

TRANS SCAN

A scan of emerging trends in mobility and the built environment

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Climate change will pose greater uncertainties for urban planners



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A STROLL along a “rediscovered” canal in Birmingham, England. The waterways were originally built during the Industrial Revolution. Now city planners see them as a catalyst for urban regeneration. (See: <www.birmingham.gov.uk/citycentrecanalcorridor>) It is hardly new to say water views are coveted the world over, but the UN’s Intergovernmental Panel on Climate Change, (see story opposite) is blaming such rising investment for the soaring cost of recent natural disasters. Now there are warnings that rising water levels caused by global warming could put up to two million homes in the UK at long term risk. (See page 4)

WHETHER or not international agreement is reached on controlling climate change, the environmental effects now threatened by global warming will have major implications for planning.

Planners in Britain are already being warned to take into account the likelihood of serious floods (see page 4) and the UN’s Intergovernmental Panel on Climate Change (IPCC) has alerted Australia and other countries to prepare for substantial environmental change.(1)

In its latest discussion paper, Western Australia’s Technology and Industry Advisory Council (TIAC) now lists environmental factors - headed by climate change - as among the most significant drivers which will shape the State’s economy and society over the next 10 to 20 years.(2)

Before US President Bush announced that America would not sign the Kyoto Agreement, it was becoming clearer that interventions to cut industrial and transport emissions, were only a small part of the problem facing governments and their communities.

After two years research by hundreds of scientists, the IPCC has issued its report on the expected impacts of climate change and listed the key regional concerns - including the vulnerabilities and adaptive capacities of countries like Australia.

The IPCC rates Australia’s adaptive capacity as “generally high” but it warns that indigenous people in some regions will have low capacity to adapt and consequently will be “highly vulnerable”.

The report also makes it clear that predicting the impact of global warming is still an inexact science - so all its predictions come with confidence ratings based on observable evidence, modelling, and theory. For example, “very high” confidence means “95% certainty”, while “very low” confidence means 5% or less - which helps explain the levels of uncertainty associated with global warming.

On questions concerning Australia, the IPCC has many uncertainties. It offers “medium confidence”

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world. None are necessarily those of the publishers.

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made paper using 100% recycled fibre which has
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About TransScan

TransScan monitors change world-wide and is based on analy-
sis of information scanned by staff of Transport WA, Main Roads
Western Australia, the Ministry for Planning and the research
organisation, Strategic Scan.

The aim is to stimulate the informed discussion neces-
sary for the departments to operate more effectively in a period
of rapid change. The subject matter will often challenge assump-
tions. At the same time it seeks to familiarise readers with an
ever-changing environment. It is not possible to predict tomor-
row, but it is possible to make calculated assessments about the
future. Fundamental to this approach is the recognition that the
future is here now. When decisions are made on what is thought
the future will bring, those decisions help shape that future.

Information which appears in *TransScan* does not repre-
sent definitive research. The contents are the result of a scan
made in the past few months. On an ongoing basis, such scans
will expose ever more new and emerging themes.

Warning sounds from the mountains

EXCESSIVE traffic noise has long been recognised as a health problem but now scientists at the Institute of Social Medicine at the University of Innsbruck have identified lower levels of noise as sufficient to raise blood pressure, heart rates and levels of stress hormones among children.*

The research, funded by the Austrian Ministry of Health, was the first in the world to examine the stressful effects of low-intensity noise. According to Peter Lercher who led the investigation, any chronic exposure could also give children problems with motivation.

“Non-auditory effects of noise appear to occur at levels far below those required to damage hearing,” he said.

Until now, research into noise pollution and its impacts on the community have focused on people subject to excessively loud traffic noise - like those living close to railway lines or on airport flight paths. For their investigation, the Austrian



Photo: © Ian Britton - FreeFoto.com

Innsbruck in the Austrian Alps where scientists have found local children suffering stress from low levels of traffic noise.

researchers examined 115 children from surrounding alpine villages.

The children were between nine and ten years old and divided into two groups: those in neighbourhoods where noise levels were less than 50 decibels and those neighbourhoods above 60 decibels. (The 50 to 60 decibel range is the type of noise level found in a busy office.)

The blood pressure, heart rate, cortisol and adrenalin rates

of each child were measured and found to be higher among children experiencing higher levels of background noise. Further investigations suggested the higher stress levels were weakening the motivation of individual children - with girls particularly vulnerable.

* “Children Stressed by low noise”
New Scientist 17 March 2001 <<http://www.newscientist.com>> (See too: the Journal of the Acoustical Society of America vol 109, p1023)

Continued from front page

Climate change

New uncertainties for urban planners

(33% to 67%) that Australia’s changing climate will initially provide a beneficial impact for the country’s temperate crops, but says that benefit may turn negative when the level of climate change increases.

At the same time IPCC has “high confidence” (95%) that some Australian species will become endangered or extinct directly as a result of global warming. It has “medium confidence” that the increased intensity of heavy rains and

tropical cyclones will alter the risk to life, property and the ecosystem and result in extra flooding, storm surges, and wind damage.

In its general comments, the IPCC draws attention to the rapid urbanisation of low lying coastal areas both in developing and developed countries and says many of these will become exposed to “climatic extremes” such as tropical cyclones. For example, by 2080 - depending on how much sea levels rise - the IPCC believes between 75 million

and 200 million people a year could be hit by floods caused by coastal storm surges.

It says the potential for damage to infrastructure in coastal areas could run into billions of dollars for individual countries - particularly for Egypt, Poland and Vietnam. It points out that the cost of weather events has risen more than tenfold in the last 50 years - despite the fact that more effort has been made to fortify infrastructure and enhance disaster

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Climate change

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Urban planners face new uncertainty

preparedness. Not all the problem relates to the severity of the weather. "Part of the observed upward trend in disaster losses ... is linked to socioeconomic factors, such as population growth, increased wealth and urbanisation in vulnerable areas," it says.

The scan also showed:

ACCORDING to the United Nations Environment Program (UNEP) the global economic cost of air pollution is now between 0.5% and 2.5% of the world's GNP - \$US150-\$US750 billion a year. (3) The agency has been using the figure to urge governments to direct more investment towards clean energy production. UNEP estimates the world will invest \$US9-\$US15 trillion in new power projects over the next 20 years. Spending more of it on clean, sustainable energy, would make the globe a far cleaner place at the end of the 21st Century - and save hundreds of thousands of lives. UNEP has outlined the energy alternatives, and necessary policy changes in a report now available from its website.



Photo: © Ian Britton - FreeFoto.com

Despite many bad experiences and some of the worst floods in years, British companies still have few plans to cope with natural disasters (see below)

BRITAIN'S Foundation for the Built Environment is estimating that up to two million of the country's houses could be threatened by climate change this century.(4) In a report for the construction and finance industries, it says all the houses have been built near the coast and

river estuaries and could be hit by changing sea levels. It also estimates up to 40% of the country's industry has premises in potential flood areas. "As buildings generally have an expected lifetime of 20 to more than 100 years, it is important that impacts of climate change are considered for the building stock being constructed in the next few decades," says the report.

STUDY transportation at a Canadian university and there is a good chance you will learn nothing about environmental impacts. Researchers at Canada's Centre for Sustainable Transportation have found that of the 297 university courses in transportation now on offer, only 16 have a high environmental component. (5)

WAGENINGEN University in the Netherlands has received a three year grant from the European Commission to determine if global warming has started to change the life cycles of Europe's plants and animals.(6) Any marked change in phenology - the growing patterns - could effect food availability and the distribution of pests and diseases.

