GLOBAL GUIDELINES

ON OUT-OF-HOME AUDIENCE MEASUREMENT

VERSION 1.0

Sponsored and published by
ESOMAR

In collaboration with
American Association of Advertising Agencies
China Association of National Advertisers
FEPE International
European Association of Communications Agencies
Media Rating Council
Outdoor Advertising Association of America
World Federation of Advertisers

WORLD **ESOMAR** RESEARCH

GLOBAL GUIDELINES ON OUT-OF-HOME AUDIENCE MEASUREMENT VERSION 1.0

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FOREWORD

Out-of-home is one of the oldest advertising media in the world. It is a medium which is present in the environment, rather than being delivered by a particular platform. The lack of a defined platform has made it difficult in the past for media researchers to provide measures of the audience which are comparable to audience measurements for other media. But this is now changing.

Recent advances in technology mean that it is possible to get more accurate measurements of individuals' mobility and therefore make more reliable estimates of the number of people potentially exposed to out-of-home advertising campaigns. Advances in understanding the psychology of perception have also allowed audience researchers to go beyond taking a "simple measurement" of the number of people passing a panel to developing a rigorous measurement of the number of people who will look at "a poster", i.e. a measure of ad exposure..

The Global Guidelines on Out-of-Home Audience Measurement Group has produced this first version of a global guidelines to exploit the opportunity created by these changing technologies. We want to introduce consistent and realistic measurement of audiences for out-of-home advertising around the world and to promote best practice at the national level.

The Guidelines have been labelled version one because there are still differences in some aspects of the methodologies being used internationally. Our intention with this version is to provide standard definitions, promote best practice, require transparency and encourage experimentation. The aim is to improve the accuracy of the out-of-home measurements being made and to encourage international comparability. We look forward to the next version of the Guidelines being able to recommend a more standardised approach to the process of visibility adjustment than has been possible in this first version. In the next version of the Guidelines it is also intended to address the issue of panels displaying full motion video.

ESOMAR sees this initiative as part of its mission to facilitate international working in market research and to encourage consistent standards worldwide. We have a long history of supporting the development of worldwide media measurement standards and we see a demand for international harmonisation in out-of-home audience measurement as well as comparability to other media measurement and metrics.

We would like to thank everyone who has participated in the development of these guidelines notably the key industry associations from around the world. We received a wide array of constructive and helpful comments from the industry in response to the first official draft which was circulated for consultation at the end of last year. We would particularly like to thank the members of the Technical Committee who gave freely of their time over almost two years in developing this first version. Our hope is that this Guideline will continue to be enhanced and improved for the benefit of all stakeholders.

Gunilla Broadbent

ESOMAR President
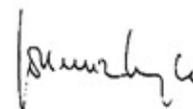
Dominic Lyle

EACA Director General
Chairman Guidelines
Steering Board

1. INTRODUCTION

Recent developments in technology have made it possible to significantly improve the accuracy of audience measurement for of out-of-home advertising.

These guidelines have been developed to exploit the opportunity created by this changing technology to introduce consistent and realistic measurement of audiences for out-of-home advertising around the world and to promote best practice at the national level. These guidelines:

- provide a consistent set of definitions for key elements of the measurement
- recommend minimum data which should be provided to users
- provide a clear statement of operating principles and describe best practice
- encourage international harmonisation and methodological consistency

This first version of the Guidelines does not define a single standard methodology, since the intention is to allow innovation to continue. This is a medium which, for reasons of its history, is at widely differing levels of development internationally. Nevertheless there is a growing commonality in methodology emerging in many markets undertaking audience measurement today. We hope that the publication of these guidelines will encourage methodological transparency and experimentation, making it possible for subsequent revisions of the Guidelines to set minimum standards that will increase the accuracy, consistency and standardisation of measurement worldwide.

2. BACKGROUND

These are the first guidelines for the worldwide measurement of out-of-home media. They have been modelled on the very successful Towards Global Guidelines for Television Audience Measurement which were produced by the joint-industry "ARM" (Audience Research Methods) Group, and published by the European Broadcasting Union in 1999.

The Guidelines have been prepared with the active support and involvement of the following organisations which made up the steering board:

American Association of Advertising Agencies
China Association of National Advertisers
ESOMAR
European Association of Communications Agencies
FEPE International
Media Rating Council
Outdoor Advertising Association of America
World Federation of Advertisers

The guidelines were sponsored by ESOMAR and developed by a technical committee. The membership of the steering board and technical committee is given in Annexes 6 and 7.

The reason for developing these guidelines was a desire to produce consistent and realistic measurement of the audience for out-of-home advertising around the world and to promote best practice at the national level. Developments in technology and the understanding of human perception have made it possible to produce more accurate and detailed audience measurements than is economically possible using survey sampling methods alone, given the level of investment in out-of-home audience measurement in most countries at present. A combination of survey and modelling commonly known as an "integrated approach" has been developed in a number of countries to exploit these developments.

The purpose of these guidelines is to explain current best practice for countries and markets which are considering introducing, or updating, their measurement of out-of-home audiences and also to enable the introduction of a degree of consistency of approach, in order to ensure that the measurement of exposure is comparable between countries and markets.

3. OBJECTIVES

The objective of these guidelines is to provide worldwide industry guidance for out of-home audience measurement, including definitions, methodologies and standards, with the aim of improving the accuracy and international comparability of audience measurement data across out-of-home formats and with other media currencies. The guidance is intended to be flexible enough to enable appropriate measurement systems to be designed for markets as disparate as Turkey, Brazil and India. It allows scope for measurement systems to evolve as markets become more sophisticated and out-of-home audience research budgets increase.

3.1 DEFINITION OF OUT-OF-HOME MEDIA

For the purpose of these guidelines out-of-home media is defined as any display on a permanent panel displayed outside the home, but not on panels providing full motion video. It is accepted that this definition excludes new developments in digital display, but this is a fast changing area and has been left for a future revision of the Guidelines. Nevertheless it is accepted that many of the principles outlined in this document will apply to this form of the medium.

4. TARGET AUDIENCE FOR THESE GUIDELINES

The following types of organisation are explicitly identified as potential beneficiaries of these guidelines:

- Out-of-home advertising providers
- Advertisers
- Advertising agencies
- Specialist out-of-home advertising agencies
- Media agencies
- Research suppliers
- Audit organisations

The document should be found useful at a number of levels in such organisations:

- Senior management
- Marketing and sales management
- Practising professional researchers
- General media planners, out-of-home planners and buyers

Accordingly the detailed objectives of these guidelines are to:

- establish an international consensus on the research methods to be used to deliver the most valid and reliable audience estimates for the out-of-home medium.
- identify and publish good professional practice for the design and operational procedures of out-of-home audience measurement.
- identify and where possible discourage practices that fall short of proven standards where tested and widely accepted evidence exists, while recognising different practices where conclusive evidence of the superiority of one particular approach is not available.

