
**ESRC E-Society Programme**

**Research Report**

# Multispeed Cities and the Logistics of Living in the Information Age

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## 1 Background

Whilst research on the so-called 'digital divide' is well established, it has thus far tended to focus on mapping differentials of access to the Internet between different income, gender and ethnicity groups. Such research has successfully traced how the leads and lags of on-line access move, over time, between different social groups and geographical areas, as access to Information and Communications Technologies (or 'ICTs') --primarily as physical artefacts -- diffuse unevenly through society.

Thus far, such aggregate depictions of wide-scale diffusion processes have dwarfed efforts to look at the qualitative effects that access, or lack of access, to ICTs – and all the transactional, informational, and communicational worlds that they can open up – have on individuals, households, and neighbourhoods. Four interrelated research problems have emerged as a result:

1. After some excellent early work (e.g. Silverstone and Hirsch, 1992), we remain poorly informed about the ways in which new technologies are being configured and 'domesticated', in everyday practice, to re-make the time-space fabrics, and the logistical dynamics, of everyday life.
2. We remain largely uninformed about what it means for neighbourhoods and place-based communities to *not* have access to ICTs in a world where personal, welfare and leisure services are being fundamentally restructured to orient themselves towards consumers who have ICT access. The impact of using ICTs is not just confined to the household, but cascades into other spheres – producing second and even third order effects, in, say, local service provision and community dynamics. To adapt Shove's words (2003: 2), ICTs 'not only permit people to fulfil necessary practices, they have the further consequence of modifying what those practices are and how they are 'normally' configured and structured.'
3. We remain poorly equipped to understand how ICTs – with their fundamental abilities to transcend time and space barriers – relate to the fine-grain of people's

place-based and grounded lives in cities and neighbourhoods. That is, if ICTs enable greater 'extensibility' of action in space (e.g. contacting distant friends, picking up voice mail, ordering goods), and instantaneity in time (e.g. from mobile phone calls on the move), then what are the effects on the spatial and temporal scales at which we interact with other people ? As Green (2002: 281) argues:

> 'to date, sociologists have treated the transformation of time and space via information and communication technologies as a largely theoretical question. Abstract statements are made about how, for example, time is "compressed" or space is "distanciated" via the politics, institutions, and telecommunications infrastructures of new technologies of information and communication. These theories make little or no reference to the empirically specific social practices through which time and space are framed and apprehended on an everyday basis.'

4. Because survey research on the digital divide has tended to concentrate on individual applications – for example, food-shopping, telework, and financial services – the cumulative effects of the *intersections* of these multiple activities on the overall time-space fabrics of everyday life remain largely unknown. Moreover, the notion of a digital divide for ICTs has tended to use simplistic notions of what is meant by 'ICTs' - very often the physical artefacts of computers and connections (Selwyn 2004: 346), and rarely an ensemble of technologies and practices grounded in everyday social lives.

Together, these four research gaps limit our understanding of the importance, in practice, of uneven access to ICTs in wider processes of social exclusion. This project helps fill these gaps by simultaneously examining how ICTs relate to social inequalities through their use in orchestrating of social time-space worlds of both a privileged and marginalised neighbourhood within a single UK city (Newcastle upon Tyne). This project thus explored how digital inequalities become manifest in the logistics of daily life for privileged and marginalised groups. To do this it looked at the ways in which

ICTs enable the 'compression' of more activities into shorter periods of time for those with access. In parallel, the project analysed the 'extension' of logistical burdens and barriers, for those who, with lower levels of ICT access, nevertheless face the restructuring of service provision based on the utilisation of ICTs to connect with valued groups of users.

## 2 Objectives

The central aim of the project was to understand the ways in which uneven access to ICTs, with their supports for new time-space dynamics and logistical practices within everyday life, affect the grounded realities of social inclusion and exclusion within two contrasting place-based neighbourhoods that are socially and economically poles apart, yet geographically very close.

Within this overall aim, the four more detailed objectives of the study were to examine:

1. The effects of multiple information technologies on social polarisation

   *This was successfully addressed, as the cascading methodology allowed the complex interactions and contrasts between the use of multiple ICTs to be revealed.*

2. Whether synergies between technologies have multiplier effects on daily life

   *This was successfully addressed, as the multiplier effects of ICTs for both affluent and marginalised groups were revealed through the comparative case study methodology (see results)*

3. How information technologies intersect with the time-spaces of the city for both relatively privileged and marginalised groups

   *This was addressed with considerable success as the results demonstrated a strong contrast between the pervasive, continuous, individualistic and multi-tasking styles of ICT use in the affluent neighbourhood and the episodic,*

