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## **CONFERENCING AT BT**

### **Results of a Survey on its Economic, Environmental and Social Impacts**

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## Highlights

In October 2004, a representative sample of BT staff were surveyed about their use of conferencing. 18% (911) of the 4957 people contacted replied. Of these, 66% had used conferencing during the last four working weeks. The responses of these recent conferencing users showed that:

84% had increased their use of conferencing in the previous two years

56% of MeetMe – UK users had conferenced more than five times the previous month.

65% of user's last conference calls lasted for under an hour, and only 7% lasted for more than 3 hours.

61% of all conferences involved 6 or more people – with the mean number of participants being 8.57 (a significant increase from the mean of 6.4 recorded in a previous survey in 2002).

Only 40% involved 6 or more locations – with a mean number of 4.9 - suggesting that many conferences involve more than one person at the same location.

67% of respondents were located at BT premises for the conference, and 25% accessed it from home.

92% of audio conference calls were made from a fixed line

58% of all conference calls were for continuing regular discussions such as team or project meetings.

Over two thirds (68%) of conferencing users believed that their last conference call met all its objectives. Most (62%) of the remainder didn't believe that the partial or complete lack of success was related to the 'virtual' nature of the meeting.

A third (34%) of respondents hadn't used conferencing within the last month. Of these, at least a third appeared to be potential targets for greater usage in future. There is also scope to increase conference usage amongst current users.

The key personal benefit of conferencing is greater control of time, especially through a reduction of time spent travelling with:

71% of conferencing users stating that their last conference call had definitely or probably replaced a meeting.

73.5% of people with this opinion believed that they had saved at least 3 hours in travel time.

This benefit generally results in improved work performance and better work-life balance. However, a small number of respondents identify negative effects of conferencing, particularly lack of time due to its over-use. BT should more to educate users – both internal and within its customer base - on the best way to maximise benefits and avoid problems from its use.

Aggregating the survey findings to BT as a whole, using relatively conservative assumptions, suggests that, at recent annual usage rates, conferencing is eliminating 296,000 face-to-face meetings a year.<sup>1</sup> This considerably reduces travel:

The last conference call avoided a mean mileage of 146 miles for petrol car users, 229 miles for diesel car users and 146 miles for train users

46% of avoided trips would have been undertaken by car.

78% of the avoided trips would have been undertaken at peak travel times, thereby freeing up road space and seats on public transport.

35% of replaced meetings would have been in London (reflecting the fact that 33% of respondents had their main working base in London or South-East England), thereby helping deal with the capital's congestion problems.

By a very conservative estimate each conference call is saving a minimum 32 kg of travel-related CO<sub>2</sub> emissions and all conferencing calls are saving at least 47,400 tonnes of CO<sub>2</sub>.

Each avoided meeting saves BT a minimum of £432 in travel costs and time. Table 2 shows that this creates total avoided costs of £128 million a year for BT as a whole. The precise costs of conferencing within BT are commercially confidential but they are only around 10-15% of the annual avoided cost figure. As there are further intangible business benefits from more effective decision-making, better work-life balance and other impacts, it seems likely that conferencing is creating value at least 10-15 times greater than its cost.

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<sup>1</sup> Calculations of avoided meetings of course assume that BT would organise itself, and its employees would be located, in the same way if conferencing did not exist. This is unlikely, so the calculations are a reflection of the technology's impacts within the current context of the company.

## Introduction

Travel disruptions and security concerns are focusing many people's attention on the possibility of substituting electronic for physical meetings. There are now numerous ways in which this can be achieved:

Audio conferencing, which makes use of conventional voice telephony.

Video conferencing, which transmits images as well as pictures – business applications are generally conducted from a dedicated videoconferencing suite although more and more people are attaching videocams to their PCs.

Web conferencing, where people share data such as documents or pictures on the Internet in real time – usually as an adjunct to audio or video conferencing but occasionally as a substitute.

Previous research, including a major survey for BT carried out in 2002 by the present authors, has found that these technologies can reduce transport time and costs, and help to achieve more efficient and effective work and better work-life balance for users.

Since 2002 the use of conferencing in BT has almost doubled. In the autumn of 2004 BT's Conferencing unit asked SustainIT and the University of Bradford to conduct another survey, with the aims of:

Testing whether the general conclusions of the 2002 report remained correct

Exploring some topic areas, such as the financial and travel benefits of conferencing, in greater detail.

## 1. Survey Methodology

The survey was designed in conjunction with the research team and BT. Several versions of the questionnaire were piloted. The final survey was administered on-line during October 2004. Prospective respondents were e-mailed and asked to visit a web site in order to access the questionnaire on a non-BT web site. All responses were confidential.

A representative sample of 4957 people – about 5% of total BT employees - was selected at random for the survey. 18% (911) of those contacted replied. The responses are broadly representative of BT in terms of business unit and age, but have a higher proportion of managers than BT as a whole. Not all respondents answered all questions and there was a gradual drop-off as people went through the survey. The total for each question is indicated for each chart.

In the final few days of the survey, respondents were asked to answer some additional questions. These responses are separately analysed in Appendix 1.

## 2. Patterns of Conferencing

The survey found that 66% (601) of respondents had used conferencing during the last four working weeks.

BT has a number of forms of audio conferencing:

Centrally booked conferences (described as Phone Conferencing - Other in the survey) – the traditional form in which a call is booked in advance with a central service and participants are then either dialled or dial in themselves.

MeetMe conferences – these can be set up through a web site, with users then dialling in using the personal code of the conference originator. They are therefore more convenient than centrally booked conferences. MeetMe conferences can be sub-divided into those accessed through a UK number, and those accessed from outside the UK (primarily by BT staff working in other countries).

Web conferences – in which users simultaneously use the Internet to exchange diagrams, notes etc whilst audio conferencing.

Video conferencing, known as SeeMe.

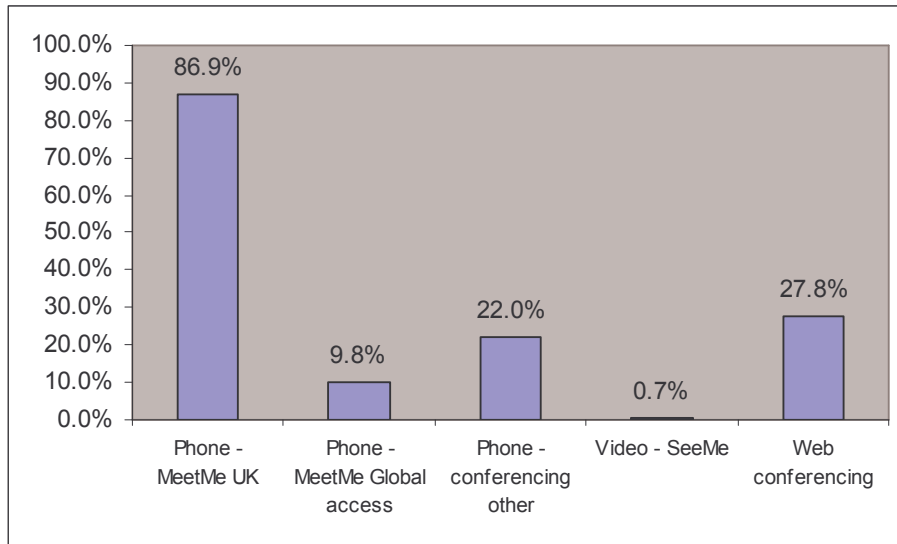
Figure 1 demonstrates that MeetMe, and within that MeetMe – UK, is the most popular mode.

As Figure 2 indicates 56% of MeetMe - UK users were doing so more than five times a month – slightly up from the 50% figure in the 2002 survey - so the technology is clearly becoming a routine part of work. MeetMe - Global Access was less intensively used, with only 39% using it more than five times a month (see Figure 3). One reason for this may be higher costs for international calls. The popularity of MeetMe conferencing has partly been at the expense of centrally booked conferences. Figure 4 shows that only 21% of users did so more than five times a month in 2004 whereas 47% did in 2002.

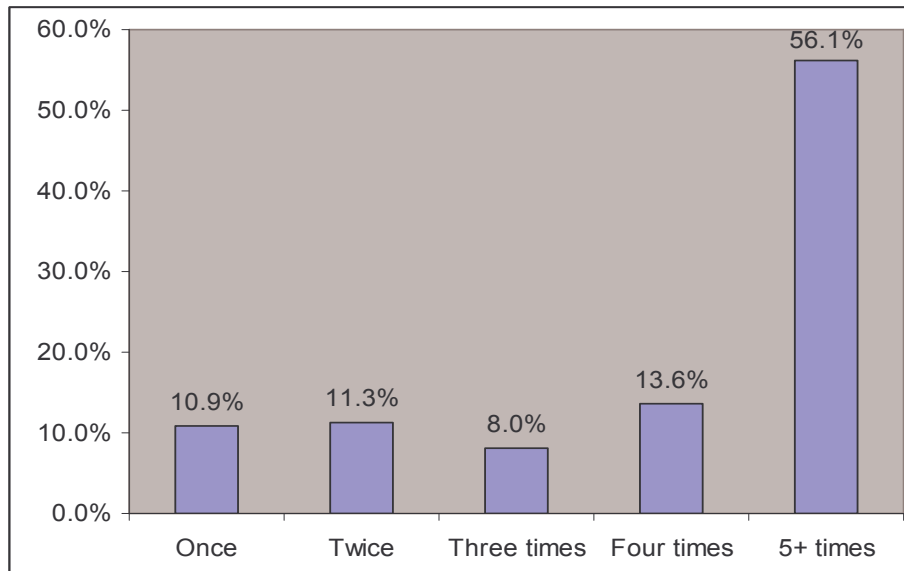
Web conferencing has also grown in popularity, although perhaps less rapidly than might have been expected given media hype about it. Figure 5 indicates that 56.9% of users were also doing so for twice a month or more, compared to only 38.8% in 2002.

As in 2002, very few respondents in 2004 were making use of video conferencing.

**Figure 1 Percentage Of All Recent Users Using Individual Conferencing Modes In The Past Four Working Weeks (n=601)<sup>2</sup>**

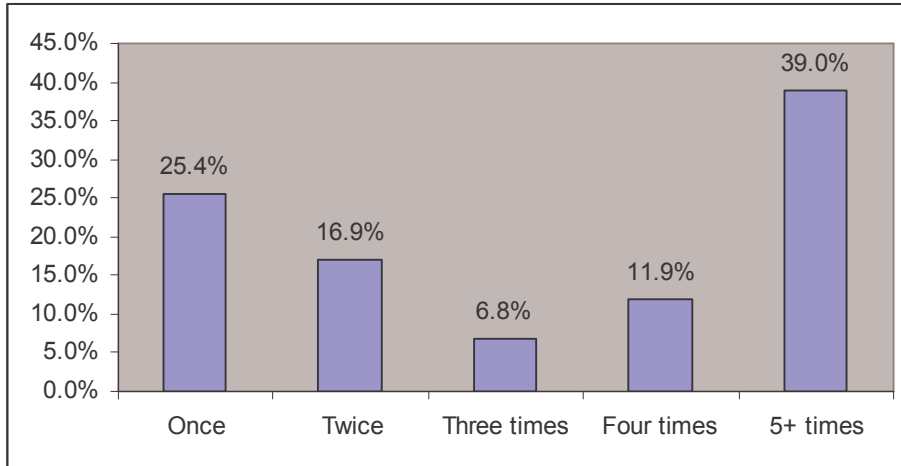


**Figure 2 Frequency Of Use of MeetMe - UK Phone Conferencing In The Past Four Working Weeks (n=522)**

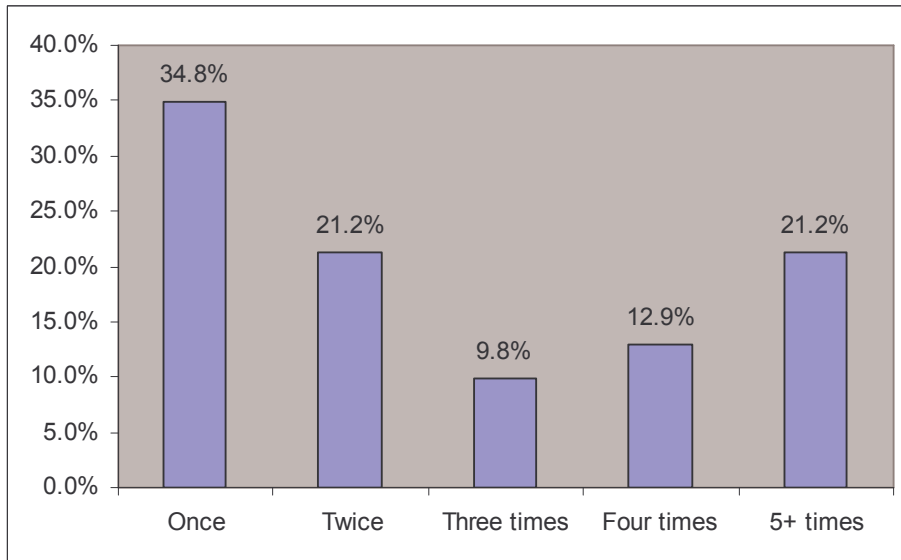


<sup>2</sup> The question asked respondents to list all uses of different kinds of conferencing. Figures 2-5 give the figures for each individual type.