- encourage a commitment by all sectors of the out-of-home research community to such standards as will enable all users of the medium to access and compare data between media at a national level and also across the globe on a comparable basis.
- support a continuing international research debate to stimulate improved methodologies for the collection and reporting of out-of-home audiences.

5. PRINCIPLES

Underlying the framework and the detail of the operational guidelines are ten basic Principles that apply generically to media research and specifically to out-of-home audience measurement:

5.1 MEETING TOTAL MARKETPLACE NEEDS

The out-of-home audience measurement system needs to be designed to cover the total out-of-home marketplace of the country or market in question and the different types of people interacting with the advertising. It should set out to meet the needs of all categories of users of such information.

5.2 EFFECTIVE INDUSTRY CONSULTATION

Full consultation should at all times take place between the research company or companies and all users of out-of-home audience information. In countries where joint industry bodies manage the system, consultation is inherent to the structure. In other markets specific steps are required to ensure that consultation with the user community is systematic and effective. Industry technical advisory bodies should exist, to ensure an ongoing collective dialogue with research providers, the media and clients.

5.3 TRANSPARENCY

The full detail of methodological procedures and supporting validations shall be openly available to all subscribers. The user is then able to understand and make allowances for whatever compromises have been necessary in a particular market, where the system falls short of the ideal.

5.4 OPTIMAL RESOURCE ALLOCATION

Research resources should be deployed effectively and the budget available for the research should take into account the requirements of the commercial decisions to be based upon the information provided and the needs of the market.

5.5 SCIENTIFIC METHOD

The research methods need to be scientifically based. It is important to strive for system validity and reliability. By system validity we mean that it actually measures what it purports to measure. By reliability we mean that it would yield very similar findings if independently carried out a number of times.

5.6 BEST RESEARCH PRACTICES

For most elements of data collection and reporting there is an ideal or best practice procedure that should be observed where possible. While departures from this ideal usually involve compromises, there may be other acceptable procedures that can and should be adopted. In all circumstances the principle of Transparency (above) needs to be rigorously observed.

5.7 QUALITY CONTROL

Rigorous and systematic quality control procedures need to be deployed for each element of fieldwork, data collection, editing and reporting. Audience measurement systems would normally be expected to conform to all relevant national and international codes of conduct (e.g. the ICC/ESOMAR Code of Conduct etc. see Annex 5).

5.8 MAXIMISING RESPONSE

The burden placed on respondents should be minimised, in the interest of high response rates, minimum exposure to bias and towards the gathering of accurate and reliable information. Equally, the respondent's right to privacy and confidentiality shall be respected at all times.

5.9 EQUAL ACCESS

It is in the interest of fair competition that all user groups share the same conditions and a fair price for access to audience data, contributing to:

• Openness of the measurement systems themselves.
• Even trading conditions between buyers and sellers of out-of-home advertising space.
• Maximum use of data that have been relatively costly to collect.

5.10 METHODOLOGICAL EXPERIMENTATION

Research organisations are encouraged to be innovative, and in particular to conduct carefully controlled experiments of alternative measurement procedures. Their methodologies and outcomes shall be fully documented and publicly available to all user groups.

6. ORGANISATION, CONTROL AND FUNDING

The governance of an audience measurement system has an important part to play in ensuring the production of data that meet the requirements of all users. In principle three types of organisational structure exist – though in practice around the world there are variations around each.

6.1 SUPPLIER'S OWN SERVICE (OS)

A research company or individual media company supplies audience data as a private commercial venture, and signs multiple individual contracts with purchasers of the data. It is expected that OS Systems will make formal provision for regular user consultation via user technical committees, and be subject to independent audit and accreditation procedures involving active participation of the key stakeholders in the industry.

6.2 USER SECTOR COMMITTEE

A number of users award a contract for a specific service and thereby guarantee the funding. A common example of this type of structure is the Media Owner Committee (MOC). Advertisers and agencies are then not involved in specifying the terms of the MOC licence or in supervising the contract, but they should be able to participate in user technical committees. Failure to engage in formal and regular consultation with all users of the system, in particular advertisers and agencies is unacceptable. The media owners may hold the copyright, or may permit the research company to retain the copyright and sell data to other parties.

6.3 JOINT INDUSTRY COMMITTEE (JIC)

The research company or companies conducting the fieldwork and data processing holds a contract with a formal Joint Industry Committee of representatives from the media owners, the advertisers and the agencies. The JIC typically draws up a specification for the service, invites tenders, awards the contract, supervises the service, owns the copyright and determines the licensing conditions and terms of access. The day to day management and technical functions will often be delegated to representative management and technical advisory committees.

Providing all sectors of the industry are represented, the principle of Effective Industry Consultation is inherent to a JIC structure. It ensures that all sectors of the industry are consulted and involved in the design and management of the system, and that it is customer led in its priorities. This is especially important because in any particular market funds willb rarely be available to support more than one audience measurement system. It ensures that the research system is customer led in its priorities, with built in arrangements for ensuring full consultation between all interested parties at all stages of the research. All users contribute to the drawing up of an agreed specification, to evaluation of competitive tenders received, to awarding a contract and to supervising its execution. The relationship between the JIC and the chosen research contractor is then the foundation for developing and maintaining a professional service for a fixed term, based on a specification drawn up by all prospective users of the system.

Market conditions and cost considerations will determine the form of organisation chosen. Likewise, the financing arrangements will have to be determined by each country in the light of its own circumstances. These organisational and funding arrangements are all aimed at striking a proper balance between the responsiveness and the independence of the audience measurement service. Whatever the organisational arrangement, it is a continuing challenge to achieve an audience measurement system which is both fair to all participants (across all sellers, across all buyers and between buyers and sellers) and open to all participants (through appropriate disclosure, discussion and participation).

Whatever type of organisation and funding arrangements are adopted to fulfil the Principles outlined above, it is recommended that:

- Formal procedures should be adopted to ensure that the service satisfactorily meets user needs. User representative groups should have an effective say over the service and the data which are provided.
- All aspects of research methods must be open to inspection. It is vital to user confidence that research methods be transparent. This may be taken care of partly through the specification of quality control and validation procedures, but also through independent audit and accreditation procedures. Only by such transparency can users properly evaluate what is going on and check independently the performance of the data supplier.
- Different user groups should share the same conditions of access for data used for trading. Such unrestricted access contributes to the openness of the system, guarantees even trading conditions in terms of audience information between buyers and sellers and facilitates maximum exploitation of the data.
- Data suppliers should ensure that their survey methods conform to all relevant national and international codes of conduct.

