

Hot Topic Workshop at the International Conference on
Transport and Health, UCL, 5-8 July 2015



Research into action: putting the message across

Roger Mackett

Centre for Transport Studies, University College
London

We carried out two research projects

Reducing children's car use

- January 2001 – March 2004
- Children in Years 6 and 8 (aged 10-11, and 12-13)
- Fieldwork in Hertfordshire

Children's Activities, Perceptions and Behaviour in the Local Environment (CAPABLE)

- August 2004 – December 2006
- Children in Years 4, 5, 6 and 7 (aged 8-12)
- Fieldwork in Hertfordshire and Lewisham

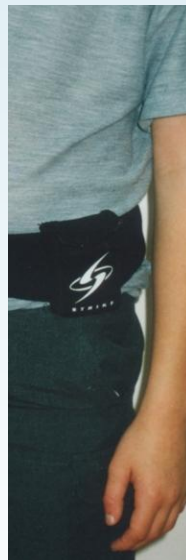


We used travel and activity diaries to find out what the children were doing when

		Location		What did you do there?
Morning		I began the day at Home <input type="checkbox"/> Somewhere else <input type="checkbox"/> Please say where	I woke up at : I put my sensors on at :	
				I left at :
	Then I went to ↓	I got there at : I travelled by I travelled: <ul style="list-style-type: none"> • by myself <input type="checkbox"/> • with an adult <input type="checkbox"/> • with other children <input type="checkbox"/> 		I left at :
	Then I went to ↓	I got there at : I travelled by I travelled: <ul style="list-style-type: none"> • by myself <input type="checkbox"/> • with an adult <input type="checkbox"/> • with other children <input type="checkbox"/> 		I left at :