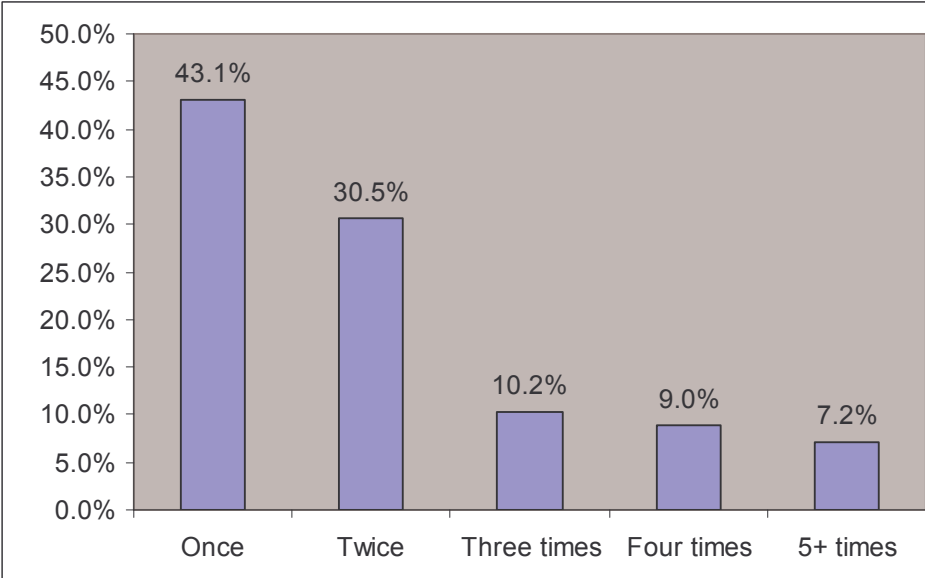
**Figure 3 Frequency Of Use of MeetMe - Global Access Phone Conferencing In The past Four Working Weeks (n=59)**



**Figure 4 Frequency Of Use of Phone – Conferencing Other In The Past Four Working Weeks (n=104)**



**Figure 5 Frequency Of Use of Web Conferencing In The Past Four Working Weeks (n=157)**



## 2.1 Characteristics of the Last Conference Call

We asked recent users to provide details of:

The average time they spent on a conferencing call

The actual time spent on their last conferencing call.

Figure 6 indicates that the average estimated time for each of the specific conferencing modes is generally considerably higher than the estimate given for the last conference call (all types). As the latter relates to a specific, recent, event we consider it to be more accurate and so use it as the basis of the following analysis. Our findings in relation to this last conference call are that:

The majority of all audio conferences – 68% for MeetMe – UK, 63% for MeetMe – Global Access and 65% for Phone Conferencing – last for under an hour (see Figures 7-9).

2-3% of audio conferences last for more than 3 hours (see Figures 7-9). This is significantly lower than the 9-13% of audio conferences which were recorded as lasting for more than 3 hours in 2002. The most likely explanation is that conferencing use is becoming more routine, with the result that people are using it more effectively. (Comments in the previous survey, and the views of experts, suggest that very long conference calls are tiring and sometimes counter-productive).

A similar number of web conferences – 65% - also last for under an hour, and only 2% for more than 2 hours (see Figure 10).

61% of all conferences involved 6 or more people (see Figure 11), with the mean number of participants being 8.57.<sup>3</sup> The mean number of BT staff in the call was 8.12, of customers 0.2 and other external participants 0.25. 8.57 is a much higher figure than the mean number of 6.4 which was recorded in the 2002 survey, probably because the development of a 'conferencing culture' is resulting in more people becoming involved in calls.

Only 40% of all conferences involved 6 or more locations – with a mean number of 4.9 - suggesting that many conferences involve more than one person at the same location (see Figure 12).

Most respondents - 67% - were located at BT premises for the conference, and a quarter – 26% - accessed it from home (see Figure 13).

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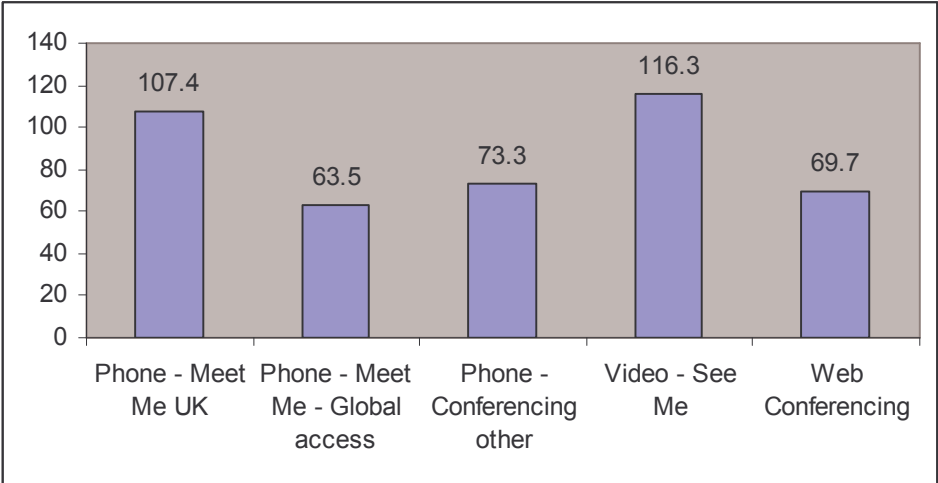
<sup>3</sup> 7 responses recording participants of over 50 (as would occur in a mass conference call by a senior manager) were removed from the analysis to avoid distortion.

Conference participants were generally not taking risks or annoying fellow passengers because less than 3% took part when in or waiting for a train or vehicle (see Figure 13).

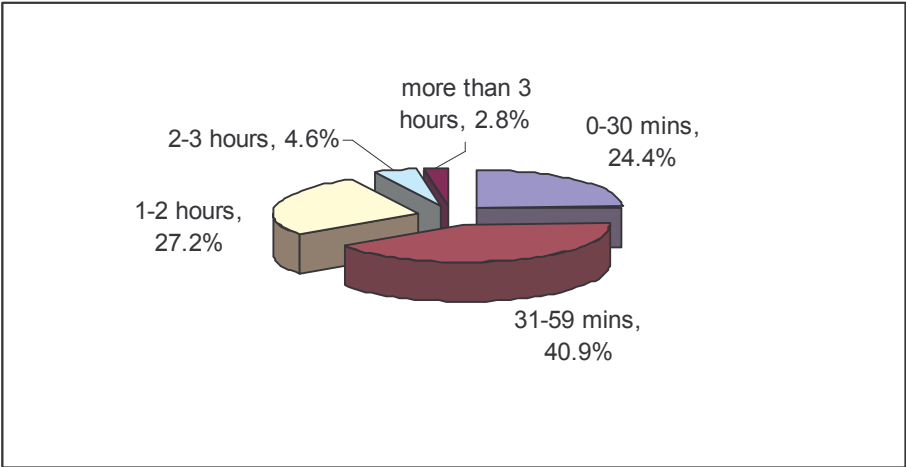
92% of audio conference calls were made from a fixed line, probably reflecting the inconvenience of talking for long periods on a mobile phone (see Figure 14). Voice over Internet has also made little impact to date.

Most web conferencing occurred via a BT LAN (Figure 15).

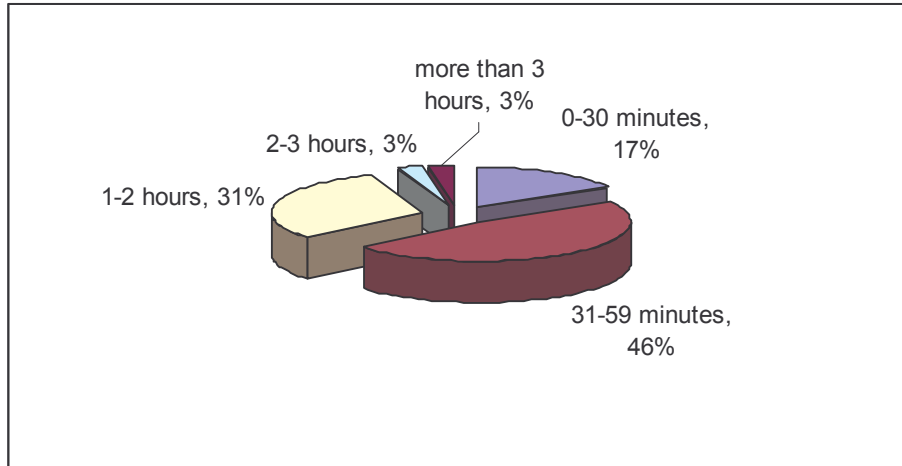
**Figure 6 Average Call Length (in Minutes) In The Past Four Working Weeks**



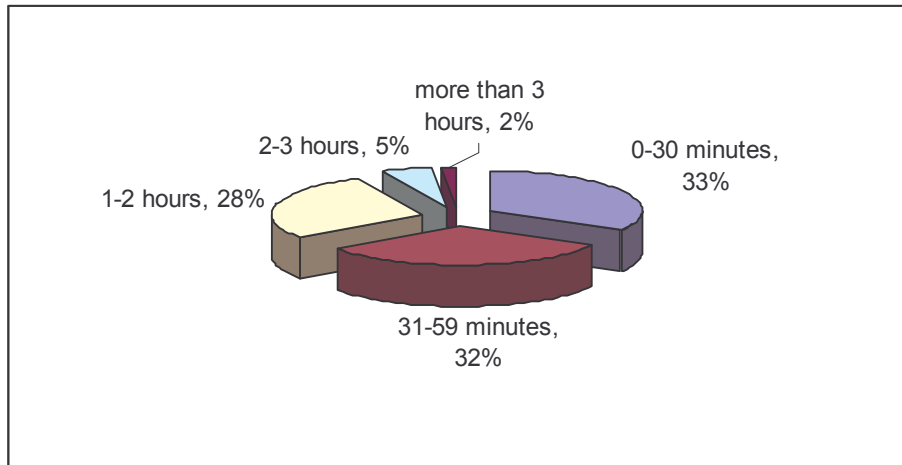
**Figure 7 Average Length Of Last Call for MeetMe - UK Conferencing (n=562)**



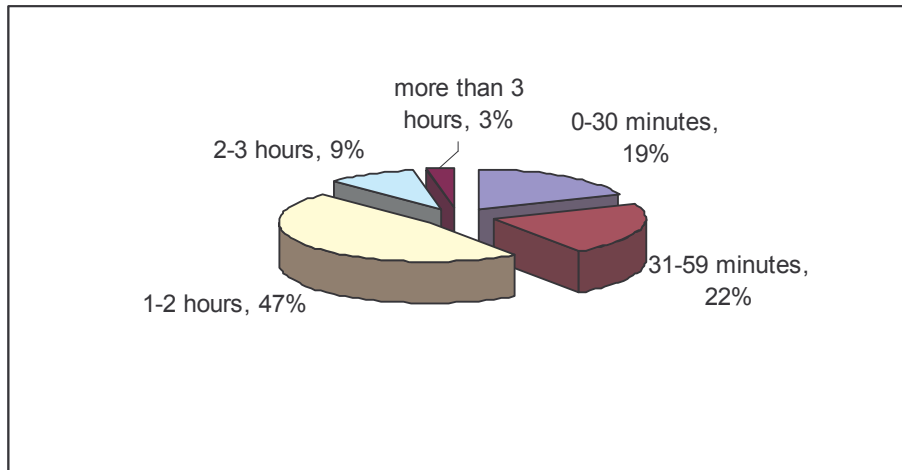
**Figure 8 Average Length Of Last Call For MeetMe - Global Access Conferencing (n=36)**



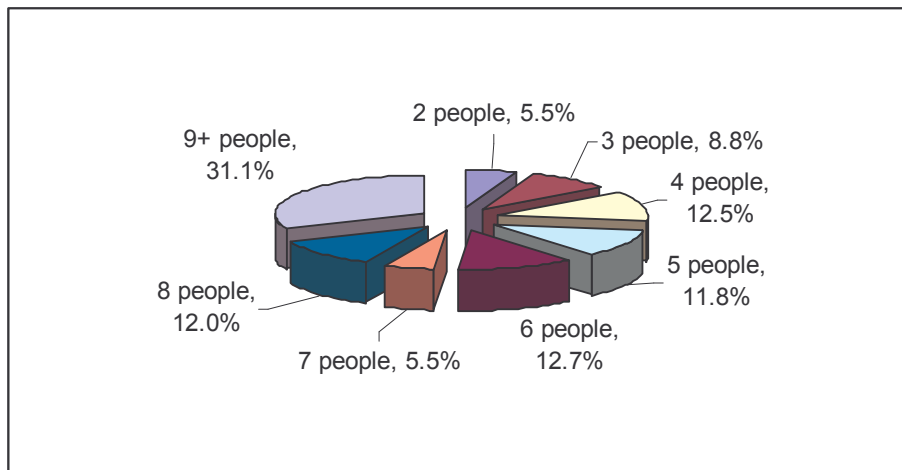
**Figure 9 Average Length Of Last Call For Phone Conferencing - Other (n=57)**