7. OUT-OF-HOME AUDIENCE MEASUREMENT

7.1 INTRODUCTION

The out-of-home medium is unlike any other medium. Instead of the advertising being delivered to the individual while they are engaged in some way with the delivery platform by, for example watching television, listening to the radio, reading a magazine or using a computer, the advertising is on a fixed panel and is only available to be seen by the individual if they come within range. This means that the primary element in any measurement of outdoor audience is to establish the number of people who see a given panel in a specified time period.

A simple way to understand the measurement task is to consider a person moving around outside their home. Every so often they will pass an advertising panel. Some panels will be large, some will be small (e.g. on bus shelters or street furniture), some will be facing the individual, some will be only partially visible because they are at an angle to the road, or invisible because they are facing away from the person towards people coming the other way. They may be on the roadside or set back, inside a building, on buses or trams and they may be partially obscured from some viewpoints by buildings, street signs or other obstructions. The visibility of the panel will depend on the size of the panel and on how it is sited. The chance that the individual will see the advertising message also depends on what they are doing and the length of time it takes to pass the panel while it is visible.

Taking account of all these factors has become possible as a result of recent developments in geographical information systems, as a more sophisticated understanding of mobility behaviour and human perception has been developed and as the computing power has been available to do the calculations needed to calculate the actual audience for each panel from the raw figure of the number of people passing it in a given time period.

The large number of panels and their geographic dispersion may require a different approach to measurement from other media. It may make straightforward user centric measurement based solely on sample surveys very costly, except in relatively small geographic areas. This is because very large sample sizes are needed to ensure that numbers and profiles of people are measured with sufficient accuracy to provide a reliable basis for planning and buying display space. The measurement of out-of-home media audiences in most countries therefore relies on a combination of survey data and mobility modelling to enable the audience for all panels to be estimated sufficiently accurately for the market to operate, while keeping the cost of measurement to an acceptable level.

There are a number of elements which go to make up this approach to out-of home measurement:

• A clear statement of the geographic area and population being surveyed
• An accurate list of the type, position and visibility of all display panels
  being measured
• A survey of individuals' behaviour
• An estimate of the number of people in the target universe passing every panel
• An adjustment of the gross numbers to correct for the likelihood that a panel
  will be seen
• Additional traffic count or movement data at roadside level not derived from
  the survey data.
• The level of sophistication of each of these elements will depend on the
  information available in a given market and the money available to conduct
  the measurement.

7.2 DEFINITIONS

7.2.1 Full Motion Video

A display which shows moving images in the same way as a TV screen, not one where the display panel changes at regular short intervals or a digital display that shows static images, which may change at regular short intervals

7.2.2 Mobility

For the purposes of these Guidelines mobility is used to mean any movement or journey between points outside the home, whether on foot, in or on a vehicle.

7.2.3 Out-of-home Advertising

For the purpose of these guidelines, out-of-home advertising is defined as any display on a permanent panel displayed outside the home, but not on panels providing full motion video.[1]

7.2.4 Opportunity To Contact (OTC)

An Opportunity To Contact occurs when an individual passes a panel and is able to see it. This is usually calculated by combining data from surveys and/or mobility modelling with information about the type, positioning and illumination of advertising panels as described in Section 7.6.1.

7.2.5 Visibility Adjusted Contact (VAC)[2]

A Visibility Adjusted Contact is the number of people who will look at a given poster on a site at least once, based on the characteristics of the site itself and the behaviour of the individual. The method for calculating a Visibility Adjusted Contact takes Opportunity To Contact and applies visibility adjustment as described in Section 7.6.

7.2.6 Permanent Panel

Any display panel that is permanently fixed to an object, for example to a wall, a bus shelter, a bus or a train.

7.2.7 Satellite Positioning Systems

In this document we use satellite positioning systems as a generic term to describe any satellite positioning system including GPS.

7.2.8 Traffic Data

Traffic data is the volume of vehicular or pedestrian traffic past a known and defined road segment relative to the panel derived from a source which is independent of the mobility survey.

7.2.9 Visibility Adjustment

Visibility adjustment is derived from research in cognitive psychology and estimates the probability that an individual who has an Opportunity To Contact a panel is likely to have looked at the advertising message on the panel. This is an adjustment applied to the Opportunity To Contact audience estimates based on elements such as direction

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1 This definition excludes new developments in digital display, but this is a fast changing area which has been left for a future revision of the Guidelines.
2 Best practice is to apply visibility adjustment to the Opportunity To Contact.

and speed of travel, the size of the panel, the siting of the panel, the extent to which the panel is obscured as the individual passes it, frequent automated changes in the message displayed and the visual complexity of surroundings. The purpose is to get as accurate an estimate as possible of the number of individuals who look at the advertising, rather than the total number passing a panel.

7.3 POPULATION AND MOBILITY MEASURED

7.3.1 Population

The population covered by the audience measurement system must be clearly described and the universe to which it will be projected should be from an accepted independent source and accurately known. As a minimum, the system should aim to cover the universes commonly used by other media in the country being surveyed. It is recommended that the design of a measurement system should always be based on planning for a full national measurement, even if it is agreed to start with a limited market by market roll out.
In order to facilitate integration with other media it should be possible to analyse the data by industry standard geographic units.

Some advertising panels will be targeted at individuals who will be moving through the area rather than resident in it (e.g. panels on highways, transportation systems, airports and stations etc.). If the geographic unit is small, the system should also cover people within the defined universe moving into or through the area, for scaling up to larger geographic areas.

7.3.2 Measuring mobility

It is important that the description of the population also lists the types of movements which are measured by the system and estimates the proportion of all mobility, within or through the geographic area being measured, that is accounted for by each type of movement covered by the measurement system.

Examples of movements which may be covered are:

- by car (passenger or driver)
- by taxi
- on foot
- by bicycle
- by motorcycle, scooter, moped
- by train
- by subway, underground
- by bus, tram
- by ferry

7.4 SURVEY

7.4.1 Purpose

The objective of the survey is to measure the mobility of a sample of the population, in order to establish the numbers and profile of people passing panels to enable the calculation ofm reach and frequency for campaign planning purposes and for comparison with other media.

7.4.2 Survey methodology

As pointed out in the introduction single survey samples need to be very large to provideaccurate audience measurement. In many cases a sample size adequate to measure theaudience for all, or even a majority of panels, accurately can prove unacceptably costly when judged against the principle of Optimal Resource Allocation (See 5.4). For this reason most audience measurement systems use some kind of mixed or hybrid methodology in which survey results are combined with mobility modelling and traffic data to simulate the audience for panels where there is insufficient or no survey data.