NO one disputes that a fuel crisis, transport strike or natural disaster can be highly disruptive to business, but in Britain it seems few companies have contingency plans to cope with such problems.(7) The UK Institute of Management surveyed 2000 companies and found that while most suffered when hit by such disruptions last year, few had developed plans for coping were it to happen again. "Businesses are failing to learn the simple lesson of 'once bitten, twice shy,'" said John Sharp, chief executive of the Business Continuity Institute which sponsored the survey.

References:

- (1) "Climate Change 2001: Impacts, Adaptation, and Vulnerability" Intergovernmental Panel on Climate Change Feb 2001 <<http://ipcc.ch>>
- (2) "Drivers and Shapers of Economic Development in Western Australia in the 21 st Century" Technology and Industry Advisory Council <<http://www.wa.gov.au/tiac/drivers/index.html>>
- (3) "Natural Selection: Evolving Choices for Renewable Energy Technology and Policy" UNEP Mar 2001 <<http://www.uneptie.org/energy/Publications/naturalselection.htm>>
- (4) "Potential implications of climate change in the built environment" Foundation for the Built Environment Jan 2001 <<http://www.bre.co.uk/press/2001/january/300101.FB2.html>>
- (5) "Enabling Tomorrow's Transportation Professionals to Address Climate Change: Curriculum Research Findings" Centre for Sustainable Transportation Feb 2001 <<http://www.cstctd.org>>
- (6) "EU-project strengthens monitoring the impact of climate change on nature" Wageningen University media statement 27 Feb 2001 <<http://www.dow.wau.nl/msa/eprn/>>
- (7) "Businesses failing to learn lessons of fuel, flood and rail crises" Building Research Establishment media statement 19 Jan 2001 <<http://www.bre.co.uk/press/2001/january/190101.BC.html>>

In the battle for cleaner air, personal preference becomes all important

USING legislation to drive technological change can backfire - or at least that is what appears to be happening in California.

Since the 1990s, California's State Government has been using air pollution laws to speed the introduction of zero emission vehicles (ZEVs) and end the state's reputation as the most polluted in America.

But now, just as the State is confronting an even larger energy problem - its crippling shortage of generating power - warnings have been issued that the ZEV legislation itself could make vehicle pollution problems even worse.

Two studies - one commissioned by car manufacturers, the other published by a Washington-based think-tank - have shown the ZEV program could lead to such significant increases in new vehicle costs that some motorists and businesses are likely to hold onto their old vehicles. (1) (2)

The net result will be that California's air pollution problems could be worse by 2020 rather than better.

According to the manufacturer's report, the high costs of battery electric vehicles and other advanced technologies required by the ZEV mandate, will have the effect of imposing a "ZEV Tax" - and slow the turnover to cleaner, lower-emitting vehicles.

"Emissions from the existing fleet would increase still further because battery electric vehicles required by the mandate are likely to be driven fewer miles than conventional vehicles and this deficit would have to be made

up through increased travel by other vehicles," says the report.

Under the current law, 10% of all cars and light-duty trucks produced for sale in California in 2003 will have to be ZEVs.

The California Air Resources Board, which administers the ZEV laws, has calculated that the mandate will reduce emissions in the State's most polluted area by 1.3 tons a day by 2010.

But the manufacturer's report challenges the figures claiming the "ZEV tax" effect will so reduce new car sales that emissions will rise by 4.3 tons per day in 2010 and remain a problem at least until 2020.

According to a media statement from the car manufacturers, ZEV vehicles will cost up to \$US 24,000 more than the petrol driven alternatives - yet will be only "slightly cleaner" than the modern "conventional"

vehicles that will be available at that time. (3)

The report does not canvas the possibility that California could pass further legislation to make ZEV driving cheaper - for example by reducing licensing fees on ZEVs and impose higher fees on older, high pollution cars.

But the study by Howard Gruenspecht, former Director of Economics, Electricity and Natural Gas Analysis at the US Department of Energy, does look at such options. In fact he warns that without such an incentive, any move by manufacturers to spread the cost of ZEVs across all new cars will result in fewer new cars being purchased.

Gruenspecht calculates that based on previous experience of price increases, the actual turndown in new car purchases could be between 2% and 3%.

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ALMOST a Zero Emission Vehicle (ZEV) but not quite. But Honda's new natural-gas powered Civic GX does rate as the first to qualify for California's "Advanced Technology P-ZEV" certification. (The "P" standing for Partial-credit.) According to the company, during tests hydrocarbon emissions from the GX were so low, they were "virtually immeasurable" with conventional laboratory instruments. CO2 emissions were "significantly lower" than a comparable petrol-driven vehicle, it said. (4)

Changing technology

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Personal preference and clean air

“While the consumer response is small in terms of numbers of vehicles, the emissions impact will be substantial because old cars have much higher emission rates than new ones,” he wrote in the study published by the think-tank, Resources for the Future.

Gruenspecht says there are a number of lessons to be learned from the Californian experience, and one is the increasing importance of accurately characterising market responses in the evaluation of policies that seek small emission reductions at high cost.

“Whether ZEV opponents or ZEV advocates are correct, consumer response would appear to be a fruitful area for additional research,” he says.

He points out that ZEV owners in California already enjoy considerable extra perks. State laws passed last July give ZEV drivers access to freeway lanes normally reserved only for cars carrying multiple passengers. At the same time ZEV drivers can park free at Los Angeles Airport and can use more convenient parking bays in some shopping centres.

ZEVs are given free access to California’s toll roads and there are even some free recharging stations for electric vehicles.

“Although I expect that the ZEV program as presently constituted will hurt rather than help air quality, the big picture is that the air is getting cleaner in California,” said Gruenspecht.

The scan also showed:

FUEL cell vehicles still appear to be the best long-term option for replacing conventional petrol-driven cars, but if they do become the new standard it may

be necessary for motorists to generate their own hydrogen at home. At least that is the concept being put forward by Josephine Cooper, president of the US-based Alliance of Automobile Manufacturers.(5) In a speech on the future shape of energy, she told a Washington audience that fuel cells which combine hydrogen with oxygen to produce electrical energy, could start replacing petrol engines in 10-15 years. But the real difficulty will be creating a refuelling infrastructure. Even if petrol itself was used to produce the hydrogen, it would still need to be ultra-clean and a different product than the one used today. According to Ms Cooper, current technology for converting fuels into hydrogen works better if the equipment used is stationary. “In fact, we may see fuel cells at residential locations for powering homes before we see them commercially for motor vehicles,” she said. “... if there is a reformer in the house to convert some other fuel to hydrogen, it may even be feasible to adapt that system so that the owner can fuel his or her car with hydrogen at home!”

NORWAY’S two-seater electric car “TH!NK City” (*TransScan* Feb 2000 p15) is to be tried experimentally in London.(6) Ford, who bought the Norwegian company, has formed what it is describing as a “unique partnership” with environmental groups led by Friends of the Earth to help work out creative ways of using the non-polluting vehicles. “The marketing strategy is to target cities rather than countries because the TH!NK City is designed specifically for use in urban traffic,” said Ford’s

marketing vice president, Jakob Alkil.

AN executive with Toyota believes the huge global increase in car numbers could ultimately produce a serious social backlash - if manufacturers do not take more account of the car’s impact on the environment.(7) “In 1950, there were about 69 million cars and trucks worldwide,” Toshiaki Taguchi, president of the company’s North American operations told delegates to the Chicago Auto Show. “Today there are more than 10 times as many and each year another 55 million are added by new production.” Toshiaki predicted global vehicle numbers could swell to more than 1.1 billion by 2050.” This phenomenal growth ... can be either a bonanza or a burden,” he said “If we let it become a burden, the auto industry will face a social backlash like never before.” Taguchi thinks the car industry needs to “pay attention to two important E’s - the environment and e-business”. To avoid problems it must reduce the industry’s “environmental footprint” and cut waste from the car production cycle. For example, by using information technology, Toyota believed it could cut 25% off its annual transportation bill for distributing vehicle parts. “Six billion people share this planet and the days when the auto industry can just crank out cars without concern for their impact on the environment are over;” he said.