*occasional, collective and single-task style use of users in the marginalised neighbourhood.*

4. Whether 'information-rich' communities (tending to be cash rich but time poor) are enabled to compress more activities into time while 'information-poor' ones are made to incur higher costs in terms of time, and possibly money, in accomplishing the same tasks

   *This was addressed successfully as the contrast between the two styles of ICT use in the two neighbourhoods was found to be associated with a contrast between the use of ICTs to compress more activities into fixed reserves of time, whilst ICT use in the more marginalised neighbourhood tended to offer an occasional support to existing patterns of everyday life.*

## 3 Methods

The project deployed an innovative cascade of methods to establish how ICT-mediated and place-based activities intersect to together define the logistics of everyday life for a relatively affluent 'on line' and a relatively marginalised 'off line' neighbourhood within Newcastle upon Tyne. These neighbourhoods were Jesmond and Blakelaw respectively. This project combined quantitative analyses of both the presence of ICTs and the logistical dynamics of people's lives. In-depth qualitative interviews were used to unpack the facilitating, or excluding, roles of ICTs within them.

First, the study surveyed ICT diffusion levels in each neighbourhood. The sample was stratified using geodemographic data from Experian. Second, this was followed by detailed household interviews with 50 respondents to explore and unravel how people 'domesticated' ICTs into their daily lives and the effects that this has on their time-space behaviours. Thrift (2004:175, 177) highlights this level of 'the modest but constant hum of connection and interconnection' as all too often neglected but vital 'technological unconscious' through which the world becomes orderly and animated. The interviews were designed to uncover, first, why choices to use specific technologies were made and,

second, the activities and meanings associated with them. Thus, the interviews examined the rationale for using and not using technologies for specific tasks. They also explored the respondents' wider perceptions about how their use (or non-use) of various ICTs influenced the logistics of their daily lives; their senses of relative empowerment and/or marginalisation which resulted; and the effects on their relationships to their neighbourhood and their city. Third, the interviews were supported by an activity diary, to highlight the roles of ICTs within the daily life of respondents. The activity diaries were used to map out exemplar time-space patterns in each neighbourhood, as practices were combined with the 'personal time-space extensibilities' offered by phones and the Internet. The diary recorded the detailed uses to which available ICTs were put over a week and asked the location of the person or place accessed. Together with the interviews, we could thus examine temporal and spatial scale.

The data obtained through these methods were analysed using a range of methods. Free text data from the diaries and the in-depth interviews were transcribed and analysed using NUD*IST. The approach adopted was a grounded theory approach, with categories derived from the conceptual framework and codes derived from the material themselves. Statistical data from the survey was also assembled into a database and imported into SPSS where it was analysed, mostly using non-parametric tests, alongside secondary data from major surveys.

## Case study choice

At the outset of the project, the commissioning panel instructed us to focus our project on one case study. We chose Newcastle-upon-Tyne for four reasons. First, the North East is an ideal region within which to analyse digital peripherality as it is one of the UK's main 'lagging regions' in terms of ICTs. ONS household expenditure and omnibus surveys for 2003/4, for example, show the North East to have the lowest rates of Internet usage in the UK (43% using it within a three month period as against London's 64%), and the lowest rates of home Internet access in England (41% as against London's 56%). However, such

statistical regions are poor reflectors of intra-regional variation. Second, and related to this, Newcastle city offers contrasts where neighbourhoods might share urban services but be worlds apart in terms of income, social structure and digital inclusion or exclusion. Third, within the North East, Newcastle City Council is in the forefront of initiatives for local e-government. It is therefore a good environment to explore how e-government initiatives are impacting on the logistics of everyday life in affluent and marginalised neighbourhoods. Finally, the fact that we had daily contact, and background knowledge of the city meant that the logistics of project could be most efficiently and economically conducted in Newcastle.

Within the city we selected two contrasting neighbourhoods: Jesmond and Blakelaw. Blakelaw is in the bottom 20% of the ODPM index of social deprivation; Jesmond is among the wealthiest 20%. (Nationally home internet access varies from around 85% for the wealthiest quintile down to 15% for the poorest (ONS 2003-04)). Government targets were that, by 2004, 75% of those living in deprived neighbourhoods should have the capabilities to access electronically delivered services and the skills to do so if they wish (Selwyn 2004: 345).

The two wards present remarkably differing profiles on a range of variables in the 2001 census data that were likely to be significant for the project and might be expected to lead to widely disparate organisation of daily life and utilisation of ICTs (Table 1). Our questionnaire returns and interview responses mapped on to the expected income profiles, with more than 40% in Jesmond with household incomes greater than £30,000, as opposed to 17% in Blakelaw. At the other end of the scale almost 72% of respondents from Blakelaw have an income of £20,000 or below whereas in Jesmond only 27% have an income of £20,000 or below.