A number of methods are used to collect information about mobility and these are often used in combination:

• Satellite tracking devices carried by respondents
• Travel diaries, paper or electronic, keeping records of all trips
• Recall questions, typically for the previous day – recall of mobility over longer periods of time than a day or two is likely to lead to short unscheduled trips being missed.

The primary survey data should be collected for at least a week and ideally for fourteen days to allow measurement of two weekends, since weekend movements may be very different from weekday behaviour and from each other. This may be augmented by other survey data of shorter duration to improve the representativeness of the survey.

Satellite positioning systems are now sufficiently affordable, sensitive and portable that a tracking device can be carried by large numbers of survey respondents. There are a number of technical problems with satellite positioning systems which are described in Annex 1 and compliance, in termsof getting a representative sample of respondents to carry the device at all times, is also an issue. This is discussed further in Annex 2. However, this method appears to offer the best solution to measuring mobility in situations where the technical problems can be managed to a reasonable level. The technology of satellite positioning devices is advancing rapidly both in terms of sensitivity and functionality. The presence of an accelerometer in the latest devices means that type of travel can be inferred and also whether the device is being carried.

When recovering the device from the respondent it is possible to establish the reasons for missing data and to collect information by interview which can be used to replace it. The users' technical committee should be entitled to request a detailed explanation of the methods used for editing the information collected and for dealing with any missing data. The extent of any imputation or adjustment for missing data should be made available as part of the technical report on the survey.

Travel diaries, particularly where the data is recorded directly onto an electronic map using a computer or PDA, are an acceptable way of collecting mobility information in situations where compliance will be difficult to obtain, or the cost of electronic data collection is regarded as too expensive, or where satellite positioning systems are unlikely to be reliable.

Where a diary is used it is important that the information collected about each trip is as detailed as possible, which is where a mapped approach using a PC or PDA has an advantage. It is possible to provide extra accuracy to a diary by using a mixed methodology where some respondents record their movement on a map, either by

carrying a satellite tracking device or manually, and others simply record key points on their travel. The movements where only key points are known can be converted into more detailed mobility information using some inferential modelling accepting that there will be a reduced level of accuracy.

When using diaries steps need to be taken to ensure that the respondent keeps them up to date, rather than completing the diary from memory on the last day before it is collected. An electronic diary makes ensuring this easier, since the date and time of completion is recorded and prompts can be generated to remind respondents to complete it. If a diary is used to collect mobility information, it is important that it covers at least a full week, ideally at least fourteen days including two weekends.

Where campaigns are likely to run for longer than two weeks best practice is to run the survey collection for longer. However, compliance is difficult to obtain and there is a trade off between the difficulty and cost of data collection and the risks inherent in the modelling of longer campaigns. One way to reduce the risk is to run a subset of the original sample for a longer period and use the behaviour of this sub-sample to calibrate the theoretical model. Where this is done there should be some empirical analysis to support the approach used.

Recall questions can be used to provide more detailed description of trips on the previous day or two, but are a not a substitute for a diary or a satellite positioning device over any longer period, unless the measurement is limited in its objectives e.g. to measuring only travel to and from work. As with diaries, a mapped approach will provide more accurate information than a record of key points on the route.

7.4.3 Sample size

The sample size and structure used will be driven by the reliability of the measurement required, the level of detailed analysis and the funds available to execute the survey. At present there is no agreed theoretical approach for fixing the optimum sample size, given the differing levels of audience analysis required in different countries. The decision is therefore likely to be taken by the provider of the audience measurement system in discussion with the users' technical committee. The committee should be entitled to require a qualified independent consultant to check and approve the sample size and survey methodology being employed.

7.4.4 Sampling

It is important that the method chosen is able to produce a representative sample and thatany biases against for example, faith, cultural, economic, age or ethnic minority groups should be clearly described and, if possible, the impact of any biases estimated. Minor demographic imbalances in the survey sample can be corrected by weighting, although, it should be noted that weighting cannot account for all of the biases. Individuals not measured may have very different behaviour patterns which cannot be corrected through weighting. For this reason it is important that a high quality stratified sampling method is employed with a target to get the highest possible response rate. If the sample is based on sampling households, a random method should be used to select the individual within the household and a weighting adjustment applied to allow for the lower probability of selection of individuals in multi-person households. It may be necessary to over sample certain subgroups in the population (eg young males and high social grade individuals) in order to ensure that they are adequately represented in the final sample or to provide sufficient sample for reporting purposes. Oversampling should not be considered a substitute for strong recruitment techniques designed to yield acceptable response rates among difficult to measure population groups. Care should be taken to ensure that people who are away from home a lot (highly mobile) or immobile are correctly represented in the sample.

Depending on the local environment, face-to-face interviewing, telephone or mail may be preferred. At the present stage of development, it is unlikely that recruitment using an online sampling method will achieve sufficiently representative coverage to be an acceptable method, unless used in combination with other approaches. When using different modes of interviewing and over-samples the samples must be drawn independently.

A technical report should be produced for the users' technical committee by the research provider commenting on the survey methodology and providing an analysis of response rate, coverage of different sub-groups in the population and weights used. A summary of the key elements of this report should be published by the users' technical committee.

7.4.5 Timing and frequency

The regularity with which surveys need to be repeated will depend to a large extent on the rate at which travel patterns and routes change. This depends on issues like the growth of the economy, the extent of road building and investment in public transportation systems. As a general rule mobility surveys should be updated at least once every five years, possibly more frequently in rapidly developing markets. Mobility patterns can be assumed to be fairly stable between surveys, but data should be updated annually between survey waves to allow for changes in traffic volumes by using the latest traffic data and traffic forecasts and re-modelling.

The times when surveys are carried out will depend on operational factors, but should avoid holidays and other times when travel patterns will be untypical. Ideally they should spread throughout the full year, to allow for mobility patterns which are seasonal.

7.4.6 Quality control

The survey interviewing should be subject to standard quality control procedures, including back-checking and verification of data entry, editing and coding where appropriate. The users' technical committee should be entitled to request independent checks on the quality of the survey data collection, editing, imputation of missing data and analysis.

7.5 MOBILITY MODELLING

The survey data should be improved by using transport planning data and/or traffic data where they exist to adjust the raw results of the survey. This is essential when using an integrated approach.

7.5.1 Transport and traffic data

The availability of suitable transport planning data for modelling varies greatly by country and city within country. However, some countries have information about travelling behaviour.

