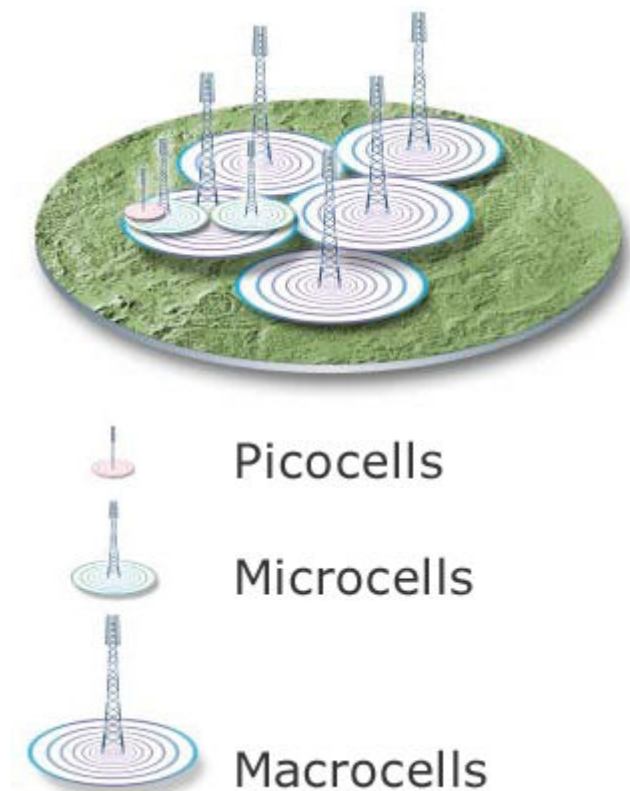
There are about 70 million mobile phones in use in the UK - more than one phone for every person. Many people have a work and a personal mobile, or a mobile and a laptop data card, and mobile phones are used in at least 85 per cent of all households.

This large number of mobile phones cannot work without the network infrastructure needed to route connections. And installations must be placed close to where people use their phones.

Government policy is to help the growth of new and existing telecommunications systems while minimising the environmental impact.

### How mobile phone networks operate

A mobile phone must have a wireless connection to a base station in order to make a call. A base station is no more than a wireless telephone exchange, designed to provide local connections, with wider links to other national and international networks.





Each base station provides coverage over a limited area, or cell, in the area around the site. That's why in some countries mobile phones are called cell phones. To offer comprehensive network coverage, the cells must overlap each other like a patchwork quilt, so that users can move from one cell to another without breaking connection. As each cell can only handle a limited number of calls, the density of base stations has to be high in areas of heavy use.

The UK government received 22.6 billion pounds from selling the 3rd generation licences in 2000, and total mobile phone related tax revenue now exceeds 20 billion pounds per year. Neither Government nor industry wants to restrict the use of phones or the location of the base stations.

There are many factors that affect the signal levels at any location. These include the number of operators and systems; the tilt and angle of the antennas; the geography of the area and the distance the base-station needs to cover. Microwaves are reflected off flat surfaces. The level of microwaves in an area will depend on things like metal roofs, lamp posts and other structures, building materials and structural additions, cars and lorries, etc.

The only way to know for certain how a particular place, such as a house, flat, school or workplace, is affected by environmental microwave radiation is to measure the exposure.

There is a UK government website which has a reasonably accurate map of the masts currently integrated into the national network. Details are only put up when the mast is up and running. Ofcom, which maintains the site, depends on the phone operators to give them accurate information about the base station. They update the site every 3 months.

Some mobile phone operators are going to extraordinary lengths to conceal the masts that form their networks. They are being disguised as chimneys, clocks, windows, drainpipes, even as weathervanes, all in an effort to meet the demands of planning departments.

Controversy often surrounds applications to site phone networks. Mobile operators were recently barred from putting the masts close to schools in the UK; many parents had said they were worried about health and safety implications. But the number of masts around the country is set to increase, as networks upgrade to second and third generation mobile technologies.

Each British mobile network has about 8,000 cells, which means about as many masts, and the maximum size of a cell is 35km. In third generation (3G) mobile networks the cell can be a maximum of 8km wide, which means they need lots more masts.

### **Mobile abuse**

Masts used to be about 30 metres high but as technology improves shrink. Some firms have used fake trees as masts which resembled Scots pines, put in the bird muck, the pollution, everything. The result is that phone masts become utterly invisible.