We used scientific equipment

The RT3 activity monitors

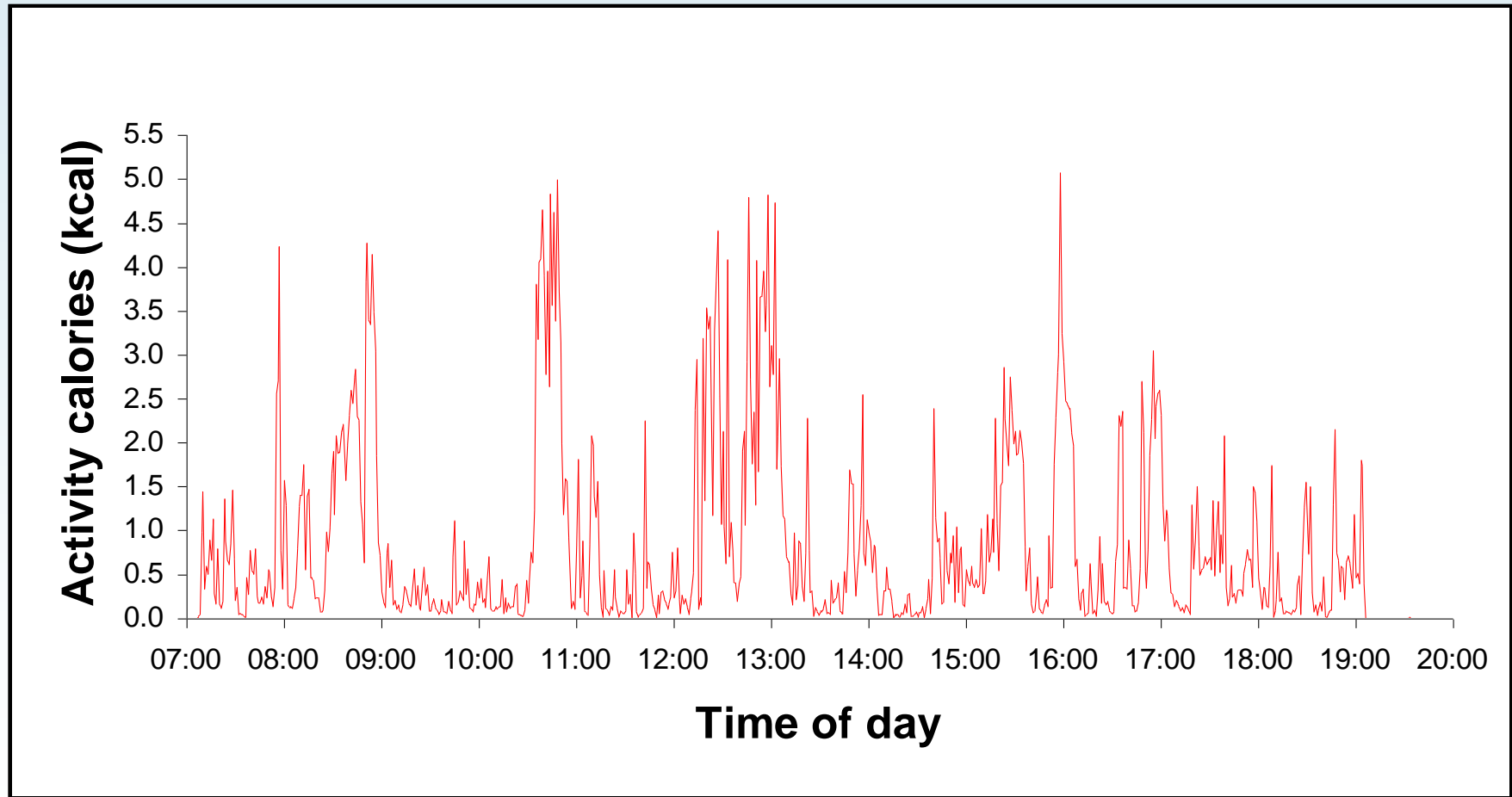


The GPS monitors



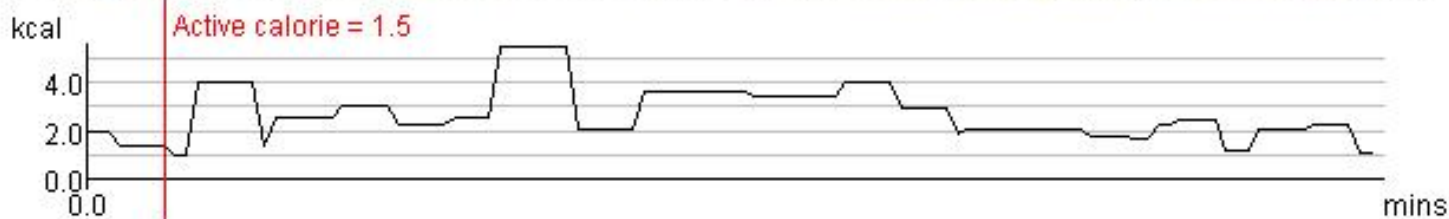
Gadgets give you unique data (and novelty value)

The RT3s produced traces like this



Strong visual results help

The GPS and RT3 monitors generated this



Active Calories

- Very light activity
- Light activity
- Moderate activity
- Vigorous activity

Activity

Type: Walk home from school

Animation

Time: 2005-11-18T15:33:58



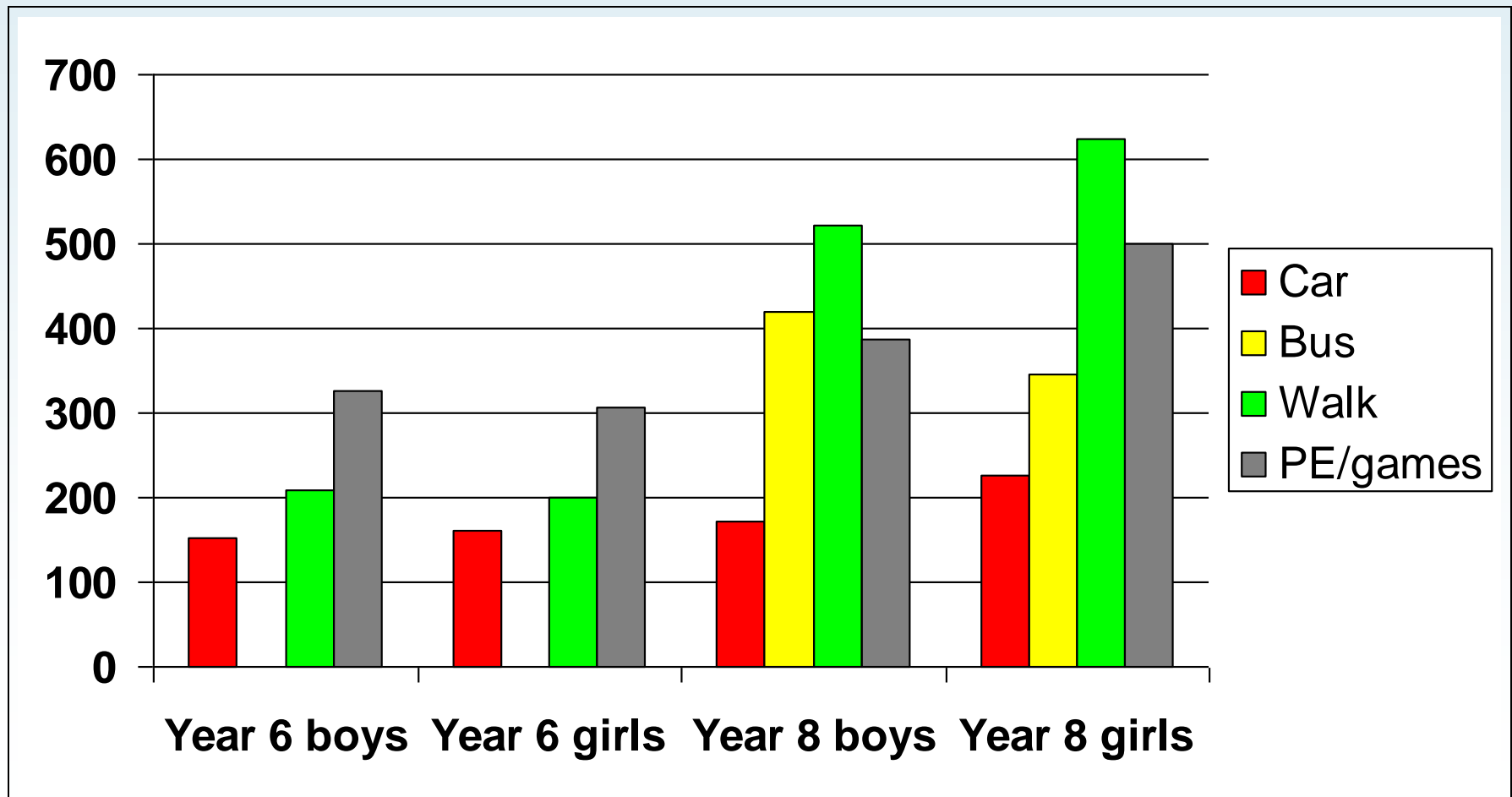
The buttons above control the animation.