THE Energy Laboratory at the Massachusetts Institute of Technology thinks there is still a long way to go before the petrol engine - and petrol engine technology - has run its course. (8) In a research paper published at the Society of Automotive Engineers’ World Congress in

Continued next page

Taking the city with you

MOBILITY and the built environment combine neatly in "Freedom Ship" (pictured right) - the "floating city" to be constructed by US investors in Trujillo, Honduras. When complete it will tower 25-stories, have a resident population of 115,000 and spend its time in a continuous circumnavigation of the world. (a)



Not a cruise ship, very much more a floating city: an artist's impression of "Freedom Ship"

The "city" will cost about \$17 billion to build, measure 1500 meters by 130 meters deep, house hospitals, banks, sports centres, parks, theatres, nightclubs, and a casino - and have an airport for private jets and small commercial aircraft on its top deck. But it will not be the only vessel of its type.

A smaller version with a more conventional, ship-like shape, "The World" was launched in February in Landskrona, Sweden to accommodate up to 285 residents and 88 guests. (b) The organisations behind the

vessels are now predicting that "floating cities" will become a phenomenon of the 21st Century.

According to a statement from "Freedom Ship", its backers estimate a worldwide market for four or more vessels the size of Freedom. They also insist the main focus of the venture is to create a new lifestyle: "This new lifestyle is intended to provide an unprecedented array of business opportunities for all involved," said the statement.

Gaining residence on either vessel will not be cheap. To

buy a suite on "The World" will cost between \$4 million and \$14 million each - plus monthly charges of around \$10,000 at the low end of the scale. Currently, residential units on the still-to-be-built "Freedom Ship" range from about \$242,000 to \$22 million. When complete later this year, "The World" will be making Fremantle a port of call.

Reference

- (a) "Freedom Ship" <<http://www.freedomshipcity.com/>>
 (b) "The World" <<http://www.residensea.com>>

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March, laboratory researchers predicted that tighter regulations and market pressure would produce significant improvements in petrol driven cars in years to come. By 2020 they expect standard passenger cars to show a 15% reduction in vehicle mass; a 35% reduction in fuel consumption and a 5% increase in price. At the same time, they predict hydrogen fuel cell hybrid vehicles will be the most efficient and lowest emitting vehicles consuming 55% less fuel than the evolving petrol-driven cars. But they will be 40% more expensive.

References:

- (1) "Impacts of Alternative ZEV sales mandates on California Motor Vehicle Emissions: A Comprehensive Study" by David Harrison et al for the Alliance of Automobile Manufacturers and the Association of International Automobile Manufacturers Jan 2001 <<http://www.autoalliance.org/disbenefitsfinal012301.pdf>>
- (2) "Zero Emission Vehicles: A Dirty Little Secret" by Howard Gruenspecht, Resources for the Future Jan 2001 <http://www.rff.org/resources_archive/pdf_files/142_gruenspecht.pdf>
- (3) "California Electric Car mandate will have 'Jalopy Effect' Study Indicates" Alliance of Automobile Manufacturers media statement 23 Jan 2001 <<http://www.autoalliance.org/pressreleases/pr012301.htm>>
- (4) "Honda Civic GX first to achieve newest emission control standards" Honda media statement, 26 Feb 2001 PRNewswire
- (5) "On the Road Again - In the Car of the Future" by Josephine Cooper, Alliance of Automobile Manufacturers <<http://www.autoalliance.org/randspeech.htm>>
- (6) "Ford announces 'TH!NK @bout London' electric vehicle program" 20 Mar 2001 PRNewswire
- (7) "Key to success is the two 'e's - environment and e-business" 7 Feb 2001 PRNewswire
- (8) "MIT scientists predict 35% mpg increase" 31 Jan 2001 PRNewswire

TRANSNet

A regular review of Internet sites related to mobility and the built environment



THE world's tallest buildings generate a surprising amount of news - whether they are built or not. To keep track try <http://www.worldstallest.com/> which lists all buildings over 300 metres and provides the latest news on such ventures as Melbourne's planned Grollo Tower, and the 300-storey "Bionic Tower" designed for Asia.

FOR a satellite view of Western Australia, topographic maps, digital spatial data or and a searchable gazetteer of 55,000 places in Australia try the Australian National Mapping Agency's interactive site at http://www.auslig.gov.au/index_interactive.htm "Fab Facts" contains information about major geographical features.

The United Nations Centre for Human Settlements is providing information on urban conditions and trends at <http://www.urbanobservatory.org/indicators/database/> It draws its data from 237 cities in 110 participating countries and includes such items as the fact that people in the industrial world spend an average 25.03 minutes travelling to work.

Disclaimer: The inclusion of these sites does not mean endorsement by the publishers. They have been selected for interest value only.

Safety issues

Do accident rates tell the whole story?

IS it valid to use traffic accident death rates as indicative of the safety performance of a road network? UNICEF thinks not. After a detailed examination of child injuries in the world's 26 richest nations, it has concluded that technology, changing lifestyles and advances in medical science may be disguising the fact that for children, roads are just as dangerous as they have ever been.⁽¹⁾

The organisation's analysis has just been published in "A League Table of Child Deaths by Injury in Rich Nations". Although the report covers all types of child deaths from drowning to falls, it pays particular attention to traffic accidents which make up 41% of the causes - by far the largest segment.

"Since studies in many nations have shown the two factors most strongly associated with road accident injuries to be the traffic volume and traffic speed, some researchers are prepared to argue that the roads of most industrialised nations are becoming more, not less, dangerous," says the report.

"They argue that falling death rates are a result of declining road use by pedestrians and cyclists, greater protection for the occupants of cars once an accident has happened, and improvements in accident and emergency services leading to a lowering of fatality rates."

In the circumstances, the report suggests it would be wrong for example, to encourage parents to urge their children to cycle on the roads more, as a way of getting exercise.

"Telling parents that they

are being overprotective and that the roads are becoming safer for their children is, in this context, like telling them that they can let their children play with matches again because deaths from fire have been falling," says the report.

"The question of whether roads are becoming safer for children is therefore too complex to be answered merely by monitoring changes in the rate of traffic accident deaths.

"The Netherlands and the United Kingdom, for example, have brought down child traffic death rates to very similar levels (3.4 and 2.9 per hundred thousand respectively); but the level of children's exposure to traffic is very different in the two countries, with 60% of Dutch children (aged 12 to 14) travelling most places by bike as opposed to less than 10% of children in the United Kingdom.

"The similarity in levels of child traffic accident death rates therefore suggests not similar levels of road safety but very different levels of danger masked by very different attitudes and behaviour by parents and children."

In the league table itself, Australia's performance is well down the ladder. Sweden tops the league with 2.5 child deaths per hundred thousand. Australia is in 17th position out of 26 with a rate of 4.4.