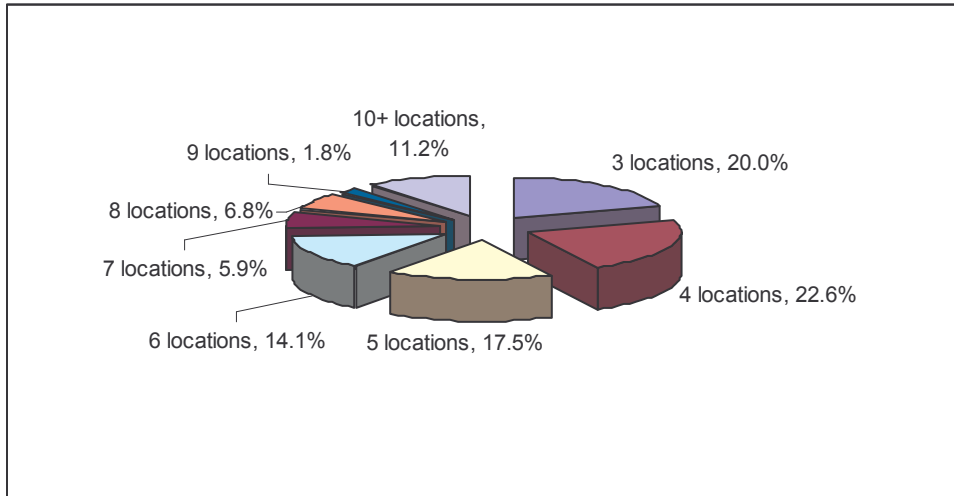
**Figure 10 Average Length Of Last Call For Web Conferencing (n=57)**



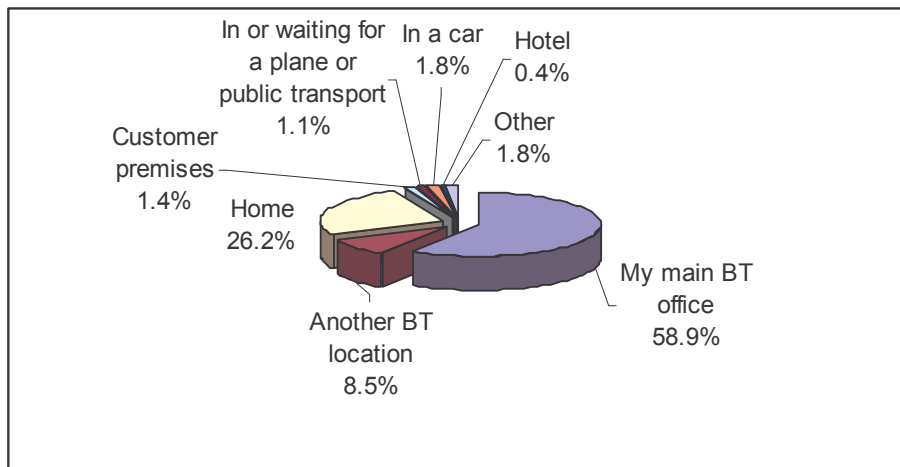
**Figure 11 The Number Of Participants In The Respondent's Last Conference Call (All forms, n=543)**



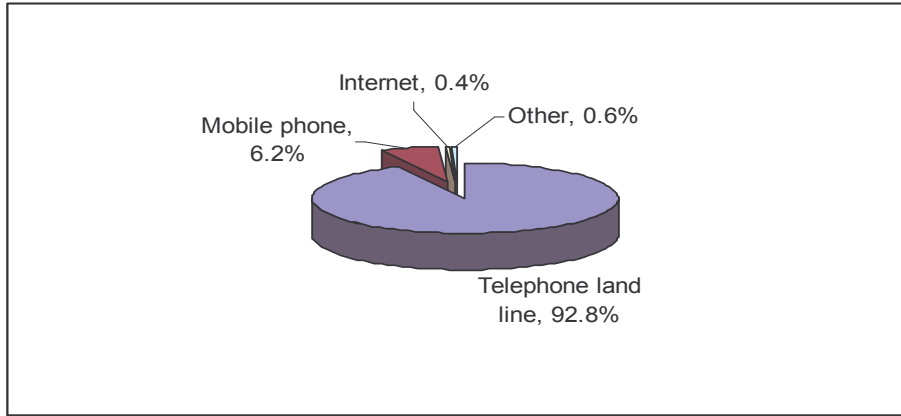
**Figure 12 The Number Of Locations In The Respondent's Last Conference Call (All Forms, n=439)**



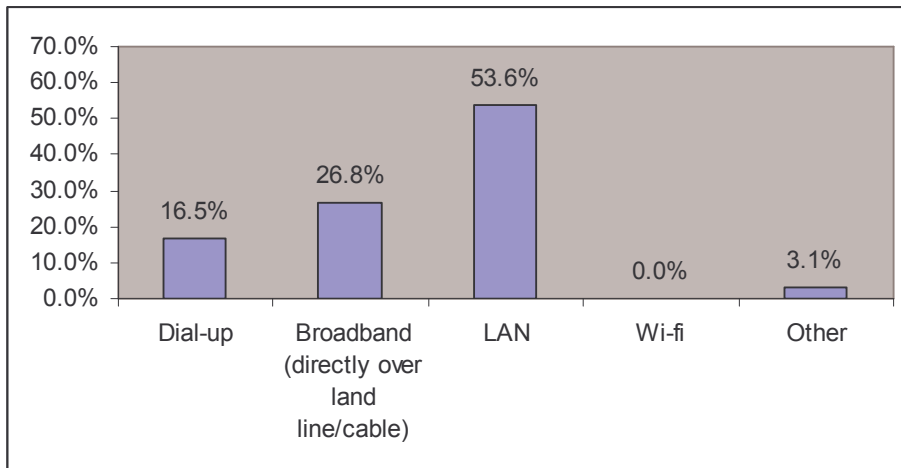
**Figure 13 The Location Of Participants In The Respondent's Last Conference Call (All Forms, n=562)**



**Figure 14 Means Of Access To The Respondent's Last Conference Call  
(All Forms, n=503)**



**Figure 15 Means of Access to Web Conferencing (n=97)**



### 3. Conferencing Use and Success

Figure 16 shows that most (84%) respondents have increased their use of conferencing over the last two years.

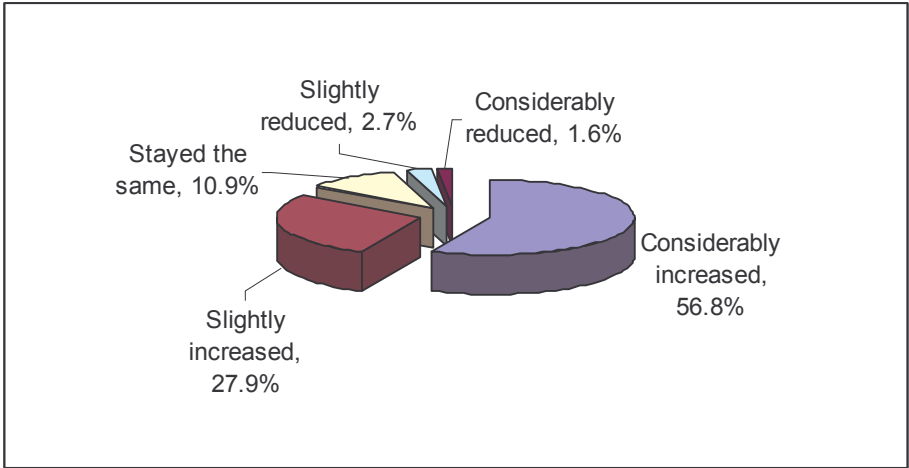
Figure 17 shows that 58% of the conference calls were as part of continuing regular discussions, compared to 28% which were set up as one off activities.

As Figure 18 shows, respondents stated that a majority of conference calls - 56% - definitely or probably replaced a meeting. This compares to a figure of 71% in 2002. Almost a third – 29% - stated that the meeting would not have occurred if conferencing had not been available.

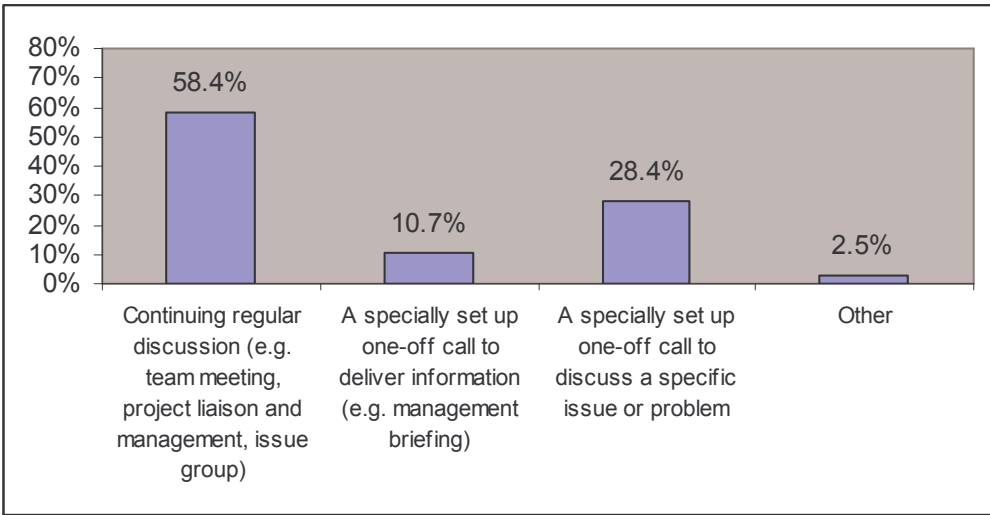
Over a third – 35% - of definitely or probably replaced meetings would have been held in London, and almost half – 48% - would have been held in London or the Home Counties (Figure 19). Hence, if – as the next sections suggest - conferencing is reducing travel and congestion, then it is clearly making a positive contribution to reducing the traffic problems of the capital and South East England.

Two thirds (68%) of users felt that their last conference call completely met its objectives (Figure 20). A majority (62%) of the 32% of users who felt that their last conference didn't meet its objectives also felt that this was unrelated to the 'virtual' nature of the meeting (Figure 21).

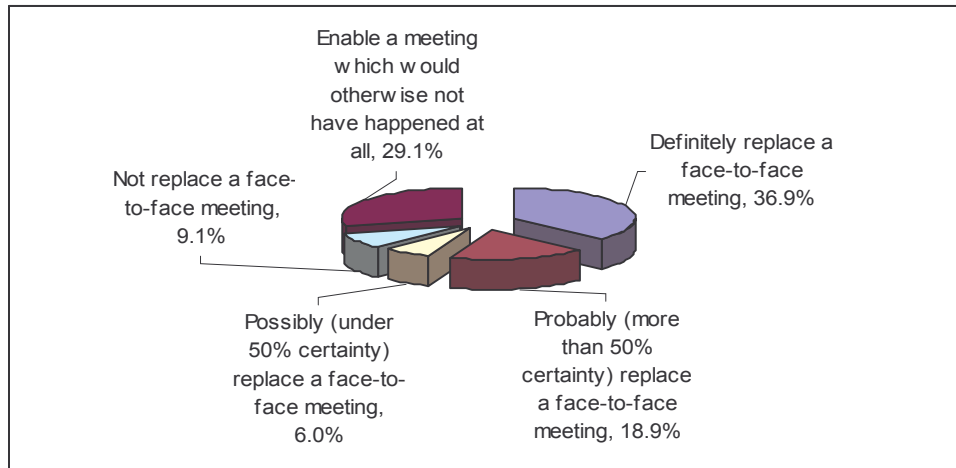
**Figure 16 Has Your Use Of Conferencing Changed Over The Last Two Years? (n=548)**



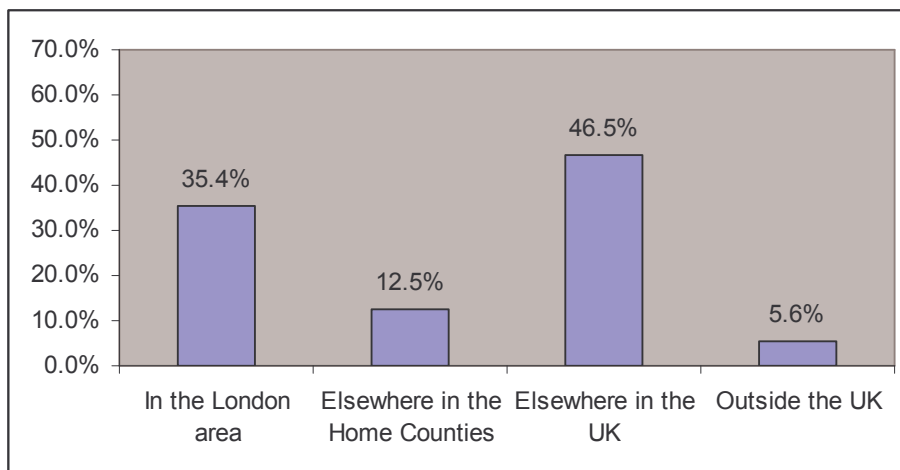
**Figure 17 Main Purpose Of The Respondent's Last Conference Call (n=563)**



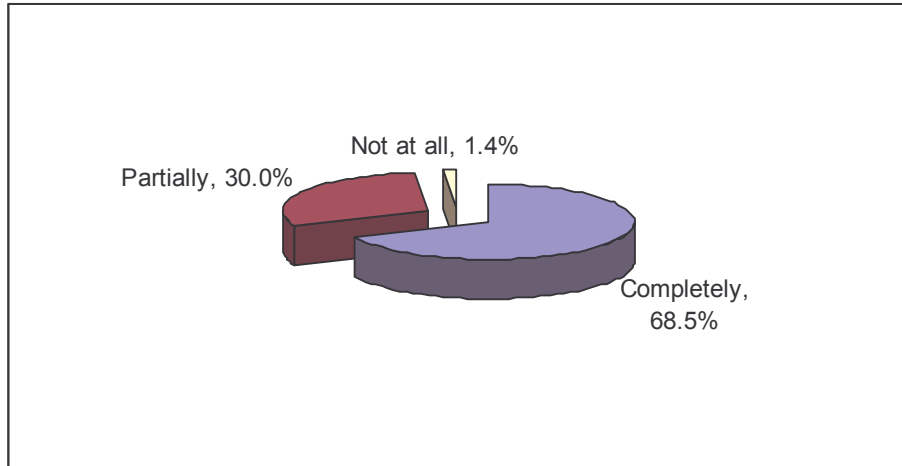
**Figure 18 Effect Of Respondent's Last Conference Call On Need For Meeting (n=550)**