For example:

- Information on commuting and travel to work
- Data on leisure activities
- Transport and traffic surveys
- Traffic counts
- Government surveys and census data

It is possible to combine these data sources with information collected from the audience measurement survey to create estimates of volumes of road and pedestrian traffic down roads and, if necessary, via public transportation systems or through specific locations like airports or shopping malls. The quality of this data is variable and it is therefore recommended that any modelling is validated by comparison with traffic counts or external data where feasible and available. This validation should be available for independent checking by the users' technical committee.

Traffic models are designed for traffic planning, not for media measurement, it is important that any traffic modelling is tied to an electronic mapping system which uses the same geodetic system, map datum and mapping software as that for the survey and the location of advertising panels. This is necessary to ensure that the relationship between the movement of people, the built environment and advertising panels is correct. Movements that are not constrained to follow permitted travel routes will generate misleading audience figures.

When traffic counts are used it is the responsibility of the technical committee to ensure their consistency and quality. Issues that need to be addressed include:

• Geographical coverage – all links with inventory present should have traffic information
• Transport coverage – what modes are covered; pedestrian, private vehicle, commercial vehicle, other non-road traffic e.g. underground passenger counts
• Timeliness – there should be transparency about the age of the traffic count data
• Out of Market traffic
• Vehicles and people – the model and additional data sources that are used to convert traffic counts into persons travel should be transparent.

All traffic counts should be standardised for time of year, seasonality, and time period.

7.5.2 Estimating numbers passing a display panel

The survey data will provide figures for numbers of people and their direction, speed and means of transportation passing specific panels, but the raw data will need to be projected to the universe from which the sample has been drawn. In many cases, the sample size for the survey will not be large enough to guarantee that all panels are accurately measured. It is therefore necessary to rely on modelling using mobility data or data from other sources as well.

The method for estimating numbers passing a display panel can vary slightly, but essentially involves estimating the flow of people down travel paths that pass display panels by measuring, or estimating, the flow through travel path intersections (e.g. crossroads) or into and out of small areas. The flow past a display panel gives a raw measure of the potential audience which can then be refined as described in section 7.6.

Where accurate vectorised maps do not exist, the process of estimating the audience for a panel is more difficult, since the sophisticated modelling required needs significant manual labour. The requirement for accurate vectorised maps should not be a constraint in major cities anywhere in the world, but may limit the extent to which towns and more rural areas can be included in the measurement in some countries.

7.5.3 Managing significant geographic gaps in survey coverage

As explained earlier, the dispersed geography of this medium makes audience measurement expensive due to the large survey samples needed to produce reliable data. It is therefore likely that an out-of-home audience measurement system will start with major cities and towns, but it is important that the plan is based on the assumption that eventually the system will be fully national.

In these circumstances modelling can be considered for estimation purposes. Although this is not recommended practice, it may be the only realistic solution. The most popular approach is to use available census and survey data on population profiles, together with traffic data, to identify geographic areas which are similar to the ones where detailed audience measurement survey data exists. A sample of display panels in the town or marketing area where survey data exists is classified (as described in section 7.8 on estimating reach and frequency) and the audience passing them profiled using the survey data. The audience for similar panels in the town or marketing area not surveyed can then be estimated by using assumptions about the profile of the flow past panels of the same class in the town or marketing area surveyed, adjusted for the estimated flow along a sample of roads of the same classification in the area not surveyed.

The modelling techniques used can vary considerably in their sophistication and therefore the accuracy of the audience projections produced by them. Any modelled approach must be based on systematic, logical procedures and be defensible by empirical analysis. Some validation of the models should be carried out, for example by undertaking surveys in a subset of the areas for which data has been modelled, in order to check the accuracy of the models The users' technical committee should be entitled to employ a consultant to evaluate the validity and reliability of the methodology used.

7.5.4 Quality control (transparency, independent checks and validation)

Most companies that do this work treat their modelling as proprietary intellectual property. However, there can be large variations in the detailed construction of models and in the quality of the input data. The users' technical committee should have opportunity to understand what variables and data inputs are considered, the types and the extent of adjustments made, and any logical assumptions employed in the modelling process. The users' technical committee should also be entitled to employ a qualified independent consultant to check the detailed methodology being employed.

7.6 ESTIMATING THE AUDIENCE FOR A DISPLAY PANEL

Once a raw figure for the number of people passing a given display panel has been calculated, as described in the preceding section, it is necessary to produce an audience figure for the panel in a given period of time.

The definition of what counts as an Opportunity To See an out-of-home panel or network has undergone a rethink in recent years. For the purpose of these guidelines we work with two figures. The first is the figure for individuals passing in view of an advertising panel, which we have called an Opportunity To Contact (OTC). This is an improvement on the very early definition of Opportunity To See for out-of-home audience measurement which generated figures for audiences that were thought to be unrealistically large even though the out-of-home medium functions differently than other media. The second is the figure for individuals who are likely to look at a given advertising panel which we have called the Visibility Adjusted Contact (VAC). How this is done is described in Section 7.6.2.

Due to the nature of the interaction with the medium by consumers, there is general agreement that a visibility adjustment approach is needed in an out-of-home measurement system. Recent developments in calculating an Opportunity To See estimate the probability of an individual noticing the panel. Applying this probability to the total number of contacts calculated for the panel results in reducing the number of contacts to those contacts which have a realistic chance of noticing the advertising. This is called visibility adjustment.

While individuals may actively choose to watch television, or read a newspaper or magazine, they do not actively choose to interact with a poster site. There is therefore no proxy on which to base the exposure to the advertising itself as is commonplace in other media measurements. In fact the advertising is competing for attention with other items in view in the environment the individual is passing through.

7.6.1 Opportunity to contact

Producing an estimate of the number of opportunities to contact in a given period of time (e.g. a week) involves calculating the number of people who pass within the visible range of a panel travelling in a direction such that the display on the panel can be seen. The raw figure of people passing the panel has to be adjusted to remove those who cannot see it because:

- they are approaching from behind
- they are travelling beneath it under the ground
- they are passing over it on a bridge
- the panel is not likely to be seen during the hours of darkness unless it is illuminated
- The panel is too far away to be visible

7.6.2 Visibility adjustment

The basic Opportunity To Contact figure for a given display panel calculated in the way described above makes no allowance for the fact that, although people passing the display panel are able to see it, they may not notice or look at it. Visibility adjustment attempts to estimate the probability that a given panel will be noticed by someone moving along a travel path from which it is visible to them. There continues to be a considerable amount of experimentation to develop and enhance systems of visibility adjustment, but the basic process is relatively straightforward to describe.

Visibility adjustment is currently derived from research in cognitive psychology. This is a discipline which investigates how the brain works using a scientific approach as opposed to one of introspection. Visibility adjustment, as it is applied today, is based on research into how we perceive the world. The purpose of visibility adjustment is not to estimate the possibility that someone can see a poster, this is derived in the Opportunity To Contact, but to calculate the probability that they will look at a given poster on a site at least once based on the characteristics of the site itself and the behaviour of the individual.