At the same time the US is in 21st position with 5.8 and New Zealand in 24th position with 6.9. One reason for the poor US performance are problems the country is having with the use of child restraints. (see page 10)

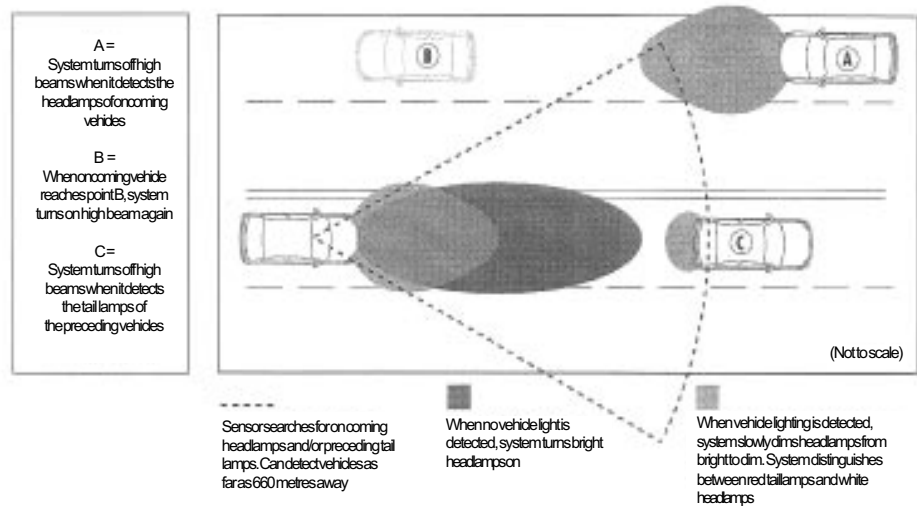
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The scan also found: **THE European Commission has drawn up its new strategy for road safety and given top priority to the expansion of the so-called European New Car Assessment Program (EuroNCAP) - on the grounds that no other safety program is saving as many lives for each dollar invested.(2) The EuroNCAP program has been running for about three years and is used to improve the design safety of new cars including measures which reduce risks to pedestrians and cyclists. According to an EC report, the program has already had significant influence on new designs and led to safety equipment being installed in current models. It**

says most manufacturers are now in direct communication with the program's coordinators to ensure their latest models are crash tested by EuroNCAP before they are marketed. At the same time European motorists are showing a buying preference for cars with high NCAP test results. The commission believes that expanding the program will potentially save 2000 lives annually in European Union countries which in monetary terms would work out as a saving of 2000 million Euro . (The EC calculates that each life lost in a traffic accident costs the community 1 million Euro - about \$1.6 million.) The

Headlights that 'think' for themselves



RESEARCH by the US Department of Transportation suggests that at night, the average motorist switches their headlights to high beam in only 25% of the occasions when the extra light would be useful. Their hesitancy is largely because of concern they will forget to dim the beam and annoy or temporarily "blind" another driver. Now an American company, the Gentex Corporation, believes it has found a solution with what it is calling a "SmartBeam" - a headlight that dims automatically. The new gadget uses image-sensing technology both to spot on-coming headlights and the tail lights of any vehicle ahead. The SmartBeam interprets the information and fades the high beam down until other vehicles are out of the way. According to Gentex executive vice president, Kenneth La Grand, the first production version of the system should start making an appearance in 2004 when Ford will be fitting the system to its Lincoln range. (See: <<http://.gentex.com>>)

commission further calculates that expanding EuroNCAP will cost the equivalent of 2000 and 4000 Euro per avoided fatality.

ALTHOUGH children are usually safer strapped into the back seats of cars than the front, do they cause greater distraction to the driver if they are sitting behind? A research paper presented to a Society of Automotive Engineers' conference in Detroit, argues the distraction is in fact so great that there should be a rethink of child seating arrangements.(3) The American authors, Dan Goor and Lee Stucki, had examined the situation in which young children were being placed in rear-facing safety seats at the back - primarily

because the front of the car was fitted with air-bags. The authors estimated that if the driver was alone when the child became distressed, the situation might require "about 10 seconds of attention". At normal speed, the car would have travelled more than 200 metres in that time without the driver paying attention to the road. Goor and Stucki said it was clear that deaths and injuries were occurring because of such distractions. They believe the solution is for rear-facing infant seats to be redesigned to withstand the force of air bag deployment and for the new units to be fitted in the front passenger seat where the driver can see the child easily.

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Safety issues

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Accident rates are hiding child injuries, says UNICEF

FRANCE has adopted a controversial TV advertisement from Britain's Transport Department to warn French people of the dangers of not wearing rear seatbelts.(4) The commercial has been re-dubbed into French and shows a woman driver who is killed when her unbelted son is thrown violently into her from his rear seat in a crash. According to the British Transport Minister, Lord Whitty, the ad had sufficient impact in Britain to change driving habits. Since it was originally shown on British television in 1998, the number of children wearing rear seat belts had risen from 80% to 90% - saving an estimated 50 lives.

AMERICA'S health and transport departments have launched a joint study to identify ways to ensure greater use of child restraints and child booster seats among low-income car owners.(5) Transport-related injuries are the main cause of death for all US children above one year of age and currently kill more than 2000 children annually. (See also UNICEF report page 8) Six out of ten American children who die in crashes are completely unrestrained - and many are from poor families. Meanwhile Ford has launch a year-long "Boost America!" campaign to distribute one-million booster seats across the country and contribute to community safety education programs. Ford has even established a campaign website: <<http://www.boostamerica.org>>

OTHER US research is showing that the ethnic origin of parents and caregivers is likely



Photo: TRL

"Q" pictured above, is one of a new series of child dummies being developed in Europe to measure how car child restraints perform during side impact crashes. According to the Transport Research Laboratory, child dummies for crash test purposes have changed little since the 1970s and then were only designed to measure frontal and rear impacts. The new generation should lead to the development of far safer restraints. In its latest newsletter, TRL News, the Laboratory suggests one additional safety feature which would pay dividends would be child seat restraints with three-point fixings to prevent seats rotating in an accident. (TRL News March 2001)

to play a major part in determining whether child car passengers are seated on booster seats. (6) The net result is that children aged five to 12 of

African-American and Hispanic origin have a greater chance of being killed in a car crash. (In the case of African-American children the risk is almost three times higher than for white children.) A survey just completed for the Nissan car company has found that while 87% of African-American parents are aware of booster seats, only 16% make use of them - primarily because they do not know enough about its use or what to buy. "Clearly, the findings indicate a need for consumer education and outreach to minority communities regarding booster seats," said Robert Yakushi, Nissan's US corporate manager for automotive safety.

ALTHOUGH it may be technically feasible to produce a perfectly silent car, it would also make the vehicle dangerous both for the driver and other road users, according to Porsche engineer, Hans Martin Gerhard.(7) He told delegates to the Society of Automotive Engineers' conference in Detroit that some noises in the driving compartment were essential for the "messages" they gave the driver. "Low interior noise levels can cause the driver to underestimate driving speed because they lose 'acoustical contact' with the engine," he said. He said at the same time, ridding cars of exterior noise would increase the risk to other road users - particularly the elderly, children and blind. But Mr Gerhard did not believe car manufacturers could ignore the problems of traffic noise. "We'll need new design methods to allow sound to be engineered in a more precise and sensitive way," he said.

A SURVEY for the British Safety Council has found only 13% of the executives in the country's top companies place

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Will new transit solutions mean looking back to the future?

THE vast improvements in communications technology are persuading some transport planners to take a second look at the failed transit concepts of 20 years ago.

A team of researchers from the University of California's Institute of Transportation Studies, believes that by using today's communications systems, paratransit services could be made to work - particularly in suburban areas where population density is too sparse to support fixed-route transit services.(1)

In a paper published by the US Transportation Research Board, the team says the old "dial-a-bus" concept died back in the 1970s because would-be users had

to phone in their bookings 24 hours in advance.

With modern telecommunications a "smart" paratransit service could be created which would cut response times down to minutes.

"In the future, the use of up-to-the-minute service and traffic information would eliminate the pre-trip reservation requirement of the old dial-a-ride concept and current airport shuttle vans," they say.

"Travelers would request rides through telephones, cellular phones, interactive televisions, modem-equipped computers, and public computer terminals; the call would be routed to small transit vehicles passing nearby."

The team admits that new technology or not, operating costs would still be high.

"The challenge is to increase intensity and reduce costs (the operating cost per passenger for today's demand-responsive services is about \$13, versus about \$2 for fixed-route bus service)" they say.