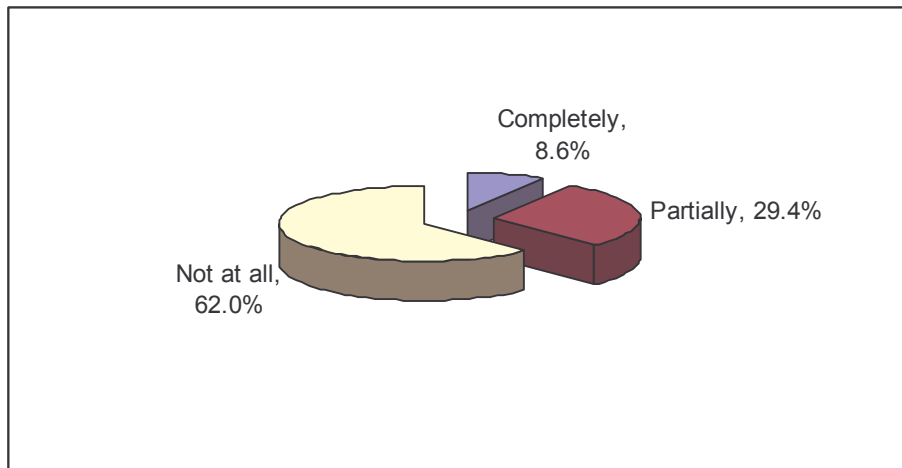
**Figure 19 Location of Definitely or Probably Avoided Meetings (n=288)**



**Figure 20 Success Of Last Conference Call In Meeting Its Objectives (n=553)**



**Figure 21 If The Conference Call Was Only Partially Successful In Meeting Its Objectives, Or Did Not Meet Them At All, Was This Related To The 'Virtual' Nature Of The Meeting? (n=163)**



## 4. Transport Impacts of Conferencing

As figure 22 shows, the majority (46%) of the trips which were definitely or probably avoided through conferencing would have been made by car, and a further 5% by taxi or van/LGV.<sup>4</sup> Hence, the primary impact of conferencing is on road transport. The other main impact is on train travel, which accounted for 27% of avoided trips.

Figure 23 shows that respondents stated that a mean of 229 miles of round trip travel was avoided for diesel car journeys, and 146 for both petrol cars and train.<sup>5</sup>

The combination of a large number of avoided car trips, and the high mileage which was avoided, means that they account for a large proportion of the total mileage avoided by not commuting, as figure 24 demonstrates.

As figure 25 shows, most avoided trips would have been undertaken within a period of congestion, thereby freeing up road space and seats on public transport. Conferencing is therefore helping to reduce Britain's traffic problems. As many respondents had their main working base in London or South-East England much of this benefit will accrue within this region. In current circumstances of overcrowded trains at peak periods, it is also helping to make rail transport more bearable for other passengers.<sup>6</sup>

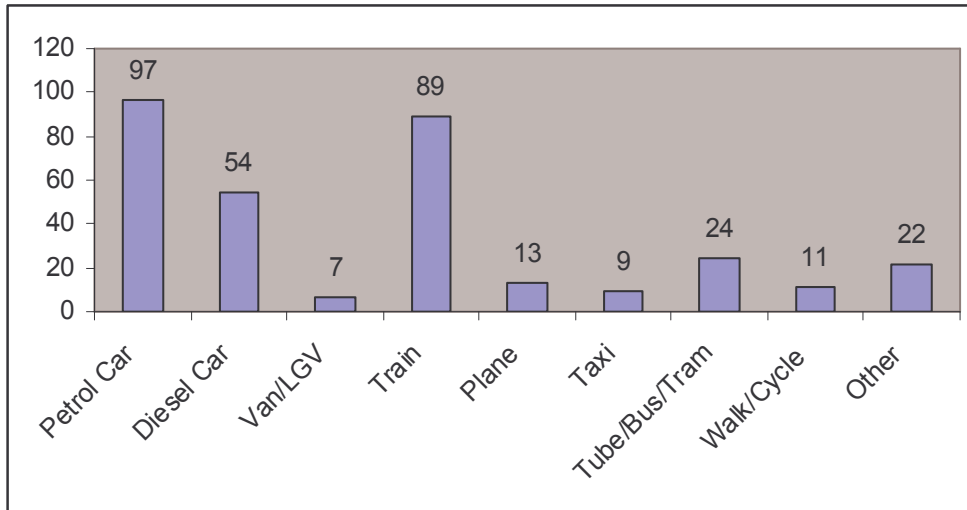
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<sup>4</sup> Calculations of avoided meetings of course assume that BT would organise itself, and its employees would be located, in the same way if conferencing did not exist. This is unlikely, so the calculations are a reflection of the technology's impacts within the current context of the company.

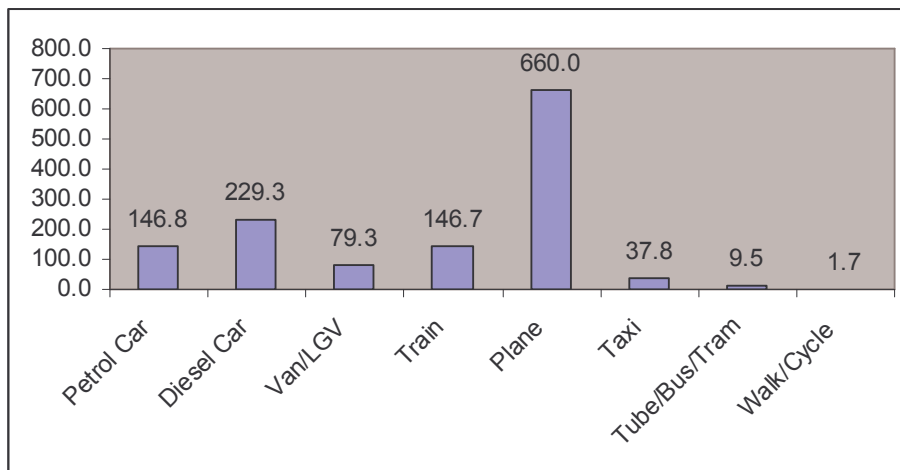
<sup>5</sup> These figures are higher than those calculated in the 2002 paper. This is probably because of a different method of calculation. The 2002 questionnaire only asked for mileage figures in bands – with the highest being 100 miles + per one-way trip – rather than absolute figures. Mid points were then used for mileage calculations. The 2004 questionnaire asked for actual distance figures. The differences are illustrated by plane travel. In 2002, all return plane journeys were assumed to be 200 miles whereas the mean mileage provided by respondents in 2004 was 660 miles.

<sup>6</sup> In the longer term widespread use of conferencing could potentially damage the economics of train and even plane travel by reducing passenger volumes. However, the current level of calls pose no significant threat to an over-stretched transport system.

**Figure 22 Number Of Trips Replaced For Each Travel Mode By Respondent's Last Conferencing Call Which Definitely Or Probably Replaced A Meeting (n=326)<sup>7</sup>**

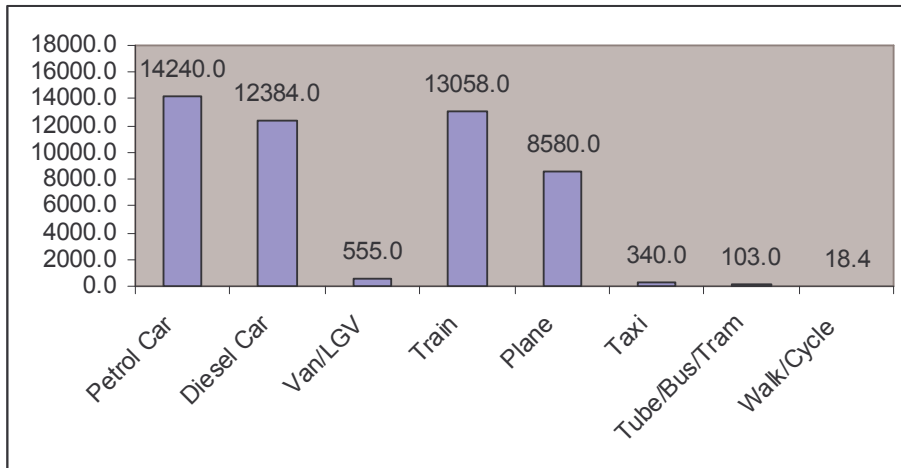


**Figure 23 Mean Distance Of Travel Avoided By Respondent's Last Conference Call Which Definitely Or Probably Avoided A Meeting, By Mode (In Miles)**

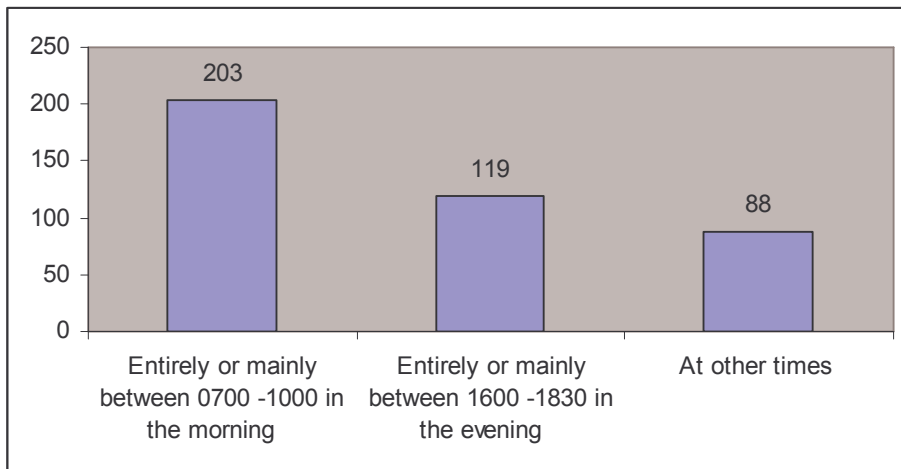


<sup>7</sup> The number of trips is higher than the number of respondents because many journeys involved more than one trip (defined as use of a specific mode of transport).

**Figure 24 Total Avoided Miles From Respondent's Last Conference Call Which Definitely Or Probably Avoided A Meeting, By Mode (In Miles)**



**Figure 25 The Time At Which Travel To And From The Definitely OR Probably Avoided Meeting Would Have Occurred (n = 279)**



## 4.1 Impact of Conferencing on Greenhouse Gas Emissions

Table 1 shows the individual and total mileage reductions which respondents estimated to have been created by conferencing, based on standard conversion factors developed by DEFRA.<sup>8</sup> The average saving per individual is of 182 miles and 41.39 kg of CO<sub>2</sub> emissions per journey. This compares to the 22.05 kg of CO<sub>2</sub> per individual calculated by the 2002 survey. The main reason for the difference is probably different calculation methods (see note 6). In any case, as the figures are based on respondent's estimates, which are likely to be fairly crude in practice, they are indicative rather than precise. For analytic purposes, the following sections take a rough average of 32 kg of CO<sub>2</sub> avoided emissions per individual.

**Table 1 Emission Reductions Resulting From Return Journeys Definitely Or Probably Avoided By The Respondent's Last Conference Call (n= 269)**

Mode of travel	Number of Respondents	Mean Mileage Avoided	Total Mileage Avoided	CO <sub>2</sub> Impact per Mile (in kg)	Total CO <sub>2</sub> Avoided (kg)
Petrol Car	97	146.8	14240.0	0.33	4699.2
Diesel Car	54	229.3	12384.0	0.2	2476.8
Van/LGV	7	79.3	555.0	0.33	183.15
Train	89	146.7	13058.0	0.09	1175.22
Plane	13	660.0	8580.0	0.29	2488.2
Taxi	9	37.8	340.0	0.33	112.2
<b>Total</b>	<b>269</b>	<b>1299.92</b>	<b>49157</b>		<b>11134.77</b>

These figures are based on the last conference in which respondents participated. Of course, some of these calls may be atypical for the individuals concerned, some of whom participate in conference calls weekly or even daily. We also do not know the travel avoidance outcomes for non-respondents to the survey. However, the overall sample size and response means that the responses can be taken as reasonably representative of all conferencing users.

The volumes of conference calls initiated by BT employees is rising rapidly. A reasonable figure to take for the purposes of this survey is 800,000 a year. If we make the conservative assumption that only 37% of these conference calls definitely replaced a meeting (the figure for definitely avoided meetings which we obtained from the survey) this gives a figure of 296,000 avoided meetings. If each of these avoided meetings resulted in five avoided return journeys (bearing in mind that the mean number of people participating in a conference call was 8.57) this gives a total of 1,480,000 avoided return journeys. If each of these avoided journeys created an average saving of 32

<sup>8</sup> DEFRA, *Company Reporting on Greenhouse Gas Emissions*, 2001. The table is based on average values for each mode, with Van/LGV and Taxi taken to be petrol and plane trips short haul. There are no specific factors for Tube/Tram/Bus.

kg of CO<sub>2</sub> emissions conferencing at BT is avoiding around 47.4 million kg, or 47,400 tonnes, of CO<sub>2</sub> in total.