**Table 1: Ward characteristics 2001**

| | **Blakelaw** | **Jesmond** |
|---|---|---|
| **Population** | 11,300 | 9,700 |
| **No of Households** | 5,000 | 4,400 |
| **Ethnicity (white)** | 97% | 93% |
| **% Working more than 49hrs per week** | 17% ♂ 4% ♀ | 30% ♂ 16% ♀ |
| **% in all professional/ managerial SEC** | 17.75% | 40.6% |
| **% moved in last twelve months** | 6%<br>(1% from outside city) | 21%<br>(50% from outside city) |
| **% households with PCs** | 17% | 40% |
| **Modes of travel to shops** | car 44%<br>walk 22%<br>bus 27% | car 48%<br>walk 38% |
| **Superstore v. local shops** | superstore 50%<br>local 32% | superstore 34%<br>local 50% |

## 4 Results

**<u>Access data for the two neighbourhoods</u>**

*'Phone access*

The pattern of land line usage between the neighbourhoods is not statistically different in terms of mean use, with two thirds of people in both wards using their land lines for less than 3 hours per week - though heavy users, making 3-6 hours of calls a week, are much more pronounced in Jesmond (34.2% of all users as against 18.7% in Blakelaw). Increasing use correlates with rising income in Blakelaw, but not in Jesmond. This suggests a threshold beyond which there is no further effect. Within Jesmond 15% have more than one line, while in Blakelaw only 4.5% do. This reflects household composition

and ICT multipliers with the most frequent reason given for multiple lines being Internet use (see dial up rates in Table 2) and/or teenage children. The second most frequent use for home telephones among Jesmond respondents is communicating with work where 7% used them more to communicate with work than friends and family, and were also more likely to use them to arrange finances, utilities and services. The dependence on ICTs thus comes through more strongly in Jesmond where 45% felt the phone was 'essential' to their lives as against 25% in Blakelaw. Mobile phones were much more social tools with the vast majority using them mostly to contact family and friends and very few using them to contact banks or utilities.

*Internet access*

According to British Social Attitudes 2004 data, almost 80% of those who earn more than £38,000 in the UK use the internet, up 18 points since 2000 (Bromley 2004). However, only 22% of those earning under £12,000 go on-line, up 11 points since 2000. This broadly matches our responses where 60% of respondents from Jesmond but only 37% from Blakelaw have internet access at home (Table 2). The relative similarity in broadband rates was explained by its bundling with cable TV by the local service provider. So, for our neighbourhoods, the key factor in 'bandwidth' was not income but rather supply-side combinations of ICTs.

**Table 2: Types and rates of home internet access**

| **Area of residence** | | **%** | **Area of Residence** | | **%** |
|---|---|---|---|---|---|
| **Blakelaw** | Dial up | 23.3 | **Jesmond** | Dial up | 41.3 |
| | Broadband | 13.3 | | Broadband | 18.3 |
| | No home internet access | 63.3 | | No home internet access | 40.4 |
| | **Total** | **100.0** | | **Total** | **100.0** |

This pattern of access thus suggests rising income is a significant but far from exhaustive predictor of usage. National survey data, from ONS omnibus and household expenditure surveys, likewise indicates a complex set of reasons for non-adoption. The pattern is not

simply about income with only 10% of non-adopters giving cost as a reason, nor just lack of skills, cited by 39%; 53% cite lack of need or interest, 16% lack of benefits, 6% lack of time, and 19% concerns on security or content. In our sample (Table 2), 16.7% of all respondents in Blakelaw (i.e. 26% of non-adopters) and 3.6% in Jesmond (9% of non-adopters) cite cost as a reason for not using the 'net, suggesting a stronger income effect than national data does. As far as the often conjectured lack of education, social capital and skills as 'barriers to diffusion', only 3.3% of Blakelaw respondents (5% of non-adopters), and a surprisingly larger 11.8% of Jesmond respondents (30% of nonadopters), cited knowledge barriers. This again flips the expectations and suggests there are reasons to be sceptical about policy programmes which concentrate on training initiatives as a solution to the digital divide.