"One way to enhance its attractiveness and thereby increase demand is by complementing smart paratransit with carsharing, local telecenter options, and easy neighbourhood travel.

"Likewise, the availability of smart paratransit will likely enhance demand for those other options."

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health and safety among their three most important corporate objectives.(8) (See also <www.dot.gov/briefing.htm>

NEW vehicle construction standards are to be introduced in the US to reduce the chance of fire after a crash.(9) The standards will apply particularly to the way cars behave after suffering a rear impact. "Vehicle fires only occur in about one percent of crashes, but their consequences are severe," said Dr. Sue Bailey, Administrator of the U.S. Department of Transportation's National Highway Traffic Safety Administration. "In 1998, four percent of vehicle occupant fatalities occurred in crashes involving fire."

References;

- (1) "A league table of child deaths by injury in rich nations", Innocenti Report Card No.2, Feb 2001. UNICEF Innocenti Research Centre, Florence. <<http://www.unicef-icdc.org/publications/pdf/repcard2e.pdf>>
- (2) "Priorities in EU road safety: Progress report and Ranking of Actions" European Commission < http://europa.eu.int/eur-lex/en/com/cnc/2000/com2000_0125en01.pdf>
- (3) "Better Rear-Facing Seats Needed for Infants Secured in Front Seats Says SAE 2001 World Congress Paper" PRNewswire 27 Feb 2001 Society of Automotive Engineers web site: <<http://www.sae.org>>
- (4) "France chooses UK safety ad" Department of Transport media statement <<http://213.38.88.195/coi/coipress.nsf/1d4410efd9700935802567350059a4fa/0a1cfdd778a96a29802569fb0056b10c?OpenDocument>>
- (5) "Pledge to make more child seats available to low income families" US Department of Transportation media statement 19 Jan 2001 <<http://www.nhtsa.dot.gov/nhtsa/announce/press/pressdisplay.dbm?year=2001&filename=dot16-01.html>>
- (6) "Nissan quest for safety studies find limited automobile booster seat usage" PRNewswire 5 Mar 2001
- (7) "Does Your Car Rattle and Squeak? That's Good" PRNewswire 8 Feb 2001
- (8) "Company chiefs still put profits before safety, survey shows" PRNewswire 22 Feb 2001
- (9) "U.S. Transportation Secretary Slater Announces NHTSA Proposal To Upgrade Crash Fire Safety Standard" PRNewswire 14 Nov 2000 see too: US Department of Transportation web site <<http://www.dot.gov/briefing.htm>>

Transport planning

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Back to the future on transit?



Photo: TRL

IN the US it is being predicted that the aging of the population will spark development of "an entirely new vehicle". (See page 13) In Britain, authorities are already responding to the demands for "aged mobility" by building "Quiet Lanes" - like the one pictured above. They are an initiative of the Countryside Agency which is designing them to "help preserve rural tranquility". According to the Transport Research Laboratory (TRL), the plan now is to create a network of such lanes for walkers, cyclists, horse-riders - and the elderly with their electric wheel chairs. Cars are permitted too - but the lanes are purposely designed to prevent speeding. (*See: TRL News March 2001)*

From the team's viewpoint, smart paratransit "is perhaps the greatest single hope for reducing vehicle use in suburban areas."

The scan also found:

CHINA'S Chongqing, the industrial hub of Szechuan Province, is to become the first major city in the world to operate the Aerobus cable-suspended transport system. (2) The city has just signed a \$80 million contract with Aerobus International to build the system and its elevated track 100 metres above the Yangtze and Jialing rivers. The system will stretch

2.6 km and carry 5000 passengers an hour into the city centre.

CAN market forces be left to solve traffic jams? One witness who has just appeared before a US Congressional hearing, thinks they can. Anthony Downs, a research fellow with the Brookings Institution has told Congress' Subcommittee on Highways and Transit, that as congestion worsens, people and firms will react by moving away to minimize the impact. (3) "The key goals of public policies should be to remove the political and institutional barriers to this

adjustment process that now block it at so many turns," he told committee members. "These include local zoning barriers to new housing development, unwillingness to consider region-wide planning and decision powers, and excessive regulation of public transit." In fact, Mr Downs takes a very pessimistic view about how America might handle its growing traffic problem. He said with the country's population predicted to rise by 48 million over the next 20 years, people who now argued for "limits to future growth" were deluded. The challenge was to accommodate growth, not prevent it, and an anti-sprawl policy would only make matters worse.

THE same trends have been read from an entirely different angle by the US Transportation Research Board's Committee on Bus Transit Systems.(4) Board members headed by John Dockendorf of Pennsylvania Department of Transportation have just published a research paper suggesting the trends are favourable for an up surge in bus transport in the coming years. Like Downs (above) the committee also observes that in some urban areas of America, traffic congestion is beginning to act as a deterrent to business investment and new residents. But the committee sees such pressures as encouraging public demand for better transit systems to solve the problem. The paper also predicts that another driver for greater bus patronage will be the ageing population. "Increased life expectancy will create additional demand for public transit as senior citizens live longer, have more leisure time, and need increased health services, yet are often less able to drive," it says. "In addition, some senior citizens will tend to

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work and remain active longer than they do today. Therefore, public transit, and especially bus transit, will be needed to provide the additional transportation required to meet the additional commuting, shopping, and social needs of the growing senior citizen population.”

ANOTHER paper released by the US Transportation Research Board suggests the demands created by the ageing population will actually prompt the development of an entirely new vehicle. (5) “Because disabilities increase with age, the demand for accessible transport is expected to grow,” it says. “Mobility is important for daily living, but people increasingly will have to stop driving because of health problems such as dementia and strokes. This shift will lead to greater pressure for alternatives to the car. Even the best public transport and paratransit services cannot provide the spontaneity and independence that car drivers desire.” The paper suggests that in the next few years we will see the development of some form of neighborhood transport similar to the car but “designed to meet the needs of people who can no longer drive”. “At the same time, concern over road safety will increase, because older people are more fragile and thus more vulnerable to accidents as pedestrians, transit users, and drivers,” says the paper.

WHATEVER the future brings for US transit, right now more Americans are catching buses.(6) Data collected by the American Public Transportation Association shows that last year, usage of the public transport systems rose by 320 million rides to 9.4 billion trips - the highest figure for 40 years. Over the past five years rides have increased 20%.

Transport planning

MEN in Britain are to be treated equally with women when it comes to concessionary travel. (7) The government has announced it is to change the Transport Act 2000 so that men of 60 years and over can receive half-fare concessions in the same way as women. At the moment men have to wait until they are 65 before qualifying. The change is expected to benefit a million men. Transport Minister, John Prescott, described the current arrangements as “an anomaly”.

BY the end of the year, India is set to have the world’s largest fleet of natural gas buses designed for city transit.(8) Already more than 500 buses have been converted to natural gas and hundreds more are due for conversion in the coming months. By the end of 2002 the country hopes to have a fleet of more than 15,000 natural gas buses on the roads. Two factors are driving the change from petrol and diesel: the country decision to increase its level of energy self-sufficiency and new laws requiring cities with pollution problems to convert to natural gas.

AS Britain continues to work through the various impacts of privatising its rail system, the country’s Strategic Rail Authority - the body which oversees the network - has come up with a £60 billion 10-year plan to solve some of the problems.(9) According to the authority’s chairman, Sir

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WA leading in transit accessibility

TRANSPORT WA has won two of Australia’s top Access Awards for its initiatives to ensure transit services are easily accessible to people with disabilities.

The department won both the Prime Minister’s National Transport Award and the overall Gold Medal Access Award in competition with public and private companies. Senator Jocelyn Newman, the Minister Assisting the Prime Minister, said the awards were recognition of best practice.