The other sample animations:

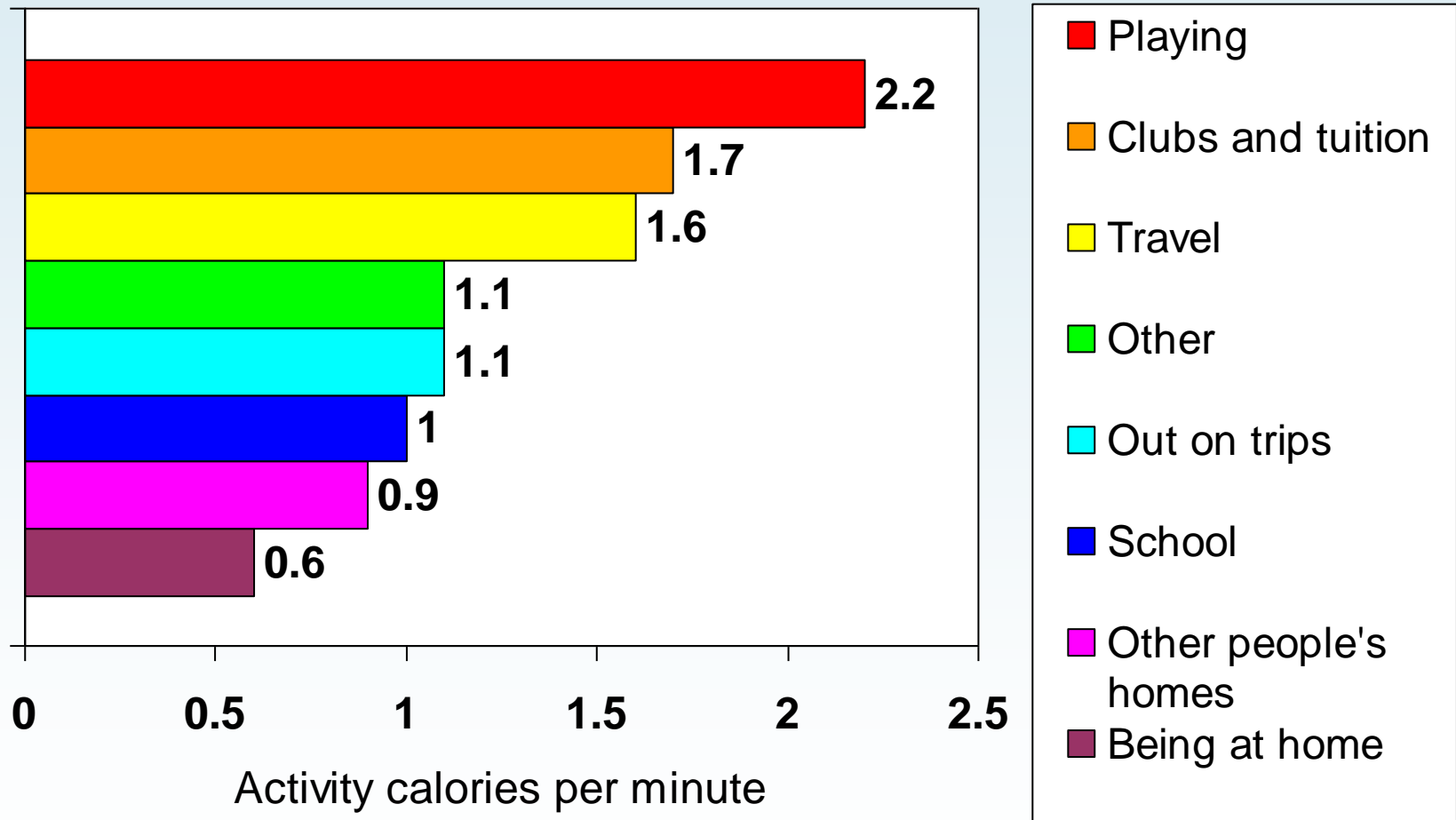
- Playing football
- Dog Walking

Results:

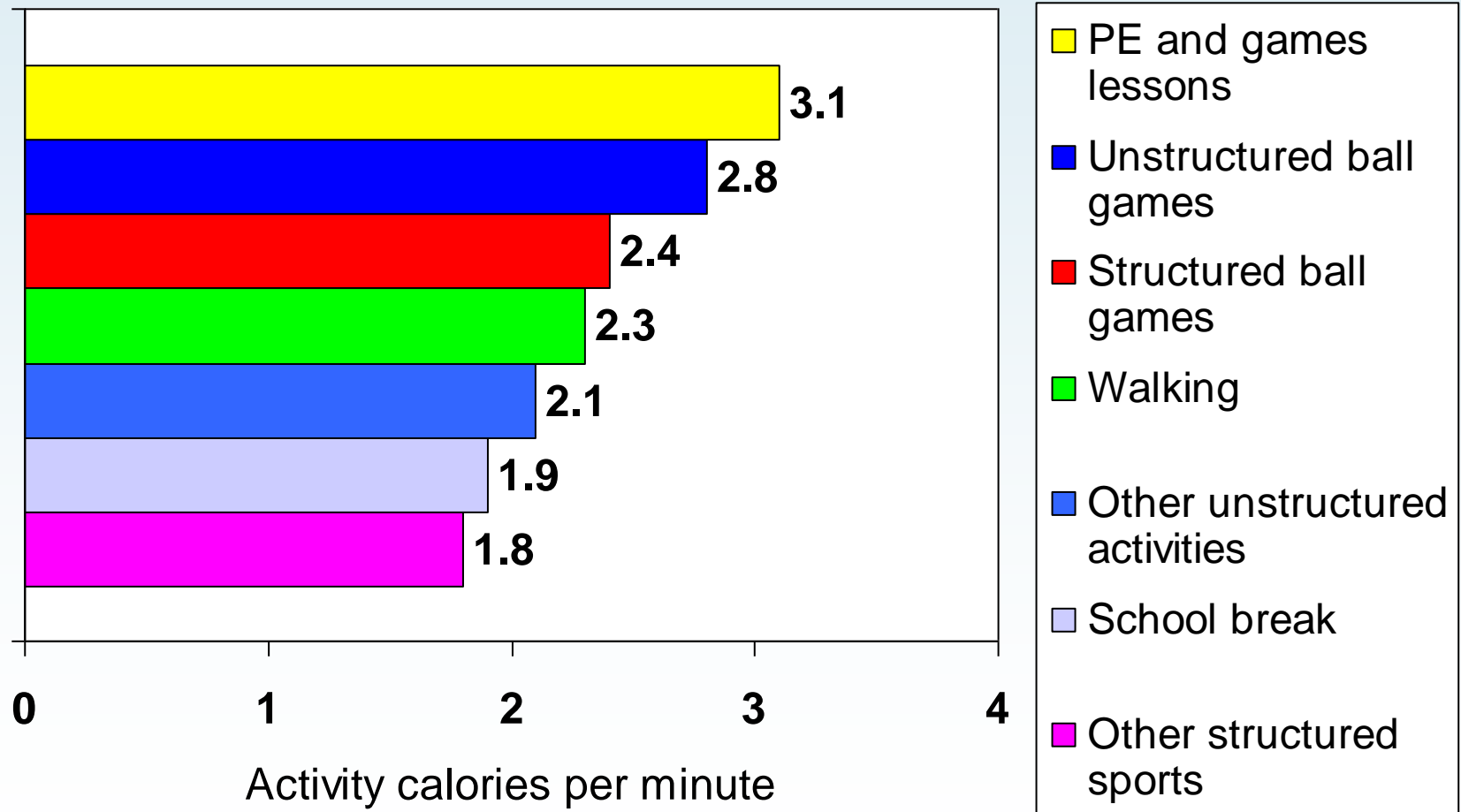
Energy used in a week in school travel compared with 2 hours of PE/games lessons