**Table 3: Reasons for not having home internet access**

| **Area of residence** | | *Percent* |
|---|---|---|
| **Blakelaw** | Cannot afford it | 16.7 |
| | Have never thought about it | 11.1 |
| | Do not know how to use the internet | 3.3 |
| | Other | 32.2 |
| | Has internet or other person can access for me | 36.7 |
| **Jesmond** | Cannot afford it | 3.6 |
| | Have never thought about it | 9.1 |
| | Do not know how to use the internet | 8.2 |
| | Don't know how to organise internet access | 3.6 |
| | Other | 14.5 |
| | Has internet access at home | 60.9 |

As regards public access points, some 4% from Blakelaw and 12% from Jesmond use internet cafés, while 7% of Blakelaw respondents and 12% from Jesmond use local library provision. Despite the implementation of 'e-phones' and 12 kiosks in the city (out of 40 in Tyne and Wear), we found no respondents using them (though the latter register 30,000 user sessions per month). In other words, our evidence suggests that meaningful access cannot be said to be provided by the mere presence of these physical public facilities.

***Shared use, hidden users and forgotten use***

It is necessary at this point to interject a note of caution. Our survey, to be comparable to national data, asked questions on access and use in the last three months. Evidence from the ONS, and our other methods, suggests that the answers here do not give a full picture. In several interviews, when asked about 'net use or e-commerce, people said that they had no experience or access. However, further into the interview, they would recall how they had used the 'net either personally or, more often, 'indirectly' through another person. This concurs with ONS surveys of non-use of the Internet which introduced a new category in 2003 where 'someone else uses the net for me.' In that year this comprised 10-15% of respondents; in the ONS omnibus survey for 2003-04, 25% of users had accessed internet at someone else's house. Interviewees repeatedly thus gained the benefits of cheap e-commerce provision, especially of travel purchases, and these were spread much further than a focus on mere hardware provision suggests.

Existing social networks provide means of gaining the benefits of the e-society, and these benefits then reinforce the power of these off-line social relations. However, we should note that, in our questionnaire, 9% of respondents from Blakelaw and 8% from Jesmond reported gaining access the internet from friends' houses. What this suggests is less an absolute 'divide' of access and more a complex picture where inequalities are closely related to modes of ICT use.

**Modes of use**

The main part of the project focused upon what use people made of ICTs in their daily life. In what follows, we first focus upon style of use – dividing episodic use from 'pervasive presence' – and move on to explore the ways in which ICTs orchestrate daily life. Finally, we outline specific exemplar findings on e-government, e-finance and online grocery shopping.

***Episodic versus pervasive styles of access***

The recent BSA survey for the *E-Society* programme found that 'clear divisions exist amongst those who use the internet with ease. Younger and well-educated people use the internet for more purposes and in more places than older, less-educated people who use it for just a couple of things' (Bromley 2004). Our data also suggest different modes of use between 'discrete episodes' – mostly for instrumental and specific reasons - and a more constant, pervasive and 'background' presence of ICTs. For instance, respondents from Blakelaw use their mobile telephones more often for brief text messages, with 26% using them to send text messages more often than they use them to talk to people, as opposed to 15% in Jesmond.

For pervasive users, ICTs permeate and, indeed, saturate the fabric of social existence. Thus, one user in Jesmond spent 10% of her interview narrating how her mobile phone moved from a tool with a specific, limited purpose to being an intrinsic and habitual component of the logistics of living. As she put it, "I suppose it's always like this, you get [a mobile phone] thinking 'well I'll have it for an emergency' and then you end up being one of those people standing at Tesco's saying 'they don't have fresh broad beans, do you want runner beans instead?' So I think what a sad soul I've turned into." (Interview 17, Jesmond, 121-133).

The technology thus gradually embeds until it becomes an essential, always-on infrastructure supporting every aspect of daily life. It also becomes a purveyor of a lifestyle where people moving through the city separately, but interdependently, use to orchestrate the increasingly speedy and complex logistics of their everyday lives. Predictably, telephones were generally rated as the most vital technology – with mobile phones seen to be equally as 'vital' as landlines. In the time diaries of some 'pervasive' ICT users, individuals were unable to indicate the precise times during which they used phones or email. This was because they were unable to indicate when, if ever, they did not do so. Thus, respondent Jesmond 17 simply drew lines all the way across the day indicating constant use of phone and email; in the free entry sections they wrote

'Constant emailing'. Compare this with respondent Blakelaw 13 whose free text entries read: '9.10 : 3 work e-mail sent to colleagues' ; 'Check e-mails - receive 5 work tasks send 3 replies further 2 work' ; 'Final e-mail check. None received' ; 'Check personal e-mails from home PC (10 mins) -only received one about new address by system is slow !' This latter case exemplifies users who enjoy the power of access -- for instance to email a sister in Mexico -- but whose use is specific, instrumental, confined to short spaces of time, and geared towards single purposes. We found these 'episodic' users to be much more prevalent in Blakelaw where patterns of specific occasions of ICT access often using shared or mediated access which drew on family or neighbourhood social ties. Many respondents in Blakelaw without home 'net 'access' in conventional measures -- people who have never used the 'net themselves -- had actually undertaken specific purchases indirectly using existing offline social networks to access the benefits of online commerce. These social networks were found to be intensely local and bound into everyday life. We also found people who were clearly able to access online products when they wanted but did so only for specific tasks where there is an overriding financial benefit.