They also showed more organisations were recognising the benefits which flowed from taking an inclusive approach to people with disabilities.

Transport WA’s initiatives included the decision to replace its bus fleet with 848 fully accessible vehicles by 2010; the installation of tactile ground surface indicators at bus and railway stations; and the use of braille signage and audio announcements offering trip information.

(See: <[http://www.facs.gov.au/internet/newman.nsf/d0dee2a74f741679ca25670f00207819/8216adca3a0cf4b0ca2569a70014730f/\\$FILE/Access+Award+Winner+Facts.pdf](http://www.facs.gov.au/internet/newman.nsf/d0dee2a74f741679ca25670f00207819/8216adca3a0cf4b0ca2569a70014730f/$FILE/Access+Award+Winner+Facts.pdf)>)

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Transport planning

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Alastair Morton, SRA is not calling for the renationalisation of the railways, just some new vision and investment. He says what is wrong is a lack of spending and the fact that no one foresaw there would be such an increase in passengers. (Up 26% in the five years to March 1999.) “Public resentment of overcrowded, dirty and unreliable public services, particularly when some train operators benefit from large public subsidies, is very understandable and carries within it a backlash,” he said.



Photo: © Ian Britton - FreeFoto.com

WITH more people switching to rail transport, Britain's rail operators are being warned to attend to passenger comfort - or face a backlash.

Reference:

- (1) “New Mobility: Using Technology and Partnerships To Create More Efficient, Equitable, and Environmentally Sound Transportation” by Deborah Salon, Institute of Transportation Studies, University of California 2001 <<http://www.nationalacademies.org/trb/publications/millennium/00078.pdf>>
- (2) “Aerobus Suspended Monorail Coming to China” American Public Transportation Association news <<http://www.apta.com/intnatl/intfocus/aer.htm>> (See too Aerobus website: <<http://www.aerobus.com/Advantages.html>>)
- (3) “Testimony of Anthony Downs Senior Fellow Brookings Institution to the Subcommittee on Highways, House of Representatives, Mar 2001 <<http://www.brookings.edu/views/testimony/Downs/20010322.htm>>
- (4) “Bus Transportation - a Look Forward” by John Dockendorf et al US Transportation Research Board 2001 <<http://www.nationalacademies.org/trb/publications/millennium/00015.pdf>>
- (5) “Accessible Transportation and Mobility” by S. Ling Suen et al US Transportation Research Board 2001 <<http://www.nationalacademies.org/trb/publications/millennium/00001.pdf>>
- (6) “Public transportation scored another record year in 2000” 10 Jan 2001 American Public Transportation Association media statement <<http://www.apta.com/news/releases/ridesest2000.htm>>
- (7) “One million set to benefit from travel concessions” 17 Feb 2001 UK Department of the Environment, Transport and the Regions media statement <<http://213.38.88.195/coi/coipress.nsf/1d4410efd9700935802567350059a4fa/328d3bea18ef9bd3802569f8003d9c14?OpenDocument>>
- (8) “IMPCO Announces \$4 Million Order From India for 4000 Natural Gas City Bus Systems” 27 Feb 2001 PRNewswire
- (9) “£60bn rail shake-up” BBC news online 13 Mar 2001 <http://news.bbc.co.uk/hi/english/uk/newsid_1217000/1217723.stm>



Transted 2001: (International conference on mobility and transport for the aged)
 2-5 July 2001,
 Warsaw, Poland
 Email: transted2001@idn.org.pl

Ninth World Conference on Transport Research
 22-27 July 2001,
 Seoul, Korea
 Email: wctr@cis.koti.re.kr
 <<http://www.koti.re.kr/~wctr>>

Ninth International Conference on Modelling, Monitoring and Management of Air Pollution
 12 - 14 Sept 2001
 Ancona, Italy
 <<http://www.wessex.ac.uk/conferences/2001/air01/>>

Velo-city 2001 (International cycling conference)
 17 -21 Sept 2001
 Edinburgh & Glasgow, Scotland
 Email: velo-city@meetingmakers.co.uk
 <<http://www.velo-city2001.org/>>

International Conference on Ecology & Transportation
 Colorado, US
 24-28 Sept 2001
 Email: kpm@unity.ncsu.edu

8th ITS World Congress
 30 Oct – 4 Nov 2001
 Sydney NSW
 <<http://www.itsworldcongress.org/index1.htm>>

If you have an item for “Events up-date”, please email the Editors at <scanasia@highway1.com.au>

Disclaimer: The inclusion of items in this column does not represent endorsement by the publishers. They have been selected because of their possible interest to TransScan readers.

Designers drive away from distraction

IN November 1999, America's top traffic safety authority voiced concern about the potential for driver distractions caused by the increasing number of mobile information systems being designed for in-vehicle use. (1) The authority also noted that efforts to turn vehicles into "mobile offices" were "allowing motorists to spend time more productively when caught in traffic jams."

Since then, the number and sophistication of in-vehicle gadgets has risen considerably and a new survey of automotive engineers has brought the prediction that at least in the US, 25% of vehicles will be fitted with telematics within 3-8 years.

While the gadgets may still cause a distraction, manufacturers are working on a variety of "hands-free" systems - and capitalising on the concept of making driving time "more productive".

One example the Delphi Automotive Systems is developing is what it calls "products and human-machine interface systems that help drivers keep their hands on the wheel and eyes on the road." (2)

According to Delphi's chairman, Mr J. T. Battenberg III: "People have expressed a desire to be more productive while commuting, and the vehicle is awash in a sea of portable electronic devices.

"At Delphi, we are developing mobile multimedia technologies that will help drivers stay more focused and productive."

In fact the new mobile technology looks set to change the whole idea of "going for a drive." Delphi for example is developing



CHANGING the concept of "just going for a drive": Delphi's new "Communiport Mobile Productivity Center"

what it calls the "Communiport Mobile Productivity Center" (pictured above) which will not only allow drivers to make hands-free phone calls by voice command; but provide "smart" receivers that provide turn-by-turn navigation assistance.

The same "productivity centre" will also integrate phone, email and Internet access, all through voice-to-text and text-to-speech software.

According to Delphi, electronics designers are now concentrating on "the two central elements of driver focus - biomechanical interface and cognitive focus."

"The biomechanical element considers how the driver physically interacts with the vehicle," it says. "The cognitive element relates to reducing the driver's workload management to help keep focus."

The scan also showed:

The US-based in-vehicle information service provider, OnStar, takes the theme of "drive time productivity" further. (3) It says American motorists now spend half a billion hours in their cars each

week and they could spend it "a little more productively." OnStar suggestion is personalised financial information broadcast to the car through OnStar's "Virtual Adviser". According to the company, it brings "hands-free, voice-activated Web-based information into your vehicle. While you're sitting in traffic, travelling to that next meeting, or just running errands, you can manage your finances without taking your hands off the steering wheel."

IT is no good driving around in your new mobile office if you don't feel safe - which is where the "Personal Safeguard Companion" comes in. (4) The product, which has just gone on sale in America's Counter Spy Shops, keeps track of your vehicle using a GPS satellite and in any emergency will provide roadside assistance. Special alert options will also let you use the device as an alarm clock or reminder to take medication. "Knowing one is connected to a 911-trained emergency response command centre 24 hours a day provides one with peace of mind," says company vice president, Stuart Fields.

SIMILAR telematic systems are also being introduced in Europe but the marketing emphasis seems to be more about making travel "safer and more pleasurable" rather than "productive." (5) One of the latest examples is a partnership between Ford and Vodafone to provide voice-driven telematic safety, security and information services to drivers across

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Mobile technology

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Designing telematics for less distraction

Europe. According to Ford's CEO for Europe, David Thursfield: "We anticipate that within five years nearly all new Ford vehicles will be fitted with some type of telematics system."