Playing is the most intensive activity



At a more detailed level, playing is better than equivalent organised activities



Children who walk use more energy when they arrive than those who travel by car

	Walk	Car
PE and games	3.5	2.4
Other lessons	0.6	0.5
School break	2.0	1.7
Clubs & tuition	1.7	1.6
Playing	2.4	2.0
Out on trips	1.5	1.0
Other homes	1.1	0.8
Overall	1.7	1.3

We published in peer-reviewed journals

Mackett R L, Lucas L, Paskins J and Turbin J (2005) The therapeutic value of children's everyday travel, **Transportation Research A**, **39**, 205-219.

Mackett R L, Brown B, Gong Y, Kitazawa K, Paskins J (2007) Children's independent movement in the local environment, **Built Environment**, **33**, 454-468.

Mackett R L and Paskins J (2008) Children's physical activity: the contribution of playing and walking, **Children and Society**, **22**, 345-357.

Brown B, Mackett R L, Gong Y, Kitazawa K, Paskins J (2008) Gender differences in children's pathways to independent mobility, **Children's Geographies**, **6**, 385-401.

- Gets academic credibility
- Can be aimed at different audiences
- But the process can take a long time

We spoke at many conferences

Some of the audiences addressed:

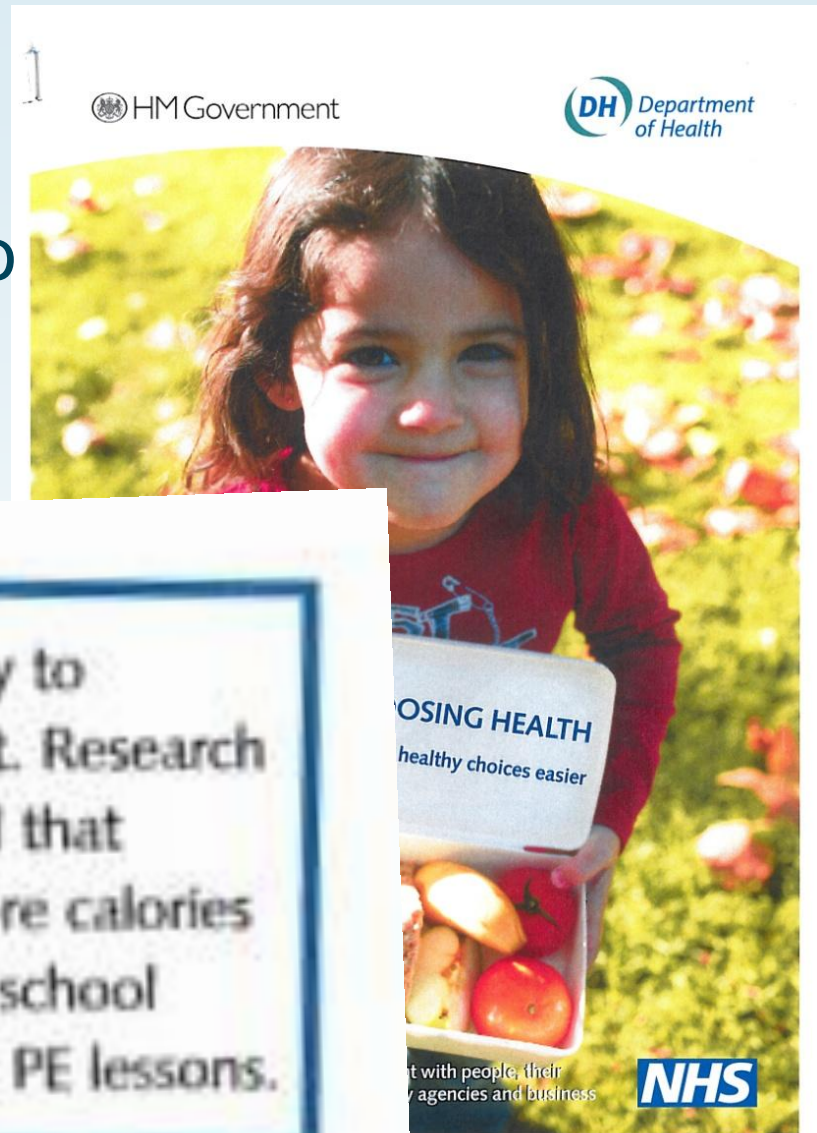
- **Academics** at the World Conference on Transport Research.
- **Transport planners** at the Transport Practitioners Meeting.
- **Walking experts** at the WALK 21 Conference.
- **Toy librarians** at the National Association of Toy and Leisure Libraries annual conference.
- **Play experts** at Play Scotland Annual Conference.
- **Health experts** at the International Congress on Physical Activity and Public Health.
- **School travel advisors** at the Living Streets Annual Walk to School Workshop.