This contrasted with 'pervasive ICT users', concentrated in Jesmond, who found email a constant, and demanding, presence, making them feel 'like being a dog on a lead' so that, as that Jesmond respondent put it, 'you sort of get hooked into it. I know you do. The idea of email is that people send you a message when it's convenient or material. You look at it when it's convenient to you. But I think increasingly that's not the case. You feel almost obliged to make an instant response' (Interviewee 17, Jesmond, 217, 251).

These two poles of use emerge from our data – between sporadic, episodic usage and constant, pervasive access. As we discuss below, constant access to 'net services and communication was often described as a two way process with constant intrusion from others. Thus, whilst interviewees in the poorer area tended to remark upon periods of connectivity, those in the richer area tended to remark upon periods of disconnection – the spaces and times of everyday life that still remained beyond the accelerating time-spaces mediated by ICTs.

**Hurried, harried and organizational tactics**

Although commentary on 'time-squeeze' is growing, longitudinal evidence suggests that, on average, the amount of free time is not shrinking in Western societies. One way of reconciling this is to look at 'hot spots' (Southerton 2003) where the orchestration of lives in time-space produces pressure. Advocates of the 'e-society' have often pointed to ICTs as solutions – first, by removing spatial barriers -- i.e. eliminating travel time -- and/or, second, enabling timeshifting of activities -- e.g. respondents ordering groceries out of hours rather than taking lunch breaks. We also found combinations of locational manipulation, time-shifting and spatial extension in repertoires of 'organisational tactics'. Like other researchers (Jain 2002), for example, we found that the locational flexibility of mobile phones enabled some people turn 'dead time' into a 'useful' periods – multi-tasking by calling from bus stops or while travelling between places, and using times and place previously incommunicado. ICTs thus not only affect aggregate time-use – chronology -- but also the *kairology* of finding the 'right time' for activities. As Green (2002:287) suggests, ICTs are space and time adjusting technologies affecting 'duration, interval, and sequencing, as well as issues of presence, absence, and availability.' Moreover, 'the always-availability implied by mobile time and space affects the sequencing of life tasks, deadlines organized around work and home activities, the cycles of work, leisure, and family life'.

There is thus a tension in our data between increased command and being at someone else's (distant) command. This echoes the 2002 Eurobarometer which reported that, of those who said that ICTs had changed their work lives, 17.7% said it had *decreased* their close working with colleagues and 13.2% said that it had *decreased* the ease with which they could combine work and private life. There is thus a dialectical relationship between the orchestrational and liberating capacity of ICTs, and the 'unintended consequence of tying people into an ever denser network of inter-dependent, perhaps even dependent, relationships with the very things designed to free them from just such obligations.' (Southerton, Shove and Warde, 2001: 315). Moreover, daily life becomes more complex

when, ‘by speeding things up, or offering increased flexibility, contemporary technologies, systems and infrastructures of mobility permit the fragmentation of episodes into smaller and smaller 'units' thereby increasing the challenge of co-ordinating what become separate events. In addition, and in order to cope, individuals adopt responsive strategies that enhance their ability to follow space-time trajectories of their own choosing. But when everyone else is doing the same, the problem of co-ordination increases further’ (Shove 2003: 5).

For some ‘pervasive user’ respondents, mostly Jesmond residents, the capacity to multi-task was experienced as the fragmenting of time and attention. Informants also reflexively worked with the rhetoric of the abolition of distance and the debates over the speeding up of society and the time squeeze, acknowledging that some activities might be made easier (such as contacting a distant relative, the ability to collaborate around Europe), but also that the ease of contact now meant work pressures for immediate replies and continual ‘contactability’, both locally and internationally, gave a sense of ‘speeding up’. Respondents outlined a dialectical sense of expanded spatial possibilities but also temporal pressure. ICTs enabled European wide, even global contacts, alongside workplaces divided between cities. This meant email and phone communications were used indifferently for those within the same building and beyond, while the train became a mobile office for some. The effect is one of pressure as much as power.

## E-commerce

The ‘net’s ability to orchestrate the logistics of daily living, and the consequences of having access, were skewed between our two neighbourhoods (Table 3).