SCIENTISTS in Germany and the US are developing a "speech-controlled wearable computer" for garage mechanics.(6) The idea is to eliminate the paperwork involved in car maintenance while at the same time providing the mechanic with instant access to necessary data. The company behind the concept, the Robert Bosch Corporation, sees applications for the device in all areas of technical inspections.

References:

- (1) "When does too much information pose a driving threat" TransScan Feb 2000 page 13-14 <<http://www.transscan.com>>
- (2) "Delphi Automotive Systems is developing products and human-machine interface systems" PRNewswire 5 Mar 2001 <<http://www.delphiauto.com/vpr>>
- (3) "OnStar Virtual Adviser" General Motors media statement Feb 2001
- (4) "Access to 24 hour Emergency Aid available through satellite tracking system" PRNewswire 1 Feb 2001 <<http://www.spyzone.com>>
- (5) "Ford and Vodafone launch new European telematics partnership" PRNewswire 23 Feb 2001
- (6) "Latest fashion for automotive technicians - wearable computers" PRNewswire 25 Jan 2001

Robotics

... and they can climb bridges too



Artist's impression: Staffordshire University

A WALL with arms? Well, almost. In fact the "arms" represent the latest concept in robots. Their designers, a research team at the Centre for Rehabilitation Robotics at England's Staffordshire University, is hoping to develop them not only for home use but also for industrial purposes like road bridge inspections.*

According to Professor Mike Topping who leads the research team, the so-called "Flexibots" acquired their snake-like shape because it was found "conventional" robots took up too much floor space. Flexibots need very little floor space.

Their inboard motors allow them to move around a house like a caterpillar, clamping themselves to a series of pre-arranged portals placed along the walls, ceiling or floor.

They can adjust their length automatically to suite a particular task and when they reach the correct location, they clamp themselves firmly to a portal and perform their pre-programmed or directly controlled task. According to Prof Topping, a domestic Flexibot could prepare and cook a meal; wash and shave a person's face; vacuums carpets, or even tend a garden.

With the appropriate attachments - such as CCTV, sonics and ultrasonic sensors - the Flexibot could also be programmed to inspect bridges. It could even be programmed to dive and work on submerged equipment, says Prof Topping. The university is now looking for a commercial backer to develop the robot further.

* Staffordshire University <<http://www.staffs.ac.uk>> contact: Dr Ian K. Bloor <I.K.Bloor@staffs.ac.uk>

New approaches to planning consensus

BRITAIN'S Foresight Project, the group which brings together government agencies, business, and academia to examine possible futures 20 years ahead, is recommending a major shake-up in the way the country plans large scale infrastructure investments. (1)

It suggests creating a new administrative structure to "improve our national ability to agree and implement improvements in our built environment and transport infrastructure in a sustainable manner".

The Foresight report, "The Physical World in a Virtual Age", recommends the government set up what it calls a Major Projects Evaluation Commission to define the methodology used to decide all major infrastructure projects in the future - and draw up best practice rules for measuring economic, social and environmental factors.

According to the report, the commission would also work to ensure public participation in the process, promote mediation, set out protocols for any compensation, and mediate between different regional claims when national projects were being considered.

The authors say they realise there are cost implications in such arrangements, but they believe they will be small in comparison with the expenditure involved in developing, planning and approving major projects. In any case, the authors suggest a cost-benefit analysis be undertaken of the concept.

The scan also found:

THE idea of creating a pool of "general freight delivery" vehicles to operate in the suburbs seems to be spreading. The January edition of *TransScan* (2) reported that the European Union was recom-

mending the concept as a way to increase transport efficiency and reduce environmental impacts. Now Britain's Foresight Project (see above) has taken the idea a stage further by suggesting a new generation of "technology-enabled vehicles" will be necessary to handle the extra suburban deliveries that will be generated by on-line shopping. (1) Like the EU report, the Foresight Projects believe the new generation delivery vehicles should operate a pooled service. And the new technology - global positioning, tracking devices, cleaner fuels, and optimised loading features - would all help them do it.

FACTORING in a significant future increase in urban freight movement has also become a preoccupation of America's Transportation Research Board. (3) A research paper just published is predicting a significant rise in transporting goods around the suburbs as more people make use of on-line shopping. The paper quotes estimates by Kurt Salmon Associates that by 2010, 55% of all retail sales in America will be conducted through such services as interactive television and the Internet. On top of that, an ever-increasing proportion of all types of retailing will require next day delivery. "This trend will also drive freight supply and demand away from long-haul carriers and towards air carriers coupled with

less-than-truck load or smaller-class truck freight shipments," said the paper.

DESPITE the varied fortunes of many Internet stocks, there seems to be no downturn in the growth of telecommuting - at least if latest figures from the US are an indication. An America-wide survey conducted by communications company, WorldCom, has identified growth in a number of different work practices, all involving use of the telecommunications infrastructure.(4) The study covering 510 small and medium sized businesses, identified significant growth in "virtual project teams", telecommuting, and the "remote management" of geographically dispersed employees. Among the specific findings: more than two-thirds of American workers have engaged in "virtual work"; 46% are involved in virtual work at least once a week; and 14% do so daily. More than 30% work in a "virtual management" structure. Most respondents (91%) agree that virtual work saves their companies time and money.

IN the year to June 2000, Western Australia's population increased by 26,300 (1.4%), with Perth gaining three-quarters of the expansion, according to the latest analysis from the Australian Bureau of Statistics. (5) Significant growth was seen in the inner city area - up by 6.7%, giving Perth the fastest growing inner city after Sydney (up 9.6%), and Melbourne (up 9.6%). But

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Infrastructure development

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Building consensus on major projects

significant growth was also reported in some outer areas of Perth - Wanneroo was up 3600 (4.8%) and Swan up 2400 (3.1%). From a national perspective, the capital cities grew by 1.3% (160,200 people), while the balance of the States and Territories grew by 0.9% (59,600). Sydney and Melbourne experienced the largest increases (up 53,600 and 52,100 respectively), while Darwin and Brisbane experienced the fastest population increases (up 2.2% and 1.7% respectively). Hobart was the only capital city to experience decline (-0.1%). Capital cities are now home to 64% of Australia's 19.2 million population.

ON paper, America's research program to use technology to make significant cuts in housing costs was highly laudable. By presidential decree, the Partnership for Advancing Technology in Housing (PATH) was established and set four goals. By 2010 it was to reduce new housing costs by 20% or more; cut the environmental impact and energy use of such homes by 50%; reduce maintenance by 50%; and cut accidents in the new homes by at least 10%. But an independent review by the National Research Council has now concluded that not one of the goals can be achieved. (6) In fact some goals may work against others. For example, building a low-maintenance house would likely mean spending more initially which would counter any efforts to cut housing costs by 20%. The council has recommended that

PATH should now develop "more realistic and achievable goals".

BRITAIN is to encourage the documentation of innovations developed during the course of individual construction projects - and plans to share the ideas through a new website. (7) The so-called "Fast Track" business support scheme was announced by Construction Minister, Nick Raynsford. He said it was widely recognised that many project-based innovations were easily lost when teams split up. Now the Department of the Environment, Transport and the Regions would award grants to businesses willing to report on technical or process innovation. "Each of the innovation reports will be assessed by a group of hand-picked practitioners and the report will be posted on the Fast Track web site," said Mr Raynsford.