A simple way to understand how visibility adjustment works is that as an individual approaches and passes an advertising panel there will come a point where the advertising can be clearly distinguished from the surrounding environment. If the panel is at an angle to the viewer, this point will be closer to the panel. As the individual passes the panel the angle will change, until eventually the individual has passed it and it is behind them. The time taken to pass from initial visibility until it can no longer be seen clearly without turning round will depend on the speed and direction of travel relative to the panel. If they are travelling in a car they will usually

be going past it faster than if they are walking or on a bicycle. Also, if the surface of the panel is not visible for some of the time, due to the angle or it being partially obscured during the transit, the probability that the advertising will be noticed will be lower.

Matters are further complicated by the fact that people give differing amounts of theirattention to the environment in front of them. This varies by speed and mode of transport. Simply put people tend to attend to far distances much less than relatively near ones as this is the area where attention needs to be directed to safely continue to move through the environment. If a panel is at its most visible at a distance where most attention is focused it will receive more attention than if it is most visible where little attention is focused.

Studies have now been carried out in several countries and each has discovered the same primary factors that influence attention. The principal method of experimentation has involved showing photographs or videos of movement past advertising panels to respondents using eye tracking equipment which records where the individuals look. This has enabled the development of algorithms which predict the probability of an advertising panel being seen by someone passing it. More recently advances in technology have allowed this experimentation to be extended to people in real situations passing actual advertising. However, studies using the real world are usually carried out in conjunction with laboratory based work. In studies carried out only in the real world environment there are too many uncontrolled variables and this confounds the analysis to prevent the development of meaningful generalised algorithms, unless augmented by controlled experimentation. The issues with validating this adjustment are discussed further in Annex 4.

7.6.3 Factors to take into account

The science of visibility adjustment is still advancing. For this reason these guidelines is not prescriptive about the detailed calculation of visibility adjustment. It needs to take into account of some or all of the following dimensions:

- Maximum visibility distance
- Angle to the panel through which the full message can be perceived
- Speed
- Trajectory of the respondent
- Exposure time
- Size
- Distance set back from road
- Height above road or pavement
- Type of illumination
- Seasonality of darkness
- Obstruction for all or part of the transit
- Scrolling/changing – frequency and number of different displays
- Visual clutter caused by the complexity of the environment in which the panel is situated

7.6.4 Criterion for evaluating quality of visibility adjustment

The following test should be applied to any method of visibility adjustment:

Visibility Adjustment is a systematic process of adjusting the OTC numbers by estimating the probability that people have looked at the advertising message. The process used to adjust the raw audience figures must be transparent and based on published scientific evidence.

7.6.5 Quality control of visibility adjustment

As with mobility modelling, most specialists that do this work treat their modelling as proprietary intellectual property. However, there can be a large variation in the detail of the model and the quality of the input data. For this reason it is important that the process is described in detail to the users' technical committee and that it is based on sound scientific principles and published experimental results. The variables used and the extent of adjustments should be disclosed to users and the users' technical committee should also be entitled to employ a qualified independent consultant to evaluate the detailed methodology being employed.

7.7 PANEL CHARACTERISTICS

It is obvious that the accuracy of the audience measurement system depends on an accurate description of the type and siting of every display panel. With tens of thousands of display panels in a single country, this can be the most difficult part of the whole system to manage.

It is essential that there is a detailed manual describing how to carry out the description of sites and that this is available to all users of the data.

7.7.1 Type

The characteristics used for statistical modelling and visibility adjustment need to be recorded as a minimum. Examples of descriptors which may be recorded are:

- Owner of the panel and contact details
- Geographic location – using same geodetic system, map datum and map software as mobility survey[3]
- Size
- Situation (e.g. roadside, retail. transportation etc.)
- Type (e.g. flat, curved, video display etc.)
- Obstructions which obscure more than a small part of the panel (e.g. >10%) while travelling past the panel
- Static or changing (with number of changes and timing, including the time taken by the change itself)
- Angle to primary road or travel path
- Height above road or travel path
- Distance from primary road or travel path
- Type of illumination (e.g. none, front lit, back lit, video display etc.)
- Clutter/complexity of the visual environment in which the panel is situated

If transportation systems or other special environments are being measured, appropriate information about the display and its situation will need to be collected (e.g. panels on a bus, train or taxi).

7.7.2 Precise location

The most accurate way to establish the position of an advertising panel is to place it on a large scale map. This could be a paper map, or an electronic map on a PC or PDA. Satellite positioning is a good method for getting a rough position for an advertising panel and for checking any gross errors in the manual plotting system, but is not sufficiently reliable in built up areas at present for a satellite positioning system position alone to be acceptable. See Annex 1 for comments on the reliability and accuracy of satellite positioning systems.

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3 This is extremely important given the need to relate individual's mobility to the position of display panels and the local variations which different coordinate systems introduce.

The map position must be transferred to the same co-ordinate baseline as that used for mobility modelling, if large errors are not to occur, especially when applying visibility adjustment.

7.7.3 Quality control

Accurate audience measurement requires that the classification information about panels is kept fully up to date. The audience measurement system needs to have a process for checking the information supplied by panel owners and correcting it where appropriate. The scale and operation of the audit system should be independent and agreed by the users' technical committee.

7.8 REACH AND FREQUENCY ESTIMATION

For media pricing and planning purposes it is necessary to be able to estimate the reach of a given campaign into the target population and the frequency of exposure to the advertising. The basic way in which the calculation is carried out is fairly simple to explain, but the calculations can be very complicated in practice.

The survey data provides information about people movements along travel paths (roads, railways etc.) past advertising panels. The sample will usually not be large enough to provide an adequate sample to give a reliable measurement of the audience for one specific panel, but when several panels are combined to create a campaign or network the number of measurements goes up and the data becomes more reliable.

In simple terms, reach is based on drawing samples of panels from the survey and establishing the proportion of the survey sample that gets at least one exposure to at least one panel in a given period of time. As more samples are drawn the average reach stabilises. Frequency of exposure to a campaign can be similarly calculated by establishing the number of times each individual is exposed to the campaign selection and averaging it. The distribution of frequency of exposure and an average can be established in the same way as for reach, by drawing multiple samples of panels and averaging the result.

The panels are described in terms of a number of variables which empirical evidence from the survey demonstrates as discriminating between panels. For example:

* Their geographic location (e.g. suburb, city centre, shopping centre etc.)
* The type of situation (e.g. major road, minor road, local road etc.)
* Their marketing region

The description of the panels is used to build a statistical model which correlates with the data observed in the survey, but which makes it possible to estimate the effect on the audience of panels to which very few or even no members of the survey sample were exposed.