We made invited presentations

- House of Commons Select Committee on Education and Skills.
- All Party Parliamentary Group on Play.
- Meetings of South East and East Region and West Midlands Region School Travel Advisors.
- UK School Travel Forum (UKLAST) Annual Conference.
- Federation of European Play Industries.
- Play Research Network.
- Children's Play Council.

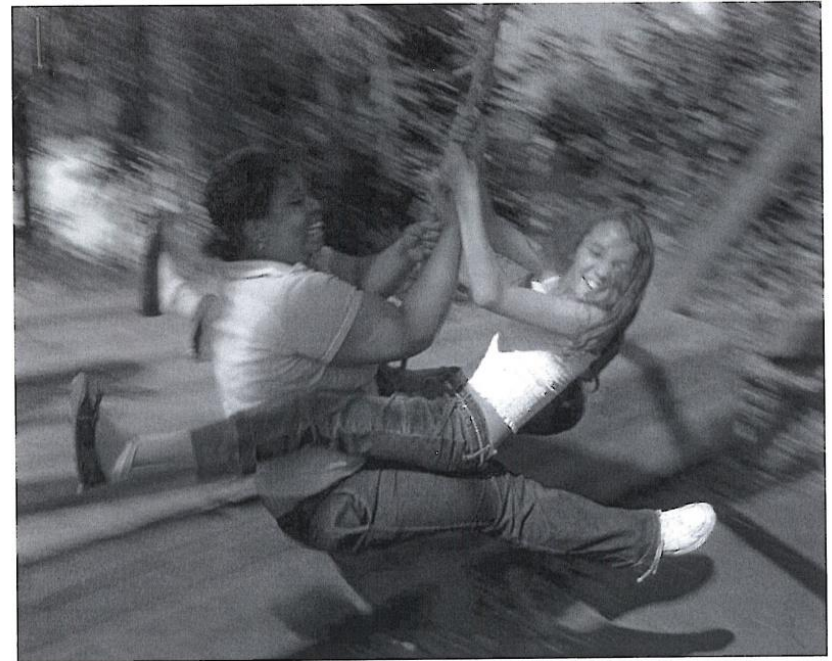
We submitted evidence to Government inquiries

Written evidence submitted to the 2004 DoH White Paper 'Choosing Health'



The contribution of the school journey to children's physical activity is important. Research by University College London showed that among the year 8 pupils sampled, more calories were burned up walking to and from school than during their two hours of weekly PE lessons.

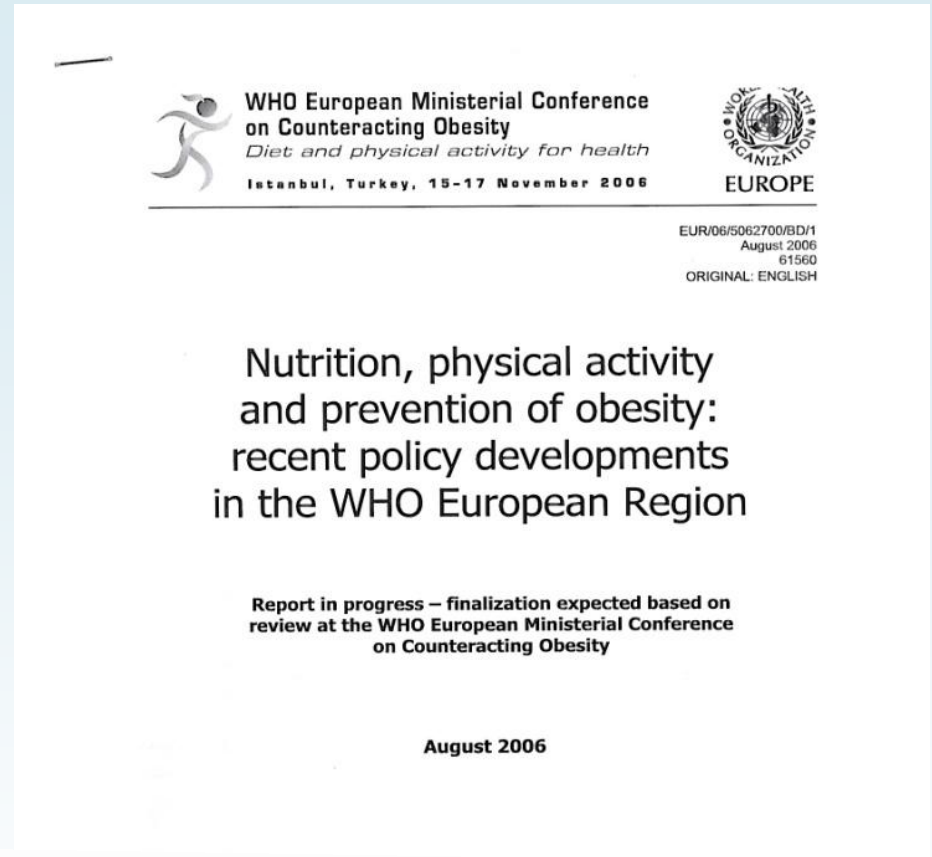
Evidence from the same submission was used in the 2008 consultation for the Play Strategy



Fair Play

- 1.6 Active play is also one of the best ways for children to burn calories outside of PE lessons^{xii}, and is one of the most important ways of helping to prevent childhood obesity^{xiii}. Hence play will help deliver the Government's public service agreement 12 to improve the health and wellbeing of children and young people.