SOME of the planning implications of an ageing population have been canvassed in a discussion paper just published by the Brookings Institution Center on Urban and Metropolitan Policy. (8) The author, Martha Farnsworth Riche, a former director of the U.S. Census Bureau, says it would be wrong to assume that greater numbers of old people will also mean more sick old people. "For several years now, research conducted at Duke University has signaled that health, or active life expectancy is growing as fast as overall life expectancy," she says. "In 1997, Americans' life expectancy was about twenty years longer than

it was in 1929. Just as a rubber band, when stretched, expands in the middle, Americans are experiencing those twenty new years in mid-life and reinventing mid-life in the process. At the same time, a new standard of energy and vitality has pushed old age into the 70s and beyond. As mid-life and older Americans take advantage of their new opportunities, it would be unwise to assume that housing location, design, and finance largely developed around young families will suit them."

AFTER five years helping to develop the concept, nine towns and cities across England have started to introduce "Clear Zone" areas that seek to create a more liveable urban environment. (9) The idea is to select an area where intensive effort will be made to minimise the discomfort and dangers of traffic while at the same time maximising access, mobility and vitality. Local authorities will seek to cut or eliminate local causes of air and noise pollution. The London Borough of Camden, which is one of the municipalities chosen to test and develop the program, has drawn the boundaries of its "Clear Zone" to include eight "car free" housing developments. The Foresight Project (see above) is the national coordinator.

ONE of the best ways to regenerate smaller cities is to persuade their political and business leaders to make new cultural industries more central to policy, according to a study funded by Britain's Economic and Social Research Council (ESRC). (10) It claims cultural industries such as fashion, design, new media and music, have already done much to rejuvenate Manchester - despite the fact that the sector has remained marginalised in the

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city's mainstream economic development strategies. The study suggests more could be done if Manchester followed the lead of Barcelona where the sector is incorporated into the city's central regeneration strategy and has turned it into a highly competitive city.

THE Los Angeles Region, home to 16 million people, 177 cities and the second-largest metropolitan area in the United States, has run out of places to sprawl. Despite the fact the region covers 35,000 square miles, a report by the University of Southern California has concluded, the "sprawl has hit the wall." (11) It says over the next 20 years the region will have to accommodate an extra six million people, but the only real open space left is harsh desert far from the nearest job centres. Unfortunately the region has a large number of municipalities, each with local agenda and no strategic plan, says the report. It recommends a complete overhaul of civic structures plus a change in attitudes, so planning can begin.

WHILE Los Angeles worries about an end to sprawl, it seems many American cities have no idea how much spare land they have. A study by the Brookings Institution has found only 56% of cities use a computerised system to keep track of vacant land and abandoned structures. (12) The result is that thousands of potential inner city development sites are being overlooked. "For those working on smart growth issues, the strategic re-use of urban vacant land and abandoned structures can represent a key opportunity for encouraging greater density and reducing the push to develop suburban greenfields," says the study. The institute want procedures overhauled.

The art of the accidental encounter



Photo: Central Audiovisual Library, European Commission

MICHAEL SORKIN, the American planner who includes among his major projects the master plan for Hamburg, has been redefining the "mix" that makes cities most viable. (15) In an interview with Harvard University's "Harvard Magazine", he said a crucial task of planning was "finessing the specifics of the mix".

"I'm somebody who believes that accidental encounter is one of the things that cities are absolutely predicated upon—that accidental encounter is one of the bulwarks of democratic culture," he said. "To the degree that these kinds of accidents are precluded, either by the sterility of the mix or by more traditional forms of segregation, cities die as democratic institutions and are forced to become sterile service centres or entertainment zones."

ANALYSIS of America's recent census suggests an upsurge of people moving to country areas - even if it means a cut in pay. (13) Although metropolitan areas grew by up to 14% during the 1990s, in rural areas it was up 10% and some rural areas in such States as Florida, Hawaii, and Massachusetts, outpaced city growth.

FOR Americans moving to escape the sprawl, the risks now include "eco-terror".(14) The

BBC reports dozens of luxury homes being built in environmentally sensitive areas have been set on fire in protest by a new breed of "radical environmentalists".

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Three year target to change attitudes

MOST people agree with the objectives of sustainable transport. It is persuading them to make the necessary lifestyle changes that is the difficult part. But in Canada during the next three years, the country's transport department, Transport Canada, is hoping to start the process of social change.

In it's newly published, Sustainable Development Strategy 2001-2003,* the department has made "improving education and awareness of sustainable transportation" a top priority for the next three years.

"Behaviour change is the ultimate goal of improving public awareness of sustainable transportation," says the document. "Individuals need to understand the impacts of their transportation behaviour in order to make choices that reduce the adverse impacts of transportation on the environment."

As things stand, Canada's transport problems are considerable. In the past 10 years, Canadian petrol consumption has risen 44% and fewer people are using trains and buses. If current growth rates are maintained, Canada's demand for petrol, diesel, and aviation fuels will rise 50% by 2020.

The transport system is itself contributing to global warming and according to a study by Toronto Public Health, 1000 of the city's residents die prematurely each year as a direct result of transport generated air pollution. (By comparison, Canada's nationwide death rate for vehicle accidents was 2927 in 1997.)

Transport Canada says it views its coming awareness campaign as something akin to its early campaign to persuade Canadian motorists to use seatbelts. There will be a "Green

Commute" campaign to encourage greater walking, cycling, carpooling, transit use and teleworking. Efforts will be made to have sustainable transportation added to the university curriculum and the department will work with others to develop brochures, a website and online debate on sustainability.

As a demonstration of commitment to sustainability, the

department is also to start re-equipping its transport fleet with alternatively fuelled, low emission vehicles. Over the next three years half of all new vehicles it purchases will have to be designed for low emissions.

* "Sustainable Development Strategy 2001-2003" Transport Canada Feb 2001 <<http://www.tc.gc.ca/envaffairs/english/SDStrategy/2001.htm#SD> Action Plan 2001-2003>

References:

- (1) "The Physical World in a Virtual Age" The Foresight Project Jan 2001 <<http://www.foresight.gov.uk/servlet/DocViewer/docnoredirect=2459/PhysicalWorld.pdf>>
- (2) "Europe looks at new ways to ease urban congestion" TransScan Jan 2001 page 11 <<http://www.transscan.com>>
- (3) "Urban Freight Movement: What Form Will It Take?" by Robert Czerniak et al, US Transportation Research Board 2001 <<http://www.nationalacademies.org/trb/publications/millennium/00139.pdf>>
- (4) "Meetings in America III: A Study of the Virtual Workforce in 2001" WorldCom March 2001 <<http://e-meetings.wcom.com>>
- (5) "Capital city growth" Australian Bureau of Statistics Media statement 20 Feb 2001 <<http://www.abs.gov.au/Ausstats/ABS%40.nsf/e8ae5488b598839cca25682000131612/797f86dbd192b8f8ca2568a9001393cd!OpenDocument>>
- (6) "The Partnership for Advancing Technology in Housing: Year 2000 Progress Assessment of the PATH Program" National Research Council <http://www.nap.edu/catalog/10066.html?onpi_listserv021601>
- (7) "Grants for Construction innovators" Department of the Environment, Transport and the Regions media statement 19 Feb 2001 <<http://213.38.88.195/coi/coipress.nsf/1d4410efd9700935802567350059a4fa/93eeccf12f4cd7ea802569f8003d9dd2?OpenDocument>>
- (8) "The Implications of Changing US Demographics for Housing Choice and Location in US Cities" by Martha Farnsworth Riche, Brookings Institution Center on Urban and Metropolitan Policy <<http://www.brookings.edu/es/urban/riche/richeexsum.htm>>
- (9) "Clear Zones" Foresight News March 2001 <<http://www.foresight.gov.uk>>
- (10) "Cultural industries can do more for cities" Economic and Social Research Council <<http://www.esrc.ac.uk/finding4.html>>
- (11) "Sprawl Hits the Wall: Confronting the Realities of Metropolitan Los Angeles Mar 