**Table 3**

| | Blakelaw | Jesmond |
|---|---|---|
| Use Internet banking | 16% | 26% |
| Pay bills online | 10% | 16% |
| Shop online | 28% | 40% |

We asked a series of interview questions on e-commerce, and here, for space reasons, we foreground responses around grocery provision. This e-purchasing correlated almost entirely with home computer access. For some respondents, especially those without cars in Jesmond, the motivation was clearly one of overcoming spatial obstacles, though there were some non-adopters who offset the start up time of learning to order against the ease of delivery. Others found 'time-shifting' crucial, with an ability to order whenever was convenient, and suggested the system's 'memory' of past purchases made the shopping quicker, too. Some also flagged up economies gained by more instrumental online shopping behaviour reducing impulse purchases. However, if online groceries were seen to offer some time flexibility by overcoming some barriers, they were also seen to create other time constraints and many were cautious in their assessments. Although purchase times became more fluid, receipt became fixed and necessitated someone being predictably at home. Likewise, respondents remarked that they also had to have predictable lifestyles to be able to order in advance. Then they had to also control the longevity of produce – with some reporting their careful plans being derailed by short 'use-by' dates. The majority of non-users of e-grocery shopping reported a wish to either physically inspect the produce in advance or engage with 'community' in the local supermarket, even reflexively discussing if online shopping did not over-privatise society. This may offer some clue as to why a higher proportion in Jesmond use local shops than out of town stores (Table 1), but so too might the careful location of 'metro' stores in this affluent ward.

Online and 'phone banking were also discussed extensively. Online banking was repeatedly cited as more convenient than conventional services, in terms of access, both physically getting to and the opening times of the bank, but also when compared to 'phone banking. The call-centre queuing and option systems were often reported as time-inefficient. Otherwise, there seemed to be a cultural divide which mapped on to the contrast between episodic and pervasive ICT users. Many respondents, especially but not exclusively in Blakelaw, saw bank locations of ten minutes from home as obviating the need to bank on line. Several respondents, all from Jesmond, found this same distance far too inconvenient and as a rationale to bank online. In light of earlier commentaries on

'episodic' Internet use, purchasing consumer durables and especially the purchase of travel products (e.g. rail tickets, cheap flights) were often the object of people getting ' net access – or asking others to do so on their behalf.

**E-government and the city**

In March 2004 Newcastle City Council were commended in the "Improving Services with e-technology" category in *Local Government Chronicle* Awards, and the target of 100% electronic service delivery was achieved nearly two years ahead of the national schedule. The council stated that:

> 'Every means of access to the Council's services will be improved by e-government technology. Face to face contact in customer service centres, phone transactions via call centres, self-service means such as the internet and traditional means such as letters will all be supported by integrated information systems so that each customer's affairs can be conducted with a consistently high level of service regardless of the means of access. Social inclusion will be maintained by the provision of computer facilities in libraries and other public buildings, where staff will be trained to help people use them. On-street kiosks, some with cashpoint machines, will bring information and transaction systems to every community'. 'E-Government for Newcastle - A Vision for March 2004'

However, while nationally, nearly half of households have accessed a government web site, our interviews revealed lower levels of engagement. From the interview respondents 40% of those from Jesmond and only 17% from Blakelaw had used local government web pages – mostly for accessing information. This seems to concord with national patterns but at a lower overall rate. BSA data suggest that those already high in educational capital are most likely to use e-government. ONS data also depict an 'engagement divide' with 45% from the most deprived wards feeling well informed compared with 74% of those in the least deprived wards, and 22% of those from the most deprived wards not being civically engaged compared with 7% of those living in the least

deprived wards (Coulthard et al 2002: 9). There were positive stories here, mostly from middle income graduates with home 'net access in Jesmond. Those who had used the services found the information generally to be of high quality and were often complimentary about getting replies from council staff to email queries. Looking at the reasons given for not contacting the council by many others, it seems the well educated are more willing, and feel more entitled to raise issues, and their over-representation in net access is compounded by good council responses to electronic queries – to give doubly disproportionate impact.

**Scale and community**

One of the long running themes in the literature on ICTs and social capital is the possible erosion of local community by individualized, private 'net access replacing communities of propinquity with those selected by interest. We certainly found examples of global interest networks being enabled by new media. One respondent, for example, ran a global stamp collecting network from their home; many others had spatially extensive friendship and professional networks. We thus need to be suspicious of the habitual coding of the everyday as small scale and local (Thrift 2004).