Of course, any reductions in travel-related CO<sub>2</sub> emissions may be offset by emissions arising from use of the BT network during conference calls. A very crude estimate of these can be made by calculating the use of electricity. The most electricity intensive medium for conferencing is a broadband line, which uses approximately 0.005 kwh of electricity to run. DEFRA suggests that there are 0.43 kg of CO<sub>2</sub> emissions per kwh of grid electricity so that a single conference call participant will generate 0.00215 kg of CO<sub>2</sub> in an hour (which is roughly the average length of respondent's last call).<sup>9</sup> The previous calculations of CO<sub>2</sub> savings assumed 5 participants in 296,000 calls. Using these same figures therefore gives offsetting CO<sub>2</sub> emissions from electricity of 5 x 296,000 x 0.00215, or 3182 kg or 3.182 tonnes. Although very crude, and ignoring emissions related to equipment manufacture and disposal, the calculations indicate that the CO<sub>2</sub> impacts of the conference calls are negligible compared to the travel-related savings which they generate.<sup>10</sup>

The calculations of this section do make a number of assumptions that could create inaccuracies, including:

They are based on self-reported assessments which cannot be independently verified and may therefore be over-stated or under-stated.

They only take into account calls which respondents stated had definitely avoided a meeting and therefore exclude a number of other calls which could also have replaced a meeting.

They ignore the small number of conference calls which generate additional travel.

Some of the participants will have been involved in more than one call a day so there could be an element of double counting.

In the longer term, conferencing may enable more dispersed patterns of working which create additional travel.

The longer term effects are difficult to assess in a study of this kind. In the short term, however, it seems that the scale and high likelihood of substantial under-estimation created by the exclusion of conference calls that would have probably or possibly avoided a meeting is likely to be at least as great as the possible over-estimation created by other factors. Our estimates are therefore likely to be conservative and the real level of avoided travel could be several times higher.

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<sup>9</sup> See [www.defra.gov.uk/environment/envrp/gas/05.htm](http://www.defra.gov.uk/environment/envrp/gas/05.htm)

<sup>10</sup> The question may also be less relevant in future, when BT much will be sourcing much of its electricity from green sources.

## 5. The Financial Benefits of Conferencing to BT

It is impossible to quantify the overall contribution of conferencing to BT's business performance. However, it is possible to calculate the costs saved as a result of the 296,000 avoided meetings, and 1,480,000 avoided journeys, which were calculated in the previous section.

Figure 26 shows the estimated savings in travel costs for respondents whose conference call definitely or probably replaced a face-to-face meeting. The mean saving for those reporting a reduction was £66.49. The real figure is likely to be considerably higher as some of the other participants (bearing in mind that the mean number of participants per call was 8.57) will also have avoided travel costs.

Figure 27 shows that many respondents whose conference definitely or probably replaced a face-to-face meeting were also saving considerable amounts of travel. 73.5% of respondents believed that they were avoiding at least three hours travel time, and 31% believed that they had saved more than six hours.

9% of respondents also stated that the avoided meeting would have avoided an overnight stay, which would have created additional expense.

### 5.1 Overall Financial Benefits to BT

Table 1 showed that respondents saved an average of 182 miles of travel for each meeting. Figure 25 also demonstrated that most of this travel saving occurs at peak times, when fares and congestion are highest. Figure 26 provides respondents estimates of the savings in travel costs from avoided meetings. The mean estimated saving per respondent is £66.49, or almost 30p per mile. If we take account of productive travel, and unsuccessful conference calls, a reasonable average cost for this travel and associated subsistence is 20p per mile. This gives a figure of £36.40 per person, or £182 per avoided meeting.

Figure 27 indicated the time savings created by this avoided travel. Of course, some of this time might have been used productively – e.g. by thinking about issues or talking in all modes, and doing office type work on trains. Some of the conference calls would also have been unsuccessful, and/or generated a need for additional travel. A conservative assumption would therefore be that each conference saved two hours of unproductive travel time for five people, i.e. 10 hours in total.

The average cost of a BT member of staff is £25.41 an hour. As managers are highly over-represented amongst survey respondents who have used conferencing recently this figure is likely to be an under-estimate. National transport research also places a different value on time saved in personal commuting – £4.80 in one recent study – and that saved from work travel. The distinction is somewhat artificial for the very mobile BT workers who form a large part of the sample. Nonetheless, we take a figure of £20 per hour as an

approximate outcome from these various sources. This therefore gives a figure of £200 for the time savings from each avoided meeting.

9% of respondents also believed that they would have stayed overnight for the avoided meeting. Many of these overnight stays would have been in the relatively expensive areas of London and the South East. As the average costs of this are likely to be over £100 a night, a figure of £10 as an average cost per meeting attendee – and therefore £50 for a meeting - seems reasonable.

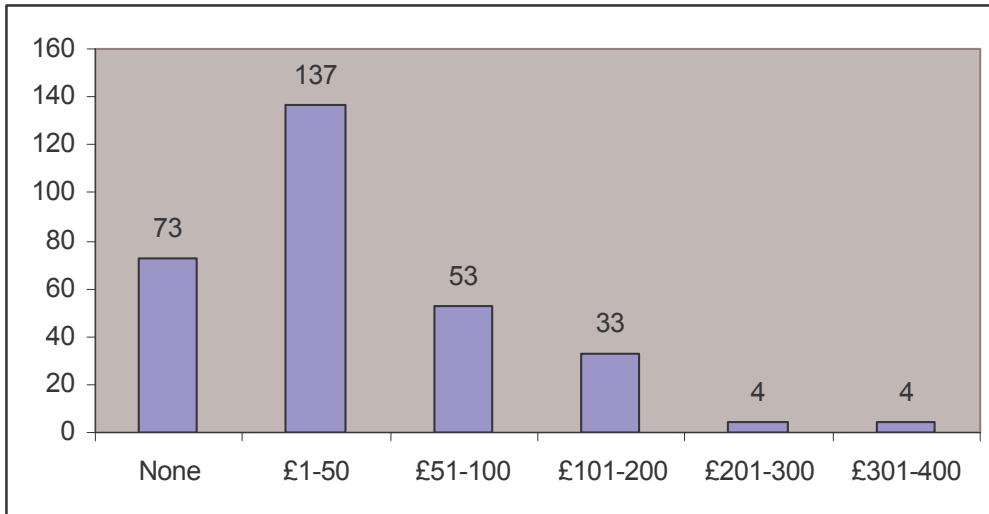
Table 2 shows that these assumptions result in an avoided cost per meeting of £432, and total avoided costs of £128 million to BT as a whole. As the assumptions are relatively conservative, the actual avoided costs are likely to be considerably higher. The calculations also ignore the more intangible benefits from better decision-making and improved work-life balance.

The precise costs of conferencing within BT are commercially confidential but they are only around 10-15% of the annual avoided cost figure of £128 million. As there are further intangible business benefits from more effective decision-making, better work-life balance and other impacts, it therefore seems likely that conferencing is creating value at least 10-15 times greater than its cost.

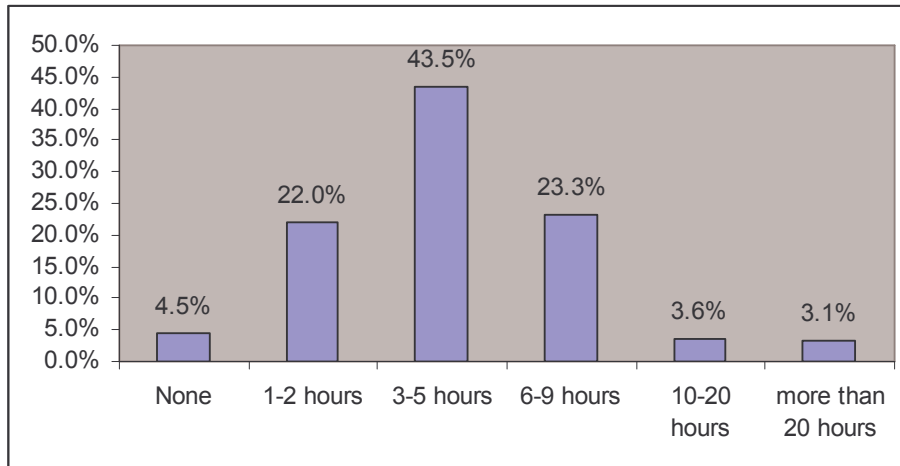
**Table 2 Avoided Meeting Costs As A Result of Conferencing**

	Cost Per Meeting	Total Cost for BT
Time	£200	£59,200,000
Travel	£182	£53,872,000
Overnight Stays	£50	£14,800,000
Total Cost	£432	£127,872,000

**Figure 26 Travel Cost Savings To BT From Respondent's Definitely Or Probably Avoided Journeys As A Result Of Their Last Conference Call (n = 304)**



**Figure 27 Total Travel Time Saved By Definitely Or Probably Avoided Meetings (n = 223)**



## 6. The Future

Conferencing is now widely used within BT, so it is possible that the benefits it creates have peaked. To examine this question the 2004 survey also addressed people who had not used conferencing in the past four weeks. (This was not the case with the 2002 survey). 310 respondents - 34% of the 911 that responded – were in this category.<sup>11</sup>

The answers of these non-users (at least recently) of conferencing suggest that:

There is a correlation between use of conferencing and workers who are very mobile - two thirds (67%) of recent non-users had an office base which they rarely left (Figure 28).

A similar percentage (69%) of recent non-users prefer to have face-to-face meetings than to conference (Figure 29).

A third of recent non-users (31%) felt that conferencing could improve their work-life balance, with a similar percentage being unsure (Figure 30)

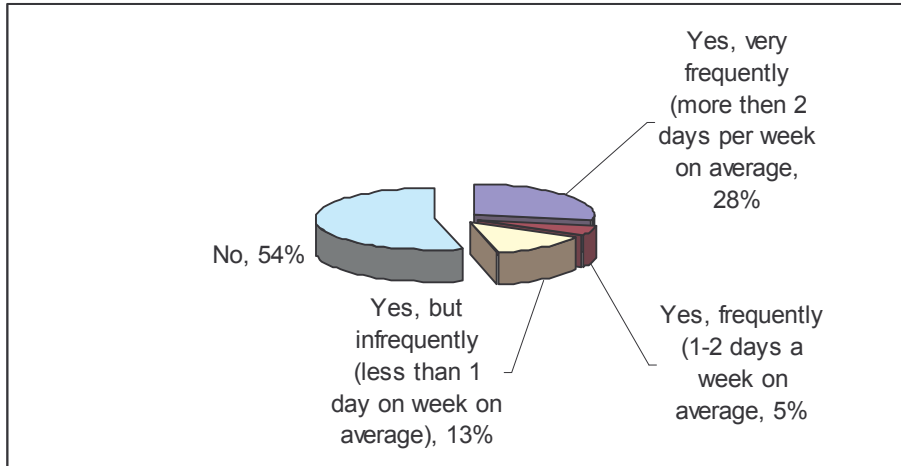
A similar percentage (35%) of recent non-users have not been reached by BT's internal marketing campaigns. The most effective medium for those who had been reached were e-mail and Gatekeeper (Figure 31).

It therefore seems reasonable to assume that at least a third of current non-conferencing users are potential targets for greater usage in future. Appendix 1 also indicates that there is considerable scope to increase conference usage amongst current users.

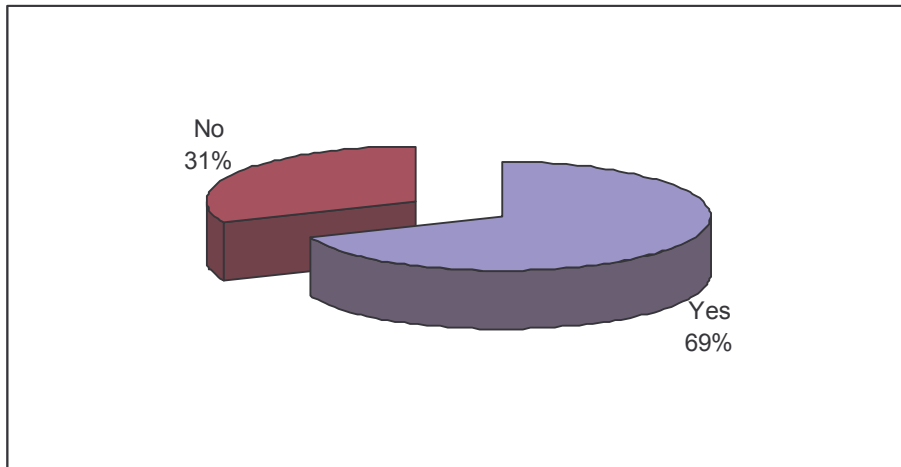
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<sup>11</sup> Of the 310, only 277 people went on to answer the questions discussed in this section.