Evidence was submitted to WHO - Europe



The project “Reducing children’s car use: the health and potential long term implications of car dependence” was launched in the County of Hertfordshire. The aim is to gather data on children’s travel and activity patterns and on their parents’ attitudes and characteristics, which can be linked to data on the children’s health (height, weight and body-fat content). It also monitors children’s activity patterns to establish relationships between, for example, car use and the amount of physical activity.

Other bodies used evidence from the research in their documents

- NICE
- Sustainable Development Commission
- Play England
- Play Wales
- Solihull Metropolitan Borough Council
- Conwy County Borough Council
- Thurrock Play Partnership
- Enfield Play Plan Steering Group
- Association of Play Industries

Our research findings became sound bites

Research finding	Sound bite
Year 8 boys use more calories walking to and from school for 5 days than in 2 hours of PE.	Walking to school is better than PE
Unstructured activities use more calories than structured activities	Free play is healthier than PE
Children who walk are more active when they arrive than those who go by car	Walking helps tackle obesity
Children use more calories when out unsupervised than supervised	It's good to let children go out unsupervised

Press releases were issued

Press release based on a presentation at the Sustrans Conference in September 2003

The Times 22 September 2003

Walking to school keeps pupils fitter than PE lessons

By Ben Webster
Transport Correspondent

CHILDREN gain more physical benefit from walking to school than PE lessons, a study has found. The effort of walking to and from school five times a week burns more calories than the two hours of PE recommended under national school standards.

The research by University College London (UCL), to be presented at a conference in Leicester tomorrow on tackling the school run, strengthens the case for encouraging parents to allow children to walk or cycle rather than be driven.

Almost one in ten six-year-olds and 15 per cent of fifteen-year-olds are obese, according to the Chief Medical Officer. The proportion of overweight children has increased by 7 per cent in the past five years. More than half of children do not do the recommended two hours of sport per week.

The number of children driven to school has doubled in the past 20 years. About 40 per cent of primary and 20 per cent of secondary pupils are driven to school, with most travelling less than two miles.

Roger Mackett, Professor of Transport Studies at UCL, said: "Children are getting fatter and fatter and the message to parents is that if you get

your child to walk, you could benefit their health." The study involved 149 children who agreed to wear motion sensors around their waists to calculate the number of calories that they were using.

The advantage of walking over PE was clearest among teenage boys, who burnt more than a third more calories during their journeys than in the two hours of lessons.

The children in the study were 20 per cent less active at weekends than during the week. On Saturdays and Sundays, only half the girls did an hour of moderate physical activity a day, recommended by child health specialists.

The study concluded: "Getting children into the habit of walking may encourage them to take more exercise at the weekend when many of them are fairly inactive, particularly girls."

Parents are likely to find their children willing to make the change to travelling on foot. A study by Sustrans, the sustainable transport charity, found that 51 per cent of children driven to school would prefer to walk or cycle with friends. Sustrans said that one solution for parents who were worried about safety but had too little time to accompany their children was to take it in turns with other families to operate a "walking bus".

Press release about a presentation at the 51 Minute Challenge Conference in London

The Times 1 June 2004

Free play healthier than PE

By Alexandra Frean

CHILDREN get more physical benefit from kicking a ball around in the park or playground than from PE lessons, a study has found. The effort of unstructured play burns more calories than the average of 70 minutes a week of formal games that pupils get in school.

The research by University College London (UCL), strengthens the case for encouraging investment in local parks and playgrounds and suggests that the emphasis on tackling obesity should focus as much on the different ways in which calories can be burnt off as on the ways they are consumed, experts said.

One in 20 boys and one in 15 girls aged 2 to 15 is obese, according to a Commons Select Committee on Health report published last week. Obesity rates in both children and adults are now five times the levels of 25 years ago and cost the nation £7.4 billion a year.

The committee called for more physical activity to take place in schools, with at least three hours spent on exercise each week. They advised that this aspect of education should be inspected by Ofsted.

Roger Mackett, Professor of Transport Studies at UCL and author of the research, said that providing children with more opportunities for spontaneous play might be equally, or more, effective.

"Letting children go out to play is one of the best things that parents can do for their children's health," he said.

Professor Mackett studied 195 children aged 10 to 13, who were fitted with portable motion sensors and required

ANDRE CAMARA



Unstructured activity burns more calories than games lessons

to keep activity and travel diaries for four days. The sensors measured the number of "activity calories" used by the children, which is the amount of energy burnt in different activities, as opposed to the calories consumed all the time maintaining bodily functions.

