



**transport
ingenuity**

celebrating 100 years



Shed 6, Queens Wharf,
Wellington
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ipentz2014.co.nz

Mobility in a World Beyond the Motor Age

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**Change can be hard to spot –
but cumulatively profound**



<http://www.sciencedirect.com/science/article/pii/S0001691806000370>



<http://michellesteinbeck.com/wp-content/uploads/2013/03/rear-view-mirror.jpg>

Automobility regime

Multimobilities regime

http://www.redfortgroup.com/_blog/Redfort_Blog/post/tall-ships-to-cargo-ships/

http://homepages.ihug.co.nz/~j_lowe/C18NZTransition.htm

http://www.gjenutck.com/Sisamship_Lines/Cunard_Line/Ships/1911-Laconia-1.html#axzz2wq1o6DFB

Year	Sailing	Steam
1870	350	100
1880	450	150
1890	350	250
1900	250	350
1910	150	450
1920	100	500
1930	50	550

<http://www.maxgladwell.com/wp-content/uploads/2008/08/social-networking.gif>

<http://visualthinking.co.uk/blog/wp-content/uploads/2012/08/packaging.jpg>

Access

<http://www.telegraph.co.uk/health/healthnews/9636510/NHS-patient-data-shared-with-industry.html>

http://www.4allcards.com/acatalog/New_job_cards.html

<http://gadgets.boingboing.net/2009/07/06/prediction-of-the-au-1.html>



<http://www.horizonautocenter.com/tag/car-care>



<http://myastudios.wordpress.com/2009/05/01/not-your-typical-office/>



<http://www.telegraph.co.uk/news/uknews/3142152/Post-office-closures-The-stamp-of-disapproval.html>

- Primacy of physical location
- Transcending distance by car
- The car as an object of desire

Automobility in transition?

Decoupling of traffic and economic activity since 1992

2000-2010

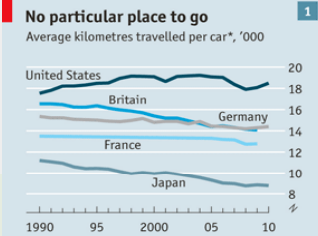
Car/van trips

6-11%

17-29 yrs licence holders

15-16%

<http://cdn.theatlantic.com/static/mt/assets/business/peakcar.png>



http://www.telfordhomes.plc.uk/brickmakersapartments/images/home/apartments_in_east_london_home_main.jpg

43% growth in road traffic by 2040?

Changing face of the digital age

- 20 years ago – pre
- 15 years ago – pre
- 10 years ago – pre
- 5 years ago – pre
- Now _____
- 10 years time (2024) ?
- 20 years time (2034) ?



<http://www.instablogimages.com/wp-content/uploads/2013/06/1->
[Google-Glasses-Image-Courtesy-Best-Android-Lookout.jpeg](http://www.instablogimages.com/wp-content/uploads/2013/06/1-)

Access and activity in the digital age

- Shifting communications culture
- Fluidity, flexibility and fragmentation
- Relaxation of spatial and temporal constraints
- Living life through a screen
- Smartphone-dependence not car dependence
- Prospects for greater co-operative behaviour



<http://logtas.com/digital-age.html>



<http://assets.rollingstone.com/assets/images/story/the-10-most-annoying-concert-behaviors-20130114/1000x600/20130114-cellphone-595-1358196043.jpg>

What do we mean by 'technologies'?

- **Transport technologies** – directly associated with transport systems' operation and use

Sat-navs now *retailing* for less than £50

- **Substitution technologies** – technologies or technology-based practices that replace the need for the individual to travel



<http://www.cabletelem.com.au/c/msdetails.asp?NewsID=12>

- **Non-transport technologies** – technologies outside of transport which indirectly exert influence through effects on social practice



<http://www.technology.com.au/technology/92228586/Atakey-our-own-3D-printing-revolution.html>

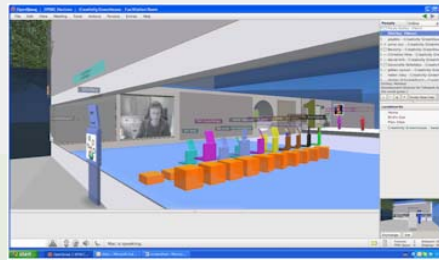
Motor Age and Digital Age Interactions

- *substitution* of technology use for travel (decrease in travel);
- *stimulation* of more travel because of technology use;
- technology use *supplements* travel (increasing access and participation thus substituting for an increase in travel);
- technology use *redistributes* travel (even if total amount of travel is unaltered);
- technology use *enriches* travel;
- *operational efficiency* improvements in transport system use through advances in and use of technology; and
- *indirect longer-term impacts* upon travel encouraged by use of technology.

Rising prospects for substitution

- Most of our daily lives are concerned with information management, exchange and interpretation
- First-hand experience: RCUK's first full-scale 4-day "Creativity Greenhouse" virtual workshop
- Skype: over 500 million registered users worldwide
- "In the five-year period since 2003, the total number of once-a-month telecommuters in the United States has risen by 43 percent"⁷
- But...substitution today could be the **stimulation** of more travel tomorrow – pools of social practice change

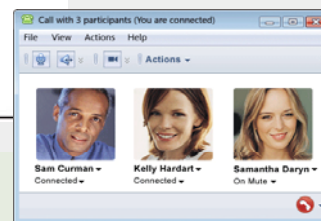
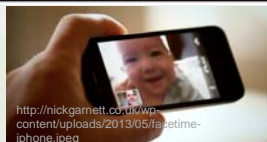
"The future is already here – it's just not evenly distributed"
– William Gibson, fiction writer



The future of meetings?