The number of individuals that pass a given panel in a specific time period can be independently established by traffic counts and traffic flow data. This frequency data can be used to provide a validation of the statistical modelling which can then be adjusted, if necessary, to provide a more accurate measurement of the audience.

Once the statistical model is correct, the frequency with which individuals pass a given set of panels can be adjusted to allow for the probability that they will look at the panels, providing a visibility adjusted audience figure for reach and frequency for the campaign. The profile of people looking at different classes of panel can also be established from the survey.

If practice in the market allows for individually specified combinations of panels to be used for campaigns, it is necessary for the measurement system to be able to provide an accurate audience for each individual combination, or possibly for an individual panel. In most markets the survey sample size will not be sufficient to provide a reliable audience figure for individual panels or even small numbers of specific panels in combination. It is therefore necessary to augment the data provided by the survey. This is usually done by making the assumption that the individual panel is typical of its class, taking the measured or forecasted traffic past the panel and adjusting the resulting figure for visibility.

Where the measurement is extended beyond the survey period, either by using a sub-set of the main survey sample or by pure simulation, it is important that the approach used to calculate the extended reach and frequency is based on systematic, logical procedures and is defensible by empirical analysis.

How reach and frequency are calculated is central to the utility and validity of the measurement system. It is therefore important that the assumptions that underlie the statistical modelling of audience composition and reach are reasonable, that the sample size is adequate for the level of detailed analysis required and that any simulation based on applying data to geographic areas which have not been included in the mobility survey is clearly described. As a minimum, the users' technical committee should be able to understand and check that the process being used is robust and conforms to accepted industry best practice.

7.8.1 Quality control of data prior to release

Before data is released it should be checked to ensure that the totals are correct and that results are reasonable in comparison with previous results and known trends in the market.

7.8.2 Data reissue

Data providers should have a formal policy that provides clear and objective guidelines for circumstances under which data should be reissued to the marketplace.

7.8.3 Software controls

Measurement service providers should have procedures to ensure that:

- for each piece of software, the purpose, input data, operations performed and output
- data are clearly described and documented
- any changes made to the software are tested and records of the test results are kept
- security is maintained to ensure unauthorised changes cannot be made to the software

8. DATA REPORTING AND DELIVERY

8.1 DELIVERY

It is important that the data is made available to the wider advertising community. The organisation responsible for data collection should ideally, in addition to providing data processing services itself, make data available to third-party bureaux and provide data in a standard format to providers of analysis software.

It is in the interest of users to encourage the development of a wide range of analysis systems which are available to authorised users, where they have the right to choose

the software system they wish to use. Competition is an effective means to this end. It is, therefore, desirable to encourage the development of competitive licensed data bureaux and software packages, giving scope and opportunity for initiative and creativity to flourish in the development of software tools. The more value derived from an audience measurement service, the more users will be prepared to invest in it.

8.2 REPORTING

In each national market the industry must agree what geodemographic target groups should be made available for analysis and the level of detail at which the data can be analysed. Consideration should be given to ensuring comparability between countries in order to facilitate international working.

As a minimum all data analysis systems should make available the following information which can be used by third party analysis providers:

- Opportunities to Contact (OTC)
- Visibility Adjusted Contact (VAC)
- Gross Rating Points* - GRPs
- Campaign reach* over 1 week and accumulation over time
- Campaign frequency* over 1 week and accumulation over time
- Cost per thousand*
- Cost per rating point*
- Geographic analysis by local standard regions/markets
- Standard demographic breaks - aligned with local media market standards
- The timing criteria allowed by the methodology - hour of the day, day of week, also month of the year when measurement is continuous

* Where visibility adjustment is applied the GRP's, reach, frequency, cost per thousand and cost per rating point figures should be based on the VAC audience. Where VAC is not applied they should be based on the OTC number.

It is strongly recommended that to support international comparability the following standard demographics are also provided if possible:

- Male 18-34/35-54/55+ Female 18-34/35-54/55+

The measurement service providers and users technical committee should agree the minimum level at which data should be reported based on the reliability of the survey data. Audience measurement systems in most cases will not reliably support panel level analysis of the audience. Best practice requires disclosure of the confidence interval surrounding the audience estimates and data of suspect reliability should be flagged.

9. EXTENDING AND IMPROVING

The intention of these guidelines is to improve the quality of out-of-home media audience measurement, improve international intra and inter media comparability and extend measurement coverage. Technical developments in both hardware and software and in understanding perception are continuing to improve the accuracy and sensitivity of measurement.

These guidelines anticipates that organisations carrying out audience measurement will continue to experiment. It is recommended that any methodological testing is conducted offline or agreed in advance by the users' technical committee.

The Guidelines will have been successful if the quality of existing measurement systems steadily improves and there is a substantial convergence in the different national approaches to measurement that results in improving international standards and comparability of audience measures.

10. ANNEXES

A.1 SATELLITE POSITIONING SYSTEMS AND MAPPING

Satellite positioning systems are a good way of measuring the position of an advertising panel and of recording the travel paths of respondents. Typical errors quoted are +/- 1 metre horizontally, although accuracy can be better than this depending on the technology used. However, these errors are averages and can be greater where the number of satellites visible is reduced in heavily built or forested areas. For this reason satellite positioning systems are not recommended as the primary tool for deriving the position of an advertising display panel unless evidence can be provided that in the geographic locations surveyed the positional accuracy of the equipment used is sufficient for the visibility adjustment calculations being applied. Visiting an advertising panel and marking its position on an accurate digital map display driven by satellite positioning systems is the most effective method for recording the position of a panel where these maps exist. Where accurate digital maps do not exist large scale up-to-date paper maps on which an advertising display panel can be located are an acceptable alternative. In enclosed environments panels can be positioned using building plans or schematic diagrams.

Mapping is another important source of error. It is essential that the same cartographic baseline is used for recording and modelling movement and for recording the position of advertising display panels. Major errors are possible if this is not observed. Eliminating this source of error is particularly important when site owners are reporting the position of new sites, before the site has been independently checked and classified.

Another type of mapping error may come from inaccuracy in the positioning of buildings on maps in countries where precise vectorised information on positioning of buildings or other obstructions (e.g. trees, traffic signs etc.) is not available. Satellite imaging is a way to improve the quality of maps where the level of detail in local maps is not sufficient. For visibility adjustment of the raw contact figure, the siting, and sometimes the height of buildings, needs to be known with accuracy. Maps of this accuracy may not be available in many places. In these circumstances it will be necessary to draw the area of visibility on an existing map and then digitise the information, in order to make the visibility adjustment possible.