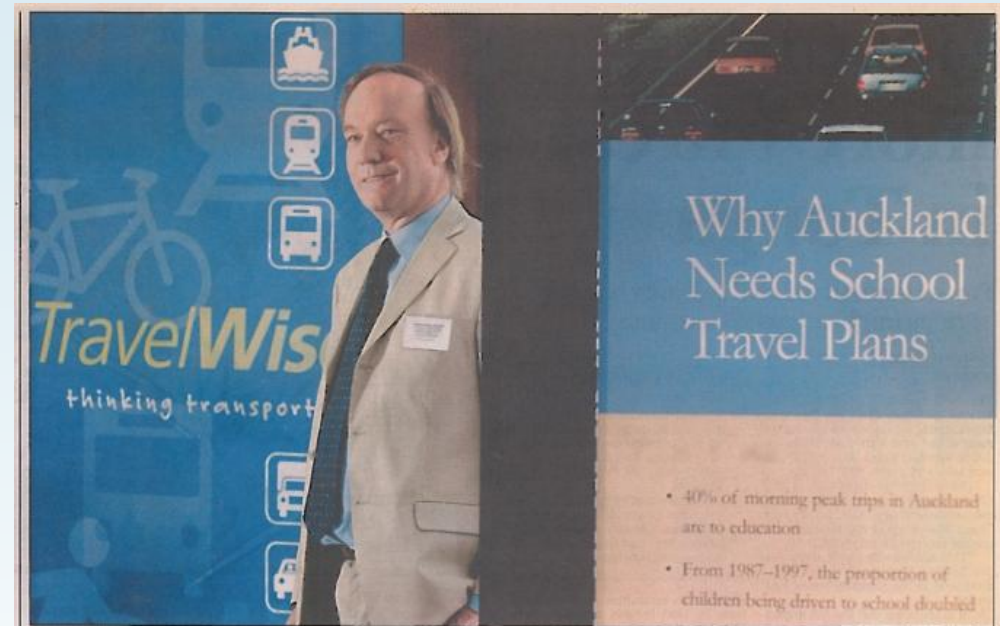
PE and games lessons were found to be the most intensive activities, burning off 3.1 activity calories a minute. Close behind came unstructured ball games and walking at 2.5, followed by structured sport at 2.2 and cycling and school break time at 1.9.

"Whilst PE and games lessons are obviously good for children, the children in the

study only spent the equivalent of 70 minutes a week doing them. They spent much more time, 210 minutes a week, in unstructured play," Professor Mackett said.

The children in the study lived in market towns in Hertfordshire, where car ownership is high. Tim Gill, of the Children's Play Council, said that the research provided scientific evidence of the importance of play in reducing obesity. "This shows that we don't need to set up hundreds of sports clubs or get all of our children into leisure centres. All we need to do is to provide them with the opportunities for outside play," he said.

Overseas conferences gave another opportunity for publicity about our findings



EXERCISE: Professor Roger Mackett says children should be encouraged to get out of the home more.

PICTURE / DEAN PURCELL

Saving the children step by step

Youngsters using their feet to get to school tend to be more active in everything else

by Mathew Doornaley
transport reporter

Fear that children may be abducted or run over walking to school is starting to be outweighed by concern about health threats from inactivity, says a visiting British transport expert.

Roger Mackett, professor of transport studies at University College London, said in Auckland yesterday that he could understand parental anxiety about the risks of letting children walk unsupervised.

"But the chances of your child being abducted are negligible," he told the Herald.

On the other hand, cloistering children at home with computer games and then driving them to school may prove more hazardous in the long-run, in terms of health threats such as diabetes and heart disease.

He believed publicity about obesity was starting to drive the message

LEGGING IT

- The Auckland region has 180 walking bus routes.
- That number could grow by 60 new routes each year.
- More than 3000 children use walking buses in the region.
- Auckland City Council says numbers within its boundaries have risen 40 per cent to about 1500 in the past year.

through to many parents, and the advent of "walking school buses" was helping to overcome fears for their children's safety.

Professor Mackett is attending a two-day Auckland Regional Transport Authority symposium on "sustainable" school travel, to which

he yesterday presented findings of a three-year study of children's activity patterns using electronic motion sensors.

The attachable sensors, measuring movements in three dimensions of 195 youngsters aged 10 to 13, found walking burned off nearly as many calories as organised ball games but unrestricted play was the best exercise.

Children at play burned off an average of 2.2 calories a minute, compared with 1.7 at sports clubs or lessons, and just 0.6 sitting about at home.

The professor said children tended to be more active while at other people's houses, and any trip out — including by car — would almost certainly be better for them in terms of physical activity than being at home.

"Children are least active when they are home — hence they should be encouraged to be out of the home more."

He said children who walked to

school or elsewhere tended to be more active in everything they did, and exerted more energy on the sports field than those driven there by car.

Professor Mackett said a survey of children in his native Hertfordshire who switched from being driven to school to walking buses found them walking on average an extra 1600m a day, taking 22 minutes to do so.

This amounted to almost two hours of extra physical activity a week.

But he acknowledged a difficulty in retaining parental volunteers meant a decline in walking buses in Hertfordshire from their 2002 heyday.

This was in contrast to Auckland, where the regional authority reports a steady growth in patronage to 160 walking bus routes.

WHAT DO YOU THINK

Would you allow your child to walk to school.

Email newsdesk@nzherald.co.nz

New Zealand Herald
3 February 2006

Journalists wrote articles stimulated by ideas from the research

Carol Sarler Children are having childhood stolen from them



The precious gift of parental neglect

Here's a sad little note to temper the cheer: a study published last week, by University College London, concluded that children who are let out to play unsupervised grow up to be healthier and more sociable. Healthier because, it was found, children without adults in tow burn up more calories in heightened energy, thus warding off obesity, and more sociable as a result of independence and self-reliance — benefits whose loss, says the leader of the study, Roger Mackett, carry many and grave implications. What makes this so sad is not that the professor is right; it is that there is scant chance of anyone taking a blind bit of notice.