However, equally, our data suggest that it is a mistake to see ICTs as being necessarily opposed to local social networks. First, as we have seen, the ability to access the 'net can be mediated through local social networks. Second, local connections are often just as intensely mediated as distant ones. A great number of those contacted by any media in the diaries and the interviews were local. Third, many replies indicated that ICTs were now crucial in arranging face-to-face social contacts and orchestrating daily routines within the neighborhood and the wider city. This is not surprising when, nationally, 20% talk to a friend daily in person but 21% phone a friend daily (ONS 2001). As for local consequences, the 'e-living in Europe survey' found that use of communicative media gave the greatest feelings of social inclusion and improved quality of life (Anderson 2002). In our survey, 44% in Jesmond gave email or chat as the most or second most used internet facility versus 11% Blakelaw. Moreover, seeing 'community' as a dense

fabric of intense local links misses the evidence of decades of social network studies which show that ‘Communities are far-flung, loosely-knit and fragmentary. Most people operate in multiple, thinly-connected partial communities as they deal with networks of kin, neighbours, friends and organizational ties.’ (Wellman, 2001:227).

Our neighborhood case studies were in part chosen to tease apart these issues. The North East is notable as having the highest proportion, nationally, of people who talk to neighbours every day, people who know their neighbours, and people who see relatives daily (Coulthard et al 2002, page 31, 52). The best predictors of these networks were level of education and, possibly consequent, residential mobility. The implication might be expected then that media and ICTs play a larger role in the more distanciated relationships. Jesmond is characterised by highly educated, mobile renters while Blakelaw shows very little movement.

For respondents who have moved or whose relatives have moved the ‘net provides an important means of maintaining contacts. Informants did not see either telephone or ‘net links as reducing face-to-face meetings with friends and family – though they did use them to replace physical trips to utilities and shops. Communication technologies are vital in long distance ties and net use being most used with the longest distances (Hampton and Wellman, 2001). Several respondents spoke of using email or texts to distant relatives as replacing physical letters and cards, for reasons of speed and cost. But this is a new mediation replacing an older one. Moreover people often had complex patterns of both distant and local, mediated and non-mediated contacts – without the local ones necessarily being the unmediated ones. Some respondents were globally connected by work, and putatively disembedded through the use of e-commerce and provisioning. And yet these people were also deeply localised in their neighbourhood, for instance one described himself as living in a fifty yard radius of the small shopping and cafe core of Jesmond. As Table 1 indicates, the inter-corporeal sociality of walking remains one of the most common forms of transport in this inner city suburb, which places a premium on ‘urbane lifestyles’. Our results therefore suggest that Mitchell’s prediction of ‘urban tissues [..] characterized by live/work dwellings, twenty four-hour neighbourhoods,

loose-knit, far-flung configurations of electronically mediated meeting places..' (1999: 7) is rather overdrawn. Our data suggests, rather, that we might more usefully talk of the *remediation* of communities – where local mediated connections by text, mobile, landline and email sustain and support more traditional social networks rather than replacing them. That these intersect with, and are augmented by, wider electronically enabled links to more distant geographical and social worlds is clear. But the relationships between physical and mediated social contacts seems synergistic rather than substitutional. Our study indicated complex mediations of global and local socialities and spatialities.

## 5 Activities

In addition to participating fully in six *E-Society* meetings, conferences, and seminars, the investigators have also undertaken the following supporting and dissemination activities:

- Organised session at the Association of American Geographers' Conference in Philadelphia, USA, 14-19th March 2004, entitled *Hybrid Cities: Digital Communications and the Everyday City.*
- Contributing keynote presentations and lectures to the joint Association of European Schools of Planning (AESOP)/ Association of Collegiate Schools of Planning (ACSP) congress on *Planning in the Network Society*, Leuven, July 2003; the Annual Conference of the Netherlands Institute for Spatial Research, October 29th 2003, Rotterdam; and the *Logistical Cities* conference, Yale Architecture School, March 2004, the Catalan Geography Society December 2004,
- Contributing a major public lecture (with live Internet screening) as one of a series of five invited speakers on *the Globalization of the Local* at De Balie Cultural Centre, Amsterdam, Netherlands October 26th 2003.
- In addition, the project results will provide the basis for a lecture to the MIT-Oxford Internet Institute Workshop, *New Approaches to Research on the Social Implications of Emerging Technologies***,** scheduled for 15–16 April 2005 and a keynote lecture to the major international conference titled *Creative Capital, Culture, Innovation and*

*the Public Domain in the Knowledge Economy*, which is scheduled for 17 & 18 March 2005 in Amsterdam.