Individuals' possible considerations on the merits of meeting attendance.

Consideration	Potential motivation/benefit	Potential disincentive/disbenefit
Business norm	✓	✓
Time away from 'the office'	✓	✓
Time away from home	✓	✓
Information sharing – knowledge exchange	✓	
Influencing decisions	✓	
Status and recognition	✓	
Networking	✓	✓
Sociability	✓	✓
Experiencing new places	✓	✓
Monetary cost		✓



Helping suppress traffic growth?

- People are gaining **enhanced access** to people, goods, services and opportunities through technologies without needing to travel **more**

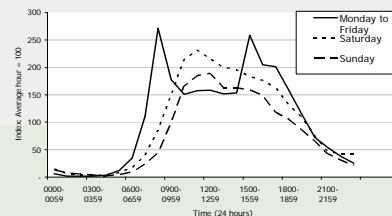
Table 9 'Would you say that your use of the Internet for each of the following has meant that you spend more, less or about the same amount of time travelling?' (N.B. If you don't do activity online please click NA)
(per cent of respondents, who did not answer 'don't know' or 'not applicable')

Online activity	Sub-sample size	A lot less travel	A little less travel	About the same amount of travel	A little more travel	A lot more travel
for work	514	5	11	81	2	1
for grocery shopping	543	6	18	73	3	1
for other shopping	758	13	30	50	5	2
for communicating with family and/or friends	911	5	19	63	9	3

Survey of c1000 weekly Internet users - March 2003⁸

Renegotiating time and space

- Technologies appear to be making our choreography of what we do, when we do it and where we do it more fluid and flexible (or more frustrating)
- **Spatio-temporal flexibility** could redistribute where and when we travel
- The granularity of flexibility may be getting finer:
 - e.g. it has been found that part-day occasional homeworking is twice as common as full-day occasional homeworking amongst paid employees⁹



Multitasking – activity participation while travelling

- Travel has an importance beyond getting somewhere – it provides ‘transition time’ and ‘me time’
- Evidence from surveys of national rail passengers in 2004 and 2010¹⁰ reveals growth in availability and use of mobile technologies
 - The proportion of people making very worthwhile use of their time has gone up by a quarter
- Technologies may also be ‘infecting’ travel time but travel time use may come to reduce pressures on other time, e.g.:
 - Doing the grocery shopping while on the train home to ‘liberate’ the evening for relaxation
 - Doing part of one’s two hours of daily ‘TV watching’ on the train home to make time for going to the supermarket



<http://www.studentbeans.com/student-money/a/19-people-who-need-to-get-off-my-train-206.html>



<http://your.asda.com/news-and-blogs/news-asda-grocery-android-app>

Intelligent Transport Systems

- Opportunity for the traveller to be informed is greater than ever
- As more and more travellers acquire the technological capability to be **human probes**, network monitoring opportunities increase
- **User innovation** and **user-generated data** are phenomena that could be transformative in providing services to support travellers (and operators)
- **Co-operative behaviour** such as liftsharing is more readily facilitated through technology (though greater uptake will be reliant on other factors)

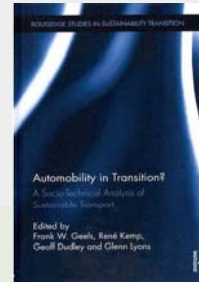


<http://www.swissinfo.ch/media/cms/images/keystone/2013/08/101041049-36661690.jpg>



<http://www.its.dot.gov/newsletter/april2012.htm>

- What would be the **counterfactual world** in which the motor age had not (yet) been accompanied by the information age?
- Technologies are ‘oiling the wheels’ of society’s continued dependence on motorised mobility and **accommodation of congestion**
- We are currently experiencing the co-existence of the motor and information ages – but what of **regime change**?
 - Is the information age a collection of niche, incidental developments as far as transport is concerned or a driver for major change?
- **Choice** has been king in a profligate society; **restraint** has been politically uncomfortable, but...



- We now live in a **resource-constrained world**
- We may sustain a semblance of automobility through new innovations in energy production and storage
- Whether by choice or necessity one can contemplate a scenario in which **motorised mobility is a rationed resource**
- Human ingenuity and adaptability would then see technologies used to accommodate this rationing in relation to the fulfilment of social and economic goals
- “How will technologies affect transport and travel?” is a wicked problem – for which straightforward solutions will not be forthcoming
- Much more needs to be done to explore potential future pathways and **to understand the extent to which all quarters of society could adapt through technology use to a post-automobility world**

The Multimobilities Regime (possibly)

- A society in which people use forms of **physical and virtual mobility** interchangeably in order to access people, goods services and opportunities.
- Multimobilities enable individuals and organisations to be flexible and responsive to changing circumstances such as price signals or life events. Thus people can **adjust their mobility split between physical and virtual** (and between motorised and non-motorised mobility).



<http://www.adfgaskell.org/blog/2013/07/04/digital-natives-around-the-world/>

- In this regime, distinctions between activity time and travel time blur and individuals move seamlessly between physical and virtual encounters.
- Workers in the knowledge economy will have an increasingly weak link between where they live and who they work for and with.
- Car driving – unless automated – will seem more banal and individuals will favour shared use of mobility resources over vehicle ownership.



<http://www.audjaskell.org/blog/2013/11/10/digital-natives-around-the-world/>

Thank you for listening

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