Certainly the Government won't. The "Children's Plan", as unveiled by Ed Balls earlier this month, is bent on increasing adult involvement in children's lives: parents are to be encouraged to take a more active role in their children's education, there are to be more hands-on "support services" (run by grown-ups), greater access to "high-quality cultural activities" (led by grown-ups) and the mass construction of "supervised adventure playgrounds" (spied on by grown-ups; Mr Balls appears seriously to believe that the very word "supervised" is a contradiction in terms). For once, the Government is not playing to established, if relatively recent, public demand; at least among those old enough to vote. The contemporary perception of good parenting is to be as hands-on as the

days are long, from the diligent morning school run to chauffeuring the rounds of after-school activities, even sitting in to watch whichever dance or music or sports class the parent has deemed to be a suitable use of his or her time; if the parent is willing to drive to, say, jazz ballet lessons but not to martial arts, then the child's interests are determined for him. How could he even get to the martial arts? On a bus? On his own? Don't be daft.

The University College study found that nearly half of children between 8 and 11 are never allowed to leave the house alone. Anxious, upright parents, among them those perfectly prepared to rail against the intrusion of CCTV or identity cards in their own lives, are buying into the equally new notion that it is part of their job to run 24/7 surveillance on their own children.

Privacy, it has been decided, is no longer a luxury that children can be afforded. I do not believe that my mother would have dreamt of reading my diary. I know that I did not read my daughter's. Yet I recently heard the mother of a 14-year-old patting herself on the back for having cracked her daughter's e-mail password, such that all the girl's mail, in and out, is covertly copied to her mother's PC. Well, she said, to much nodding agreement, "These days... you can't be too careful, can you?"

Yes, you can. I further think that the biggest difference between "these days" and better days is not an increase in risk but a huge increase in artificially stimulated alarm, boosted

by prurient gawping at the occasional, albeit dreadful, tales of a Sarah or a Madeleine, whose agonies handily provide an excuse to impose a constant, intrusive and ultimately counter-productive adult presence upon children who deserve better.

Let us have a bit of a Hovis-commercial moment and revisit the sepia of less modern childhood. No child ever thought the school holidays too long; no parent ever whined about the pressures of filling them — empty days were, frankly, none of their business. Ours began with the knock, "Can Carol come out to play?", and ended, as

One mother was secretly checking all her daughter's e-mails

instructed before we scarpered, with the muddy return come teatime. Ish.

If our parents gave thought to the stranger danger of abduction and murder, they knew the chances: there were, on average, six each year. There still are. We didn't have "groomers", but we had flashers — and let me tell you, when left to their own devices, there is no disdain quite as withering as that perfected by a bunch of nine-year-old girls faced with yet another silly willy.

Far more important than our interaction with smut and threat, however, was our interaction with each other. Small people, given their freedom, form small social orders: complete, valid microcosms of what is to come. Neither Enid Blyton's

cosy *Famous Five* nor, at the other extreme, William Golding's *Lord of the Flies* were entirely wrong; most such orders, when allowed to flourish, fell somewhere between the two. Leaders emerged, as did the led. Courage, dishonesty, loyalty, enterprise, rejection, consensus, diplomacy, each was experienced in a way that they simply cannot be under the permanently vigilant eye of the adult who intercedes with his own judgment — "That was your fault, Jill, say sorry to Jack".

Those who seek by their constant presence to control childhood are stealing it from its rightful owners: children. It would, of course, be ridiculous to suggest that they be left to run feral. But there is a difference between intervention when it is needed and interference as a default position.

If half of our children are not allowed out alone until they are 12 or over, it is hardly surprising that one of two things then happen: either they emerge into streets so strange and fearful that they find structure and comfort only in gangs and weaponry, or — less dramatically, but in its way just as dismal — they join the thousands who, in this holiday week, will slump on a couch until their parents answer a question they have never learnt to answer for themselves: what are we doing today?

Of all the gifts, over all the Christmases they have enjoyed, it might well be that none would have been as enduringly precious as a charming little bauble of carefully crafted neglect.

The Times, 27 December 2007

Journalists phoned up for stories

Choice of schools linked to obesity

By Kate Devlin
Medical Correspondent

PARENTS who bypass their local school to find a better education for their children could be inadvertently making them fat, a leading transport expert said yesterday.

A push by the Government to offer parents greater "choice" over education means that the school run is now more than two miles long for half of children.

This has led to more children travelling to school by car, denying them vital exercise which can help prevent them becoming obese, said Roger Mackett, from University College London.

Worryingly such children were also less likely to walk to other places, including their friends' houses, because they were not as "independent" as other youngsters, he will warn in a lecture at UCL next month.

Mr Mackett, an expert in how people use transport, said: "What worries me at the moment are the unintended effects of this 'choice' agenda."

Daily Telegraph, 17 January 2009

Stories in newspapers were then picked up by pressure groups and bloggers

Wright County Republican

THE VOICE OF INDEPENDENCE

MONDAY, JANUARY 4, 2010

The EIA Public Education Quotes of the Decade

5) "What worries me at the moment are the unintended effects of this 'choice' agenda. The Government is keen to give parents choice over which school their children attend. So lots of people are no longer sending their children to local schools. That has led to more and more children going by car instead of walking and we know that lower levels of physical activity can lead to obesity." - Roger Mackett, University College, London. (January 16, 2009 London Daily Telegraph)

Some lessons learnt

- Work in a field with big issues (like obesity, children's security, car use).
- Do high quality research.
- Publish in peer-review journals.
- Speak at conferences.
- Issue press releases.
- Build up your networks.
- Accept invitations to speak.
- Respond to calls for evidence.
- Don't be too purist.