- Presented papers/seminars

1. "Multispeed cities and the logistics of everyday life" at the Association of American Geographers' Conference in Philadelphia, USA, between 14-19th March 2004
2. 'Using Activity Diaries as a Research Tool: Some Methodological Lessons' British Academy of Management Annual Conference "Management Futures" 30th August – 1st September 2004 St. Andrews, Scotland
3. 'Worldwide Cities in an Information Age', School of Architecture Planning and Landscape, University of Newcastle. Jan 2004
4. 'The Still Point: Timing and Spacing the Everyday', Department of Architecture, Graduate class, University of Sheffield, Nov 2003
5. 'Urban Morphology but Not as we Knew it', seminar geography Department, University of Leeds, Nov 2003
6. 'The Still Point: ICTs and Time in Everyday Life', to ESRC sponsored seminar series on Worklife Balance Sep 2003
7. 'Information Communication and Urbanisation', Autonomous National University of Mexico (UNAM), Mar 2003

- Interviews with Media:
  LA Malla Radio Barcelona 'Cities and Communication technology' 2004,
  Newcastle Chronicle 'Internet use and social cohesion' Jun 2004

## 6 Outputs

Published outputs, or publications accepted for publication, already include:

GRAHAM, S. (2004), "Beyond the 'dazzling light' : From dreams of transcendence to the 'remediation' of urban life", *New Media and Society*, 6(1), 16-26 (a preliminary research paper written before the projects' empirical results emerged).

GRAHAM, S. (2004)(ed.), *The Cybercities Reader*, London: Routledge (a major international companion to ICTs and cities which utilised early findings from the project extensively).

GRAHAM, S. (2005), "Software-sorted geographies", *Progress in Human Geography* (forthcoming). A review paper of how ICTs automatically prioritize and rank users' mobilities, life-chances and service access, which was strongly influenced by the empirical findings of the 'Multispeed Cities' project.

Publications currently being completed to disseminate the project's empirical findings include:

CRANG, M,. GRAHAM, S. and CROSBIE, T. "Multi-speed cities and the logistics of everyday life", to be submitted to *Urban Studies* (April, 2005).

CRANG, M,. GRAHAM, S. and CROSBIE, T. "The remediation of neighbourhoods", paper to be submitted to *Environment and Planning A* (May 2005).

CRANG, M,. GRAHAM, S. and CROSBIE, T. "Remediating cities: Reconceptualising space-time and ICTs", paper to be submitted to *Progress in Human Geography* (June 2005).

## 7 Impacts

William Davies, a Senior Research Fellow with the Institute of Public Policy Research's Digital Society Team has expressed strong interest in the project. But, as it has just being completed, he has yet to be sent the project's findings.

## 8 Future Research Priorities

A major implication of this project is that social research on ICTs can profitably utilise a conceptual framework which emphasises the way in which mediated and non-mediated interactions inter-relate to shape the fine-grained everyday life of subjects. Adopting such an approach allows research to address the ways in which multiple ICTs are used simultaneously and in subtle and continuous combination. It takes account of the way in which places, social networks, consumption processes, work-life balances, the experience and consumption of place, mobility patterns, and proceses of social inclusion and marginalisation are being 'remediated' by a wide range of ICTs which increasingly provide the taken for granted 'back ground' to everyday urban life. And it allows researchers to explore how ICTs are involved in the remaking of multiple times and spaces within and between cities at multiple scales simultaneously.

This project suggests that affluent and ICT-literate groups and neighbourhoods are tending to use ICTs continuously, individualistically and pervasively as the 'always-on' background infrastructure which sustains, along with physical transportation, their accelerating everyday lives. Using ICTs in this way facilitates the accelerating lifestyles and mobility patterns of such groups and helps them to cram extremely dense and flexible patterns of transaction, interaction, and communication into their lives. Often, these are accompanied by increasing feelings of time stress. Consequently, such users tend to value and note spaces and times of disconnection which provide domains away from the pervasive, ICT-mediated, acceleration.

This project also suggests that research should take a more sophisticated view of how social exclusion and ICTs inter-relate. Rather than simply addressing the physical or technological exclusion of marginalised groups and neighbourhoods, this project suggests that attention should fall on the differences in the temporal and spatial patterns of ICT use amongst marginalised groups. In particular, this project demonstrated that marginalised groups, rather than necessarily being excluded from ICTs per se, tend to use them

infrequently, with help from family and friends, and to undertake limited and tightly confined transactions, communication or information searches. In contrast to 'pervasive' ICT users, such subjects tended to value and note those spaces and times of connection, rather than disconnection.

To sum up, then, future research on the links between ICTs and social inclusion or exclusion will need to explore further and in a wider range of empirical contexts whether this project's main conclusions apply in a more general way. These are: that the digital divide now falls as much between pervasive and episodic use of ICTs as between user and non-user groups; that 'hyper-inclusion' tends to be associated as much with feelings of loss of control and time squeeze rather than empowerment; and that media tend not to replace ties in place but remediate them.

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