The support pole for the golden angel weathervane on Guildford Cathedral is actually a mobile mast and supports several antennas. In return for using the site, which sits on a hilltop and is a coveted location, the angel was regilded. The street sign for Northumberland Avenue in Westminster is also a plastic sign hiding a few antennas. Dotted around Britain are fake chimney pots, fake flagpoles, fake drainpipes and fake signs all made of glass-reinforced plastic and concealing mobile antennas.



At the Town Hall clock in Hungerford in Berkshire antennas are mounted at the centre of each of the four faces of the clock next to the hands. The four faces have been renewed and the clock hands themselves have been replaced with glass-reinforced plastic versions that have been balanced to ensure the clock keeps the right time.



### Planning Laws

Equipment on masts over 15 metres high, and other limited, special circumstances, need full planning permission. Small additional changes do not need permission. Several companies can share a mast or site. Lower

height antennas, including those mounted on lamp-posts do not need full planning permission.

### Press

- You Tube: <http://www.youtube.com/watch?v=bADQQEpirAA>
- Facebook Groups
  - People against phone masts –  
<http://www.facebook.com/group.php?gid=17369597151#!/group.php?gid=17369597151&v=wall>
  - We hate phone masts disguised as trees –  
<http://www.facebook.com/home.php#!/group.php?gid=2255669130>
  - Mobile Phone Masts -  
<http://www.facebook.com/group.php?gid=105989366087911>
  - Phone Masts -  
<http://www.facebook.com/home.php#!/group.php?gid=2255669130>

### Officer Involvement

Head of Planning & Enforcement and Head of ICT to act as Lead Officers, guided closely by Democratic Services Officer.

### Equality Implications

The Council has a public duty to eliminate discrimination, advance equality of opportunity and foster good relations across protected characteristics according to the Equality Act 2010. Our aim is to improve and enrich the quality of life of those living and working within this diverse borough. Where it is relevant, an impact assessment will be carried out as part of this review to ensure we consider all of our residents' needs.

### Related Work

Ofcom Sitefinder website

<http://www.sitefinder.ofcom.org.uk/>

RESPOC working group review on the siting of major telecoms equipment in the borough

[http://www.hillingdon.gov.uk/ctteedocs/other\\_decisions/telecoms\\_working/rep\\_telecoms\\_working\\_14mar07.pdf](http://www.hillingdon.gov.uk/ctteedocs/other_decisions/telecoms_working/rep_telecoms_working_14mar07.pdf)

<http://www.hillingdon.gov.uk/media/pdf/h/9/telecom equip.pdf>

Birmingham City Council review

<http://www.cfps.org.uk/scrutiny-exchange/library/environment-and-planning/?id=904>

Haringey Council Review

<http://www.cfps.org.uk/scrutiny-exchange/library/environment-and-planning/?id=1132>

North East Lincolnshire Review

<http://www.cfps.org.uk/scrutiny-exchange/library/environment-and-planning/?id=441>

Stoke-on-Trent Review

[http://www.moderngov.stoke.gov.uk/Published/C00000407/M00002916/AI00016333/\\$coverreportMobilephonemastsreport.docA.ps.pdf](http://www.moderngov.stoke.gov.uk/Published/C00000407/M00002916/AI00016333/$coverreportMobilephonemastsreport.docA.ps.pdf)

Useful video:

[http://www1.orange.co.uk/about/phone\\_masts/index\\_flash.html](http://www1.orange.co.uk/about/phone_masts/index_flash.html)

### **Agenda/Minutes Documents**

All public documents will be available for Councillors/Public/Press to view online or by contacting Democratic Services.

### **Definitions**

#### **Antenna**

The part of the radio system through which a radio signal is transmitted and received.

#### **Transmitter**

The electronic equipment needed to generate and send radio waves which are fed to the antenna.

#### **Mast**

The structure that supports the antenna in a position high enough for signals to reach over a wide area.

#### **Base station**

Mast, transmitter, receiver, antenna and any other supporting equipment.

#### **GSM**

Global System for Mobile communications, the second generation (2G) digital technology originally developed for Europe but which now has in excess of 71 per cent of the world market.

#### **3G**

A new standard for mobile phones that will allow the transmission of much larger amounts of data - a type of mobile 'broadband'.

#### **Microwave**

Microwave means 'very small wave' and refers to the fact that radio signals in this band have shorter wavelengths - and higher frequencies - than long, medium or short-wave radio.