A.2 SATELLITE POSITIONING SYSTEMS AND MOBILITY SURVEYS

Satellite positioning systems as a means of collecting accurate samples of movement are more reliable than other methods. Ignoring issues relating to respondent compliance, the technical problem at the present level of satellite positioning system development is that reception is poor in heavily built, underground, or enclosed environments and the signal can be lost for some time, resulting in a mobility record lacking in detail. However, the technology continues to improve and, compared with a paper or CATI diary, the mobility record is normally more detailed, even allowing for the limitations of current satellite positioning systems' technology.

Satellite positioning technology is developing extremely rapidly.
Nevertheless there can still be issues in getting good data.

The key issues are:

- Poor compliance in carrying the device – this requires suitable procedures and incentives to minimise non-compliance
- Missing data due to signal being lost (e.g. underground). This can usually be imputed by using predictive software to estimate the likely path coupled with accelerometer measurements and WiFi.However, the software will occasionally choose a different path from the one the panel member actually took.
- Poor compliance due to technical problems (e.g. not recharging the battery or communication failures).
- There are ways that missing data can be dealt with, as described in section 7.4.2.

A.3 METHODS OF SURVEYING MOBILITY

Methods of surveying mobility include recall surveys and diaries. These can be administered face-to-face with or without CAPI, by CATI, online or by mail. These guidelines are not intended to provide a comprehensive discussion of survey methodology, each method has known strengths and weaknesses. This section just highlights some issues to take into account in relation to out-of-home audience measurement.

A general point is that the more demanding the survey task for the respondent, the more difficult it is to recruit a representative sample. Thus a short recall interview based on what was done yesterday is likely to get a better response rate than a week long diary. Technology can help to make the task easier for the respondent and improve compliance. It can prompt for a response or check logic and behaviour and ask questions for clarification, but there is still the issue that some people are unwilling to take on demanding survey tasks, or drop out before completing them. For this reason, most surveys for out-of-home media audience measurement use some kind of mixed mode approach. It could be as straightforward as asking respondents to provide missing data for days when they were not carrying their satellite tracking device or as sophisticated as getting them to trace their movements on an electronic map on a PC.

There is a trade off between:

- sensitivity of measurement
- time period measured
- sample coverage
- representativeness
- sample size and cost

Satellite positioning systems probably provide the most sensitive and granular measurement of movements, followed by tracking movements using a PDA diary or an electronic map on a computer in a recall interview. As long as the satellite tracking device is carried all the time it will normally provide the most comprehensive measurement of mobility, since there is no element of recall and therefore possible forgetting. However, many people refuse or forget to carry the device, and some who accept the survey task fail to carry it for the required time, or keep its battery charged and working.

The longer the time period for which data is collected, the more accurate the estimation of reach and frequency, but the less likely that the resulting sample will be representative, due to drop out from people who fail to complete the full task. Experience has shown that it is difficult to get people to complete accurate and detailed diaries for much more than a week. Diaries also run the risk of pattern responding and it is necessary to take precautions to ensure that the diaries are not completed from memory at the end of the period. PDA's can help by prompting

for completion. Satellite tracking devices reduce the difficulty of the data collection task but getting people to agree to take the device in the first place can be difficult in some countries and cultures. Recall of mobility is unlikely to be accurate for more than a couple of days, but it is the easiest task for the respondent. For this reason, it can be helpful in checking the representativeness of a sample which is carrying a satellite tracking device.

CATI or face-to-face interviewing probably provides the best coverage of the population, but the more demanding the task for the respondent the higher the refusal rate and the more likely that the sample will become biased by under-representing or entirely missing certain groups in the population. Depending on the response rate and compliance expected in carrying a satellite tracking device in a particular country, it may be advisable to use a mixed methodology, combining a diary or recall survey with satellite tracking in order to ensure sufficient coverage of the population.

Online samples can be very good for accessing certain target groups which are difficult to reach by other methods, but there remain unanswered questions about biases which are present in the recruitment processes for general samples of the population.

Mail surveys can provide an effective way of collecting data, but do not work well in all countries and are subject to certain of the limitations listed above.

A.4 VALIDATING VISIBILITY ADJUSTMENT

There has been a great deal of academic work on perception and into how people look at things. It is a well respected body of knowledge which has been used for several decades by a broad range of academic disciplines to assess how people look at and perceive things in the world they are in.

The area where knowledge is still developing is in the relationship between controlledexperiment and behaviour in the real world situation. The development of lightweight eye tracking equipment makes it possible to track eye movement as people move around, but the uncontrolled nature of the real world environment and the still intrusive nature of the equipment means that visibility adjustment algorithms are mainly based on controlled experimentation, where people are taken through a virtual journey in a laboratory, rather than being driven or walking round city streets.

A.5 RELEVANT CODES OF ETHICS AND PROFESSIONAL PRACTICE

ICC/ESOMAR International Code on Market and Social Research

International Standards Organisation Standard – ISO 20252 Market, opinion and social research – Vocabulary and service requirements

Media Rating Council – Voluntary Code of Conduct

A.6 STEERING BOARD

**The members of the Steering Board
which developed the Guidelines were:**

Dominic Lyle	European Association of Communication Agencies, Chairman
Nick Mawditt	American Association of Advertising Agencies
Zeng Meng	China Advertisers National Association
Adam Phillips	ESOMAR
Felix Mende	FEPE International
Anthony Torrieri	Media Rating Council
Tony Jarvis	Outdoor Advertising Association of America
Giovanni Fabris	World Federation of Advertisers
Neil Eddleston	Chairman of the Technical Committee

A.7 TECHNICAL COMMITTEE

**The members of the Technical Committee
which developed the Guidelines were:**

Neil Eddleston	Chairman
Nick Mawditt	American Association of Advertising Agencies
Francis Moureaux	Affimetrie
Georg Schotten	AGMA
Jim Yang	China Advertisers National Association
Adam Phillips	ESOMAR
Felix Mende	FEPE International
Antonio Morales	GEOMEX
Anthony Torrieri	Media Rating Council
Tony Jarvis	Outdoor Advertising Association of America
Johann Boserup	Omnicom
Joe Philport	Traffic Audit Bureau
David Gordon	POSTAR
Nick Hiddleston	Zenith Optimedia

Out-of-home is one of the oldest advertising media in the world. It is a medium that is present in the environment, rather than being delivered by a particular platform. These first ever Global Guidelines on Out-of-home Audience Measurement aim to introduce consistent and realistic measurement of audiences for out-of-home advertising around the world and to promote best practice at the national level.

ESOMAR sees this initiative as part of its mission to facilitate international working in market research and to encourage consistent standards worldwide.