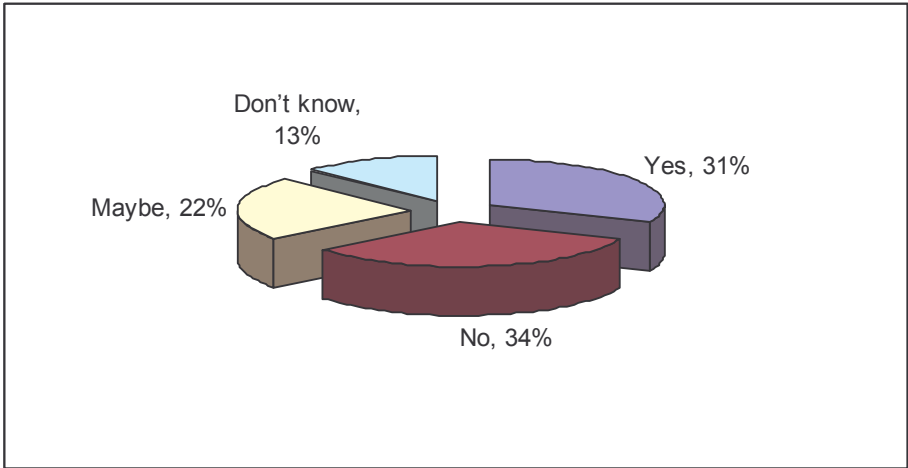
**Figure 28 Whether Current Role Requires People To Travel From A Normal Office Base (n=277)**



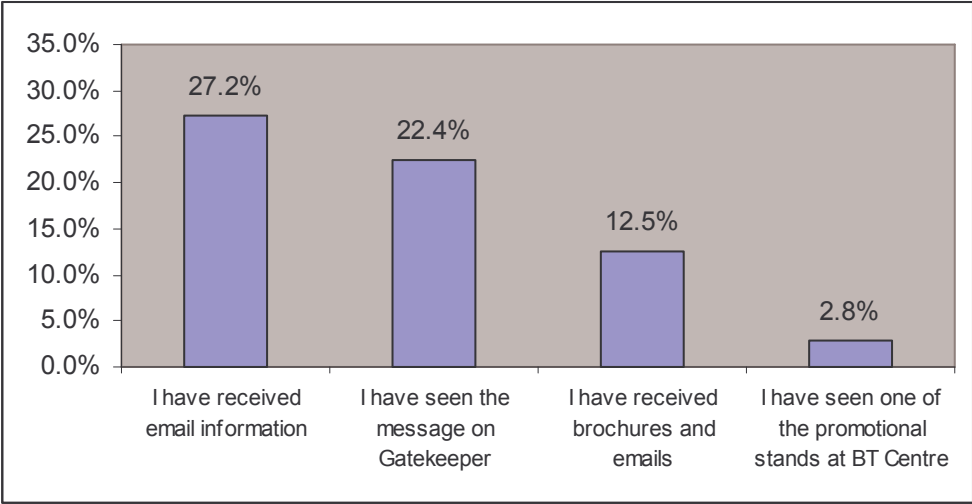
**Figure 29 Do You Prefer To Have Face-To-Face Meetings Rather Than Conference? (n=277)**



**Figure 30 Do You Feel That Conferencing Could Improve Your Work Life Balance And/Or Work Performance By Avoiding The Need To Travel? (n=277)**



**Figure 31 Percentage Of Recent Non-Users Aware Of Specific BT Internal Marketing Campaigns (n = 255)**



## 7. Conclusions

As might be expected from the near doubling of calls since 2002, conferencing at BT is becoming a routine activity, especially for managers. This survey also confirms the findings of its 2002 predecessor that conferencing is providing many economic, social and personal benefits for BT and its staff. Most conference calls achieve their business objectives, sometimes in more effective ways than is possible with face-to-face meetings. They also cut travel which:

Frees employee time for both work and personal uses

Helps to improve work-life balance

Reduces congestion and carbon dioxide emissions, especially in London and the South East

Saves BT considerable amounts of money.

The net effect appears to be that conferencing is saving BT at least £128 million a year in travel costs and time – which is 85-90% greater than the cost of the conference calls. As there are further intangible benefits from more effective decision-making, better work-life balance and other impacts, conferencing appears to be creating value at least 10-15 times greater than its cost.

Although conferencing is now deeply embedded into BT's working practices, there also appears to be potential to increase its use further. This should create further benefits.

However, the survey does identify a small minority who believe that the very flexibility and ease of use of conferencing has a potential downside in the form of too many calls being set up, and/or those calls which are made being poorly managed. BT should do more to educate users – both internal and within its customer base - on the best way to maximise benefits and avoid problems from its use.

The survey also shows that the increased 'connectivity' which conferencing provides can sometimes result in additional face-to-face meetings and, therefore, travel. However, in the short-medium term context of the survey these are far outweighed by the meetings avoided.

Another criticism of electronic forms of communication such as conferencing is that they create a dehumanised work environment in which people feel more socially isolated. The survey shows that a small minority of respondents believes this to be true at present. However, other work has shown that, whilst there will always be some people who feel this way, their numbers can be minimised through good management and effective support and training.

## Appendix 1 – Personal Impacts of Conferencing

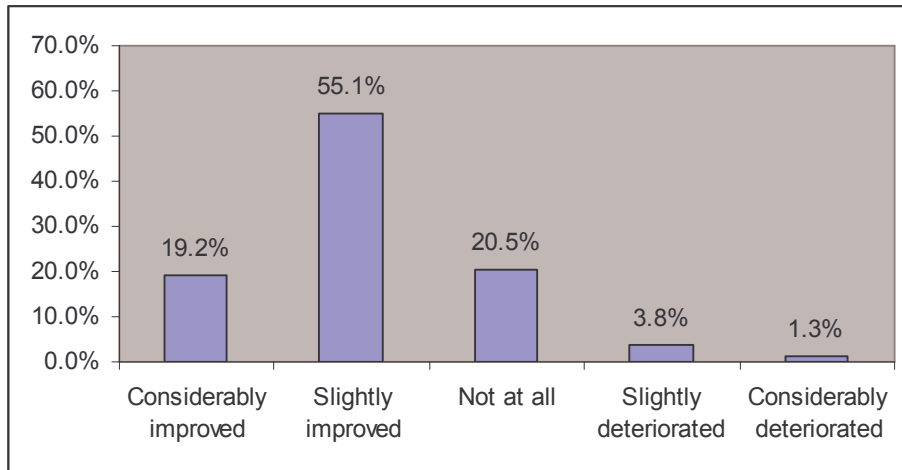
In the first stage of the survey we did not ask questions on this topic. However, once a large number of responses had been received, we asked respondents to answer additional questions on the topic. The number of responses for the questions discussed in this section are therefore much lower than for those in the previous sections. The responses also have a larger proportion of non-managers than for the main survey. The findings in this section generally confirm those of the 2002 survey, for example:

73% of this sub-set of total respondents stated that conferencing is an essential aspect of their job (similar to the 66% of the total 2002 sample)

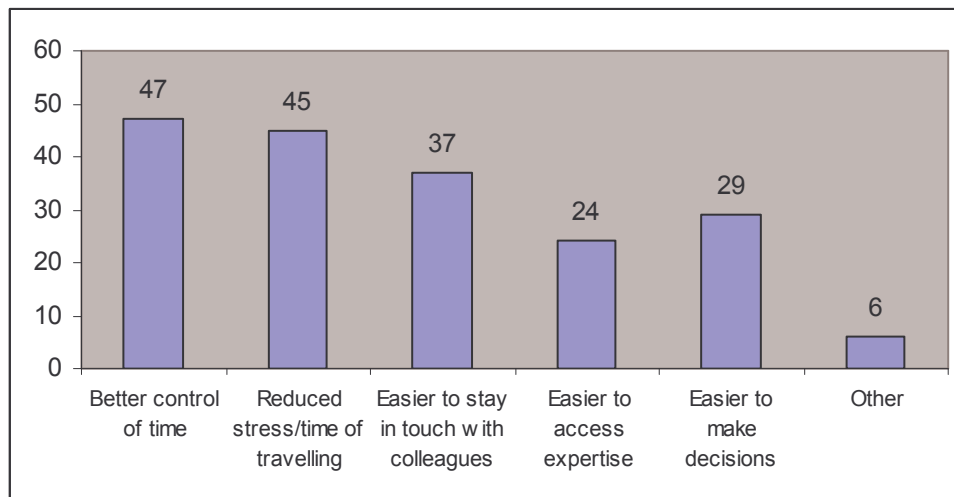
74% believed that conferencing has increased their work performance (less than the 82% of the total 2002 sample but still a substantial figure) (Figure A1-1).

As can be seen from figure A1-2, the main reasons for this are to do with use of time – either better control of it or avoiding time spent travelling. This was also the conclusion of the 2002 survey, which examined the reasons for this in greater detail than the 2004 one. The following sections use quotes from the two surveys to illustrate some of the factors which influenced people's answers.

**Figure A1-1 The Influence Of Conferencing On Work Performance (n=78)**



**Figure A1-2 Main Reasons Identified For Improved Work Performance (n=65)<sup>12</sup>**



<sup>12</sup> Respondents could give multiple responses to this question.

### **A1.1 Better Control of Time**

Conferencing can allow people to 'create' more productive time by avoiding travel to meetings as well as allow them to more easily cope with a heavy workload and avoid excessive or unsocial working hours:

*"I'm on the road so much that the ability to choose to participate in a call irrespective of where I am gives greater flexibility, less stress to return to a base at a given time and enables me to get home earlier sometimes on a Friday compared to staying in an office" – 2004 survey.*

*"Saving travelling time enables me to fit my work more into the day so less has to be done during the evening and late at night. Conferencing allows our management team which is spread out nationally to meet weekly to share new idea & ensure we are all heading the same direction. For my own team it gives me the opportunity to be in touch with all of them without taking them out of their normal work places & away from our customers" – 2002 survey.*

### **A1.2 Reduced Travel Time and Stress**

Many respondents previously spent long hours in travelling, often outside conventional working hours. Using conferencing enables them to make what they consider to be more effective use of this time, not only – as we have seen – for work purposes but also personal life. The benefits of reduced travel are especially great for those living and working in remote locations, in part-time posts, with jobs requiring international travel or who find it difficult for medical or disability reasons:

*"Negates the need for many hours of travelling for a potentially short meeting" – 2004 survey.*

*"I find most meetings a waste of time - particularly the travelling. As I work only 21 hours a week I am very conscious of the effect on the amount of work I can achieve in a week if I have to attend a face to face meeting. My last face to face meeting meant a 14 hour day or 2/3 of my working week - most of which was wasted in travelling" – 2002 survey.*

### **A1.3 Easier To Include People and Expertise**

The relatively low time investment in setting up and participating in conferences allows contact with people which would have been difficult or impossible without it:

*"It gives the flexibility to have total audio calls as well as some the ability to have face to face meetings with the addition of having the dial in for those unable to attend. This makes it easier to set up meetings as not all required attendees are able to be present in person at*

*meetings. Less delays involved before discussing issues with all parties” – 2004 survey.*

*“Conferencing allows me to involve those have the expertise to resolve issues (if that is the reason for the call). On occasions it has been necessary to include additional callers to help resolve issues which would not be possible if it were a face to face. My team is spread throughout the country and the weekly calls allow us to monitor workflow resolve issues effectively and regularly which would not be possible if these discussions had to be face to face and they are obviously more cost effective” – 2002 survey.*

#### **A1.4 Easier to Make Decisions**

Conferencing can allows decisions to be made more effectively and speedily:

*“Urgent meetings can be arranged quickly” – 2004 survey.*

*“It saves huge amounts of time both in terms of travelling and because meetings tend to be more focussed. Because meetings are more focussed I think we are more decisive. Things get done quicker because an audio can be organised weekly rather than holding monthly meetings” – 2002 survey.*

#### **A1.5 Conferencing and Work Disruption**

A third of the sub-set of respondents who answered a question on this topic stated that conferencing has enabled them to work when they were prevented from reaching another working location (Figure A1-3). This compared to 44% of all respondents who gave the same response in the 2002 survey.

#### **A1.6 Social and Personal Impacts**

As figure A1-4 shows, 57% of the sub-set of respondents who were asked about this topic felt that conferencing was having a positive impact on their work-life balance. 11% of the 2004 respondents felt that was having a negative effect. The 2002 survey asked a similar but slightly different question about the effects of conferencing on quality of life. 66% of 2002 respondents felt that it was having a positive impact, and only 2.6% stated that it had a negative effect.

Conferencing also supports BT’s flexible working policies by making it easier to work at home. Previous surveys of teleworkers have found that the ability to do this is felt to be positive for their quality of life.<sup>13</sup> As figure A1-5 shows, 42% of the sub-set of respondents stated that conferencing made it more likely that

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<sup>13</sup> Peter Hopkinson, Peter James and Takao Maruyama, *Teleworking at BT - The Economic, Environmental and Social Impacts of its Workabout Scheme*, Peterborough, SustainIT, 2002. Downloadable from [www.sustel.org](http://www.sustel.org).

they would work from home. This compares to the 52% of respondents who said this in the 2002 survey.

Some illustrative comments on the effects of conferencing and social and personal life were:

*“Children can leave from own home when going to school. Save 2 hours travelling when no need to go to office” – 2004 survey*

*I'm in a better mood/less tired when I come home to see my family! I am also able to pop out for the Doctor's appointments, have a delivery made, pop to the Post Office during the week instead of filling up my Saturday mornings which I used to do” – 2002 survey.*

The over win-win which was identified by many people in both surveys was summed up a 2002 respondent who stated that:

*“Travelling less = more time at home = balance of home/work priorities = less stress = better performance”.*

### **A1.7 Negative Impacts of Conferencing**

A small proportion of those commenting on the performance impacts of conferencing in the 2002 and 2004 surveys made negative comments. These were mainly about being involved in too many and/or too long conferences, and concerns about inappropriate uses and loss of face-to-face contact:

*“A culture of too many calls is developing” – 2004 survey*

*“I've answered mildly positive as an average of strongly positive and negative. Conferencing has been labelled as the panacea to all ills but should only be used sensibly. E.g. over the last four weeks a good example of sensible use would be a 1-2 hour project progress review; a bad example would be a two day meeting held by conference (11:00-13:00, 13:30-16:30, 08:30-11:30)” – 2002 survey.*

### **A1.8 General Impacts of Conferencing on Business Mileage**

We also asked if conferencing had created any additional travel. Figure A1-6 shows that it didn't for at least 80% of the last conference calls made by the sub-set of respondents.

In practice, it is difficult to disentangle the travel impacts of conferencing from other factors which also influence travel outcomes. To explore this further we first asked about general trends in business mileage. Figure A1-7 shows that most (50%) of the sub-set of respondents who answered believed that it reduced, and that only 17% believed that it had increased. Further questions found that:

91% of respondents who had experienced a reduction in business mileage felt that conferencing was a factor in this (Figure A1-8).

46% of the smaller number of people who felt that business mileage had increased felt that conferencing was a factor (Figure A1-9)

59% of respondents who stated that their business mileage had remained the same believed that conferencing had prevented an increase (Figure A1-10).

The number of respondents is too small to provide conclusive evidence, but it does seem that conferencing is indeed minimising business travel within BT.

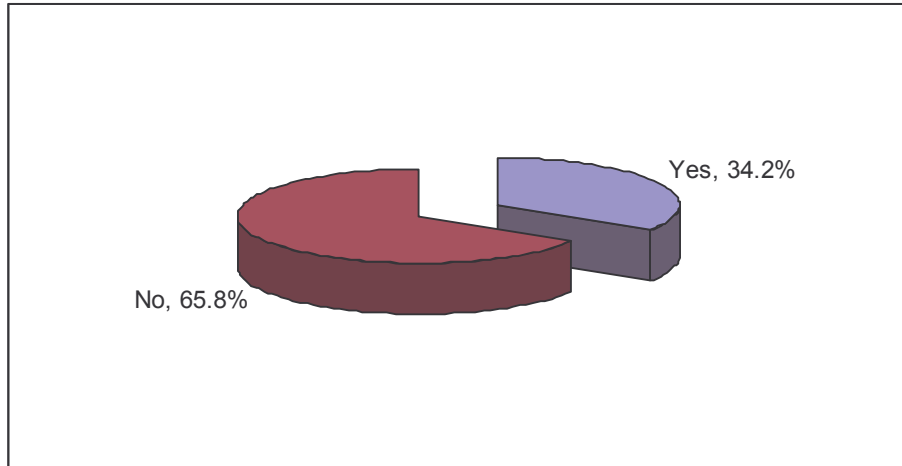
### ***A1.9 Scope for Greater Use of Conferencing Amongst Current Users***

We also asked the sub-set of respondents who were already using conferencing about the scope for further meetings. Figure A1-11 shows that a majority (62%) felt that there are further opportunities to use conferencing. Only 5% of respondents felt that conferencing should be used less.

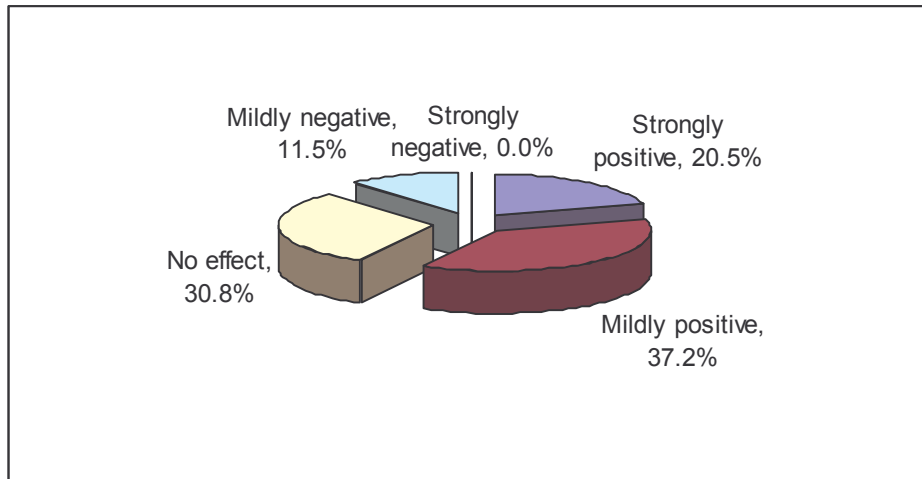
### ***A1.10 Job Characteristics***

Just under a quarter (21%) of respondents to these questions were 'agile workers' who work in many locations (Figure A1-12), and only 26% felt that conferencing was an essential part of their job. A similar percentage (29%) felt that conferencing was more likely to make them work 'on the road', with the majority feeling that it had no effect (Figure A1-13).

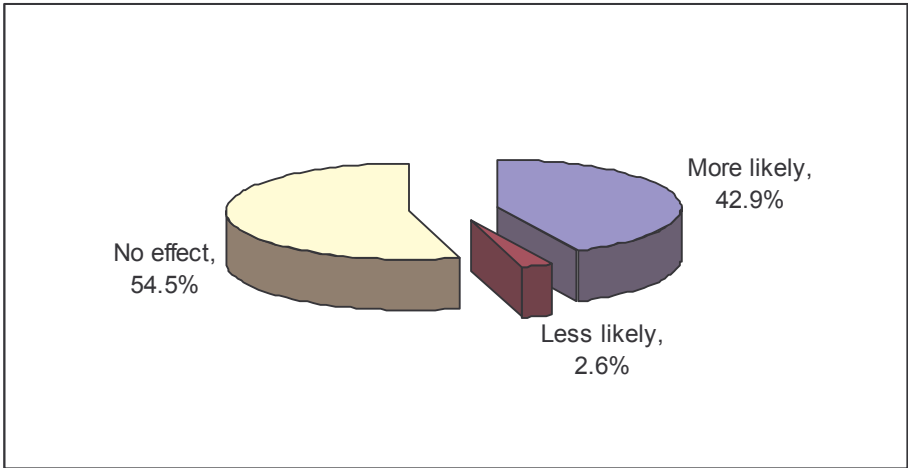
**Figure A1-3 Has Conferencing Enabled You To Work When Preventing From Reaching The Normal Work Location (n=76)**



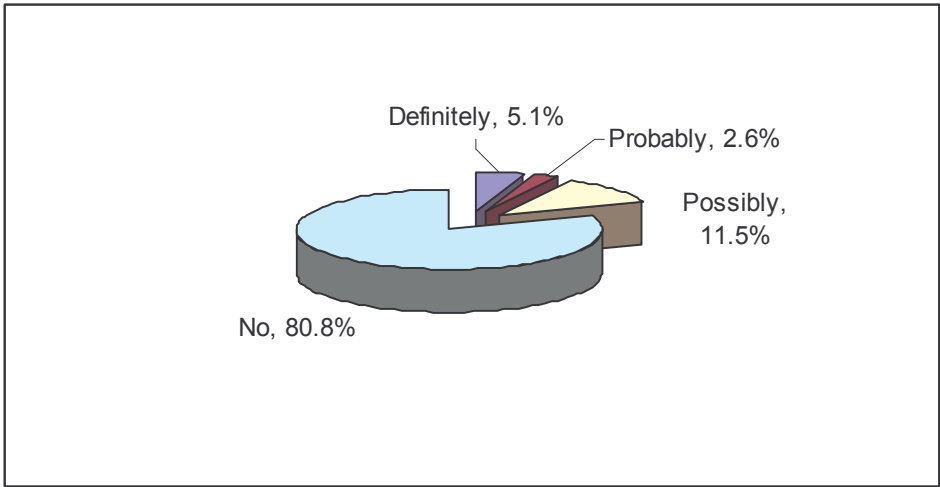
**Figure A1-4 Impact Of Conferencing On Respondent's Work-Life Balance (n=78)**



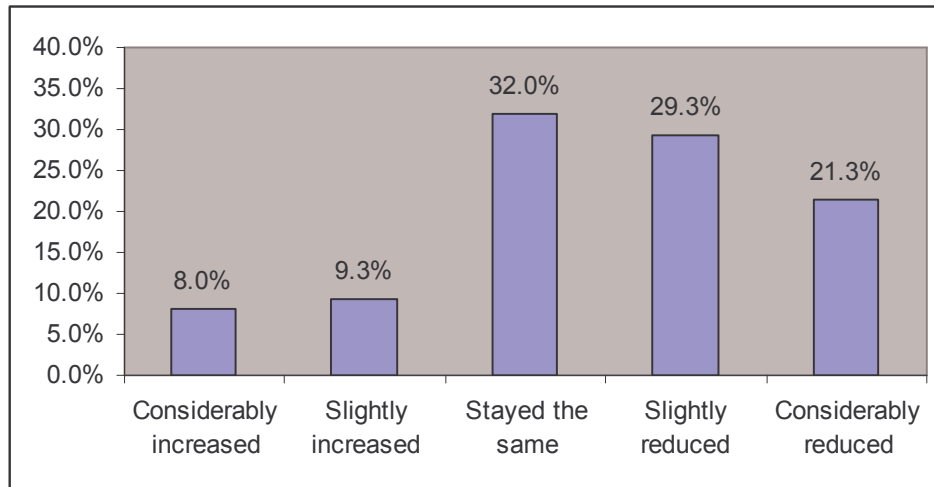
**Figure A1-5 Influence Of Conferencing On Propensity To Homework (n=77)**



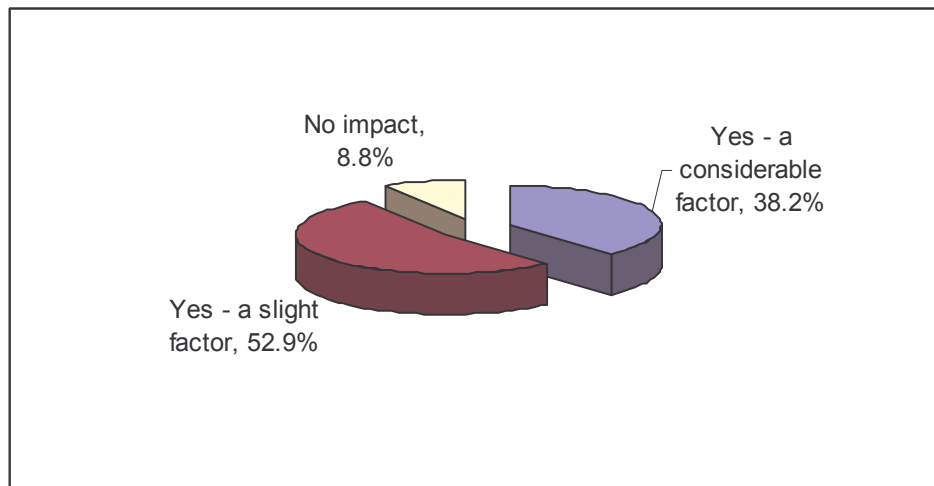
**Figure A1-6 Additional Travel Created By The Conference Call (n=78).**



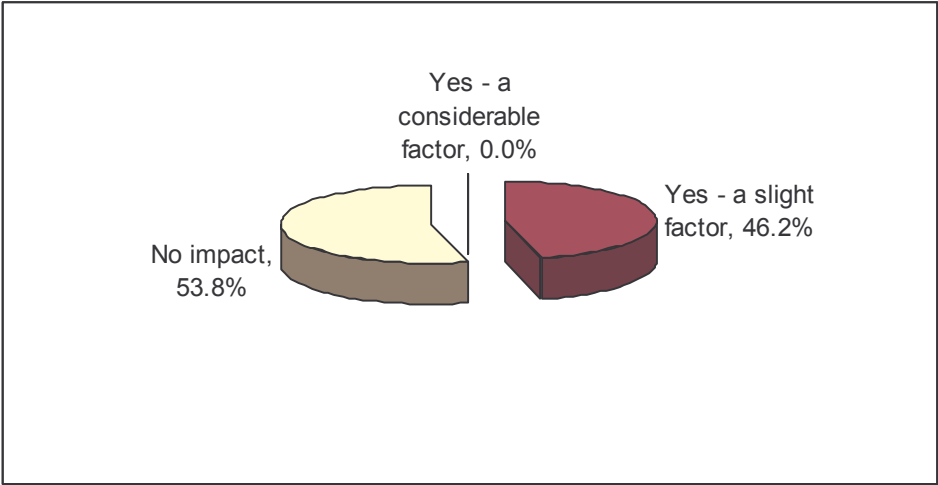
**Figure A1-7 Changes in Business Mileage Over The Last Two Years (n=75)**



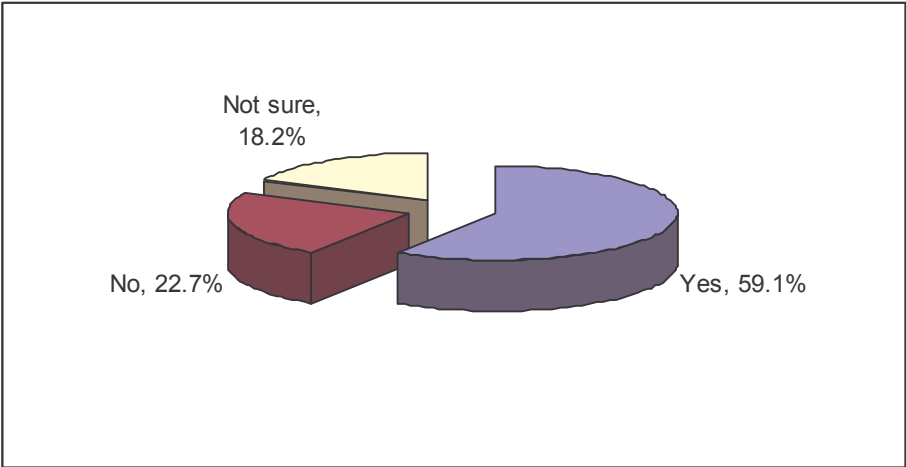
**Figure A1-8 Influence Of Conferencing On Respondents Experiencing A Reduction Of Business Mileage In The Last Two Years (n=34)**



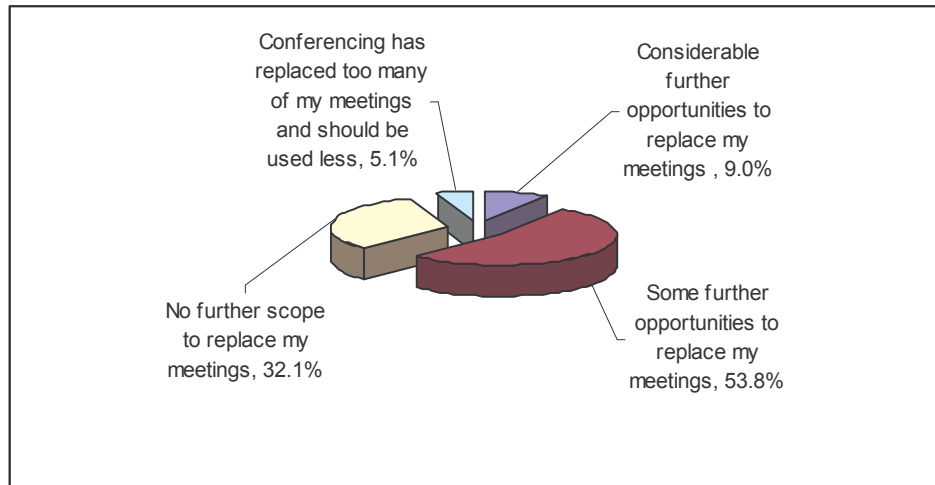
**Figure A1-9 Influence Of Conferencing On Respondents Experiencing An Increase In Business Mileage In The Last Two Years (N=13)**



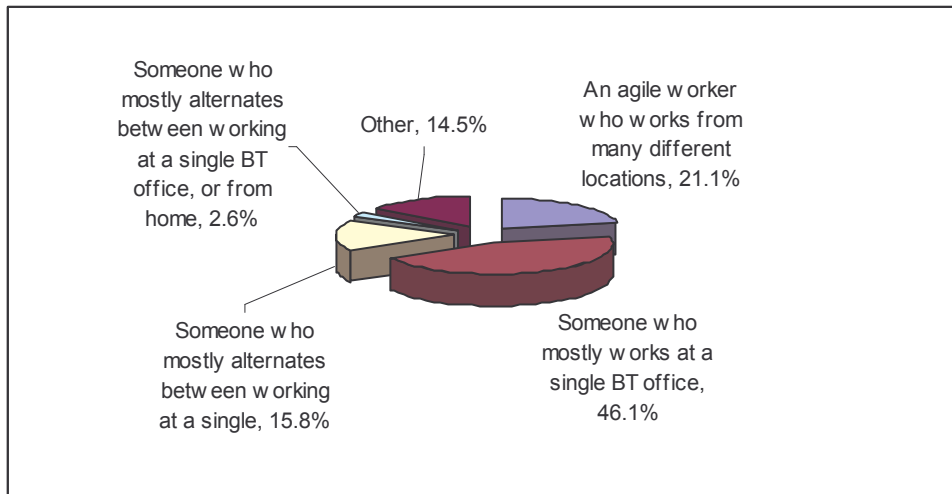
**Figure A1-10 If Your Business Mileage Hasn't Changed Do You Feel That Conferencing Has Prevented An Increase? (n=18)**



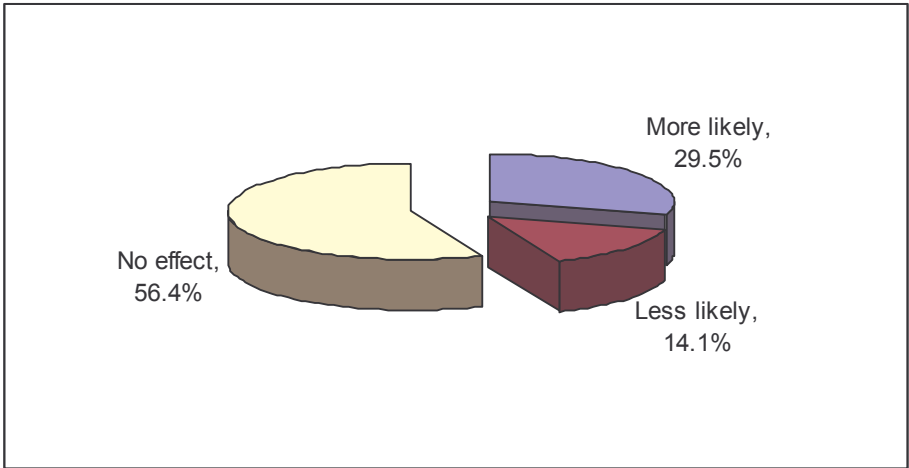
**Figure A1-11 The Scope For Conferencing To Replace Current Meetings (n=46)**



**Figure A1-12 Work Pattern Of Sub-Sample Respondents (n = 76)**



**Figure A1-13 Does The Ability To Conference Make You More Or Less Likely To Work 'On The Road'?**



## Appendix 2 – Details of the Survey

The tables in this section give more information on the BT staff who were e-mailed, and those who responded:

Table 3 provides details of the population which was contacted – about 5% of BT's total employees, chosen in proportion to the individual business's proportion of total BT employment.

Table 4 provides details of all respondents, whilst tables 5 and 6 break this down into recent conference users and recent conference non-users respectively.

Table 7 provides details of the respondents who answered the questions on personal impacts which are discussed in Appendix 1.

Some points to note are:

Managers are very over-represented amongst recent conferencing users, and under-represented amongst recent conferencing non-users

Respondents came from a wide variety of jobs within BT (see Figures A2.1 and A2.2)

33.2% of respondents had their main working base in London or South-East England (see Figures A2.3 and A2.4).

**Table 3 Main Survey Population**

	Numbers by Unit	Managers	Non-Managers
BT Retail	2336	449	1887
BT Wholesale	1367	202	1165
BT Exact	145	129	16
BT Global Services	302	223	79
BT Group	352	215	137
BT Openworld	19	17	2
Total, Main BT	4521	1235 (27%)	3286 (73%)
BT Subsidiaries	436	n/a	n/a
Total	4957		

**Table 4 Characteristics Of All Respondents To Main Survey<sup>14</sup>**

	Responses by Unit	Managers	Non-Managers
BT Retail	351	115	232
BT Wholesale	151	72	77
BT Exact	53	42	11
BT Global Services	96	66	30
BT Group	120	80	39
Other	6	1	5
Total	777	376	394

**Table 5 Characteristics of Respondents To Main Survey Who Were Recent Conferencing Users<sup>15</sup>**

	Responses by Unit	Managers	Non-Managers
BT Retail	188	111	75
BT Wholesale	103	68	33
BT Exact	48	39	9
BT Global Services	83	65	18
BT Group	94	73	20
Other	3	1	2
Total	519	358	157

<sup>14</sup> Total responses to the first question were 911, but a number of people either declined to give this information or had dropped out of the survey by the time it was asked (as the last questions). And 7 people who answered the BT unit question did not answer the manager status question.

<sup>15</sup> Total recent conferencing users responding to the first question were 601.

**Table 6 Characteristics of Respondents To Main Survey Who Were Not Recent Conferencing Users<sup>16</sup>**

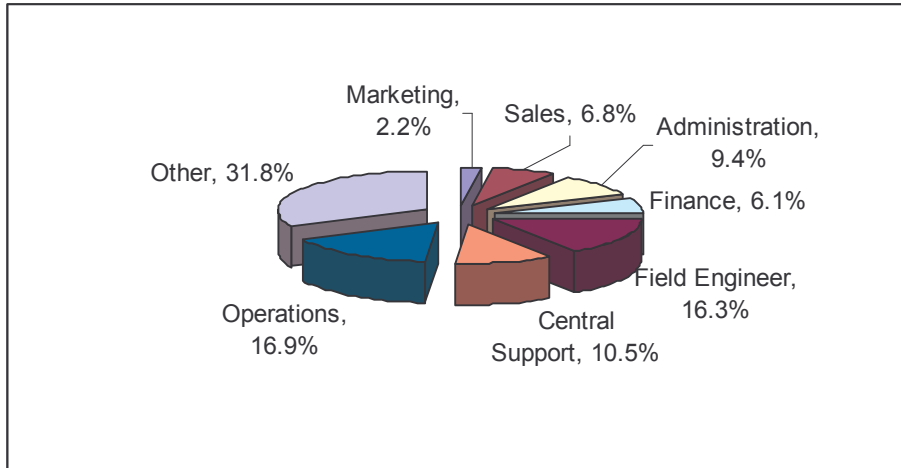
	Responses by Unit	Managers	Non-Managers
<b>BT Retail</b>	163	4	157
<b>BT Wholesale</b>	48	4	44
<b>BT Exact</b>	5	3	2
<b>BT Global Services</b>	13	1	12
<b>BT Group</b>	26	7	19
<b>Other</b>	3	0	3
<b>Total</b>	258	20	238

**Table 7 Characteristics of Respondents To The Questions On Personal Impacts (Discussed In Appendix 1)**

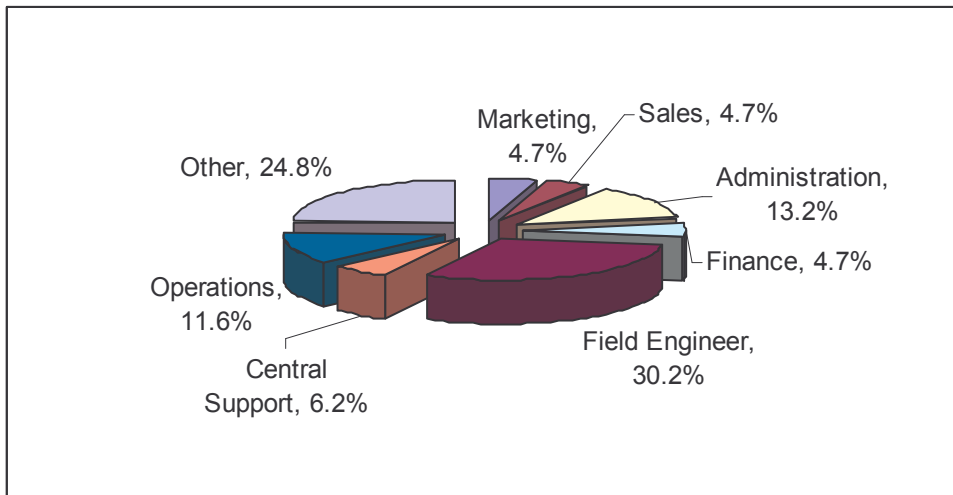
	Responses by Unit	Managers	Non-Managers
<b>BT Retail</b>	33	19	14
<b>BT Wholesale</b>	14	11	3
<b>BT Exact</b>	7	6	1
<b>BT Global Services</b>	13	10	3
<b>BT Group</b>	11	8	3
<b>Other</b>	1	1	0
<b>Total</b>	79	55	24

<sup>16</sup> Total recent non-users of conferencing responding to the first question were 310.

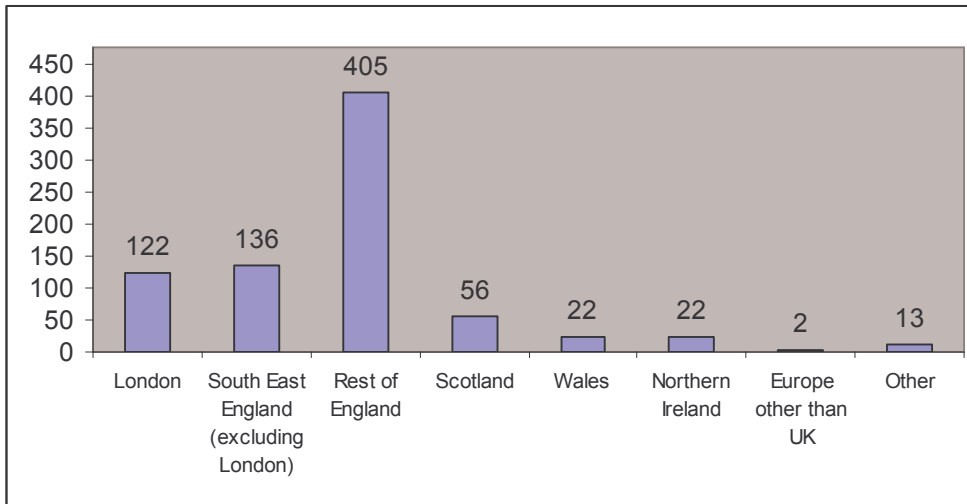
**Figure A2-1 Roles of Respondents to Main Survey**



**Figure A2-2 Roles of Respondents To The Questions On Personal Impacts (Discussed In Appendix 1)**



**Figure A2-3 In Which Area Is Your Main Working Base Located?**  
(n = 798)



**Figure A2-4 Rest Of England Category (From Figure A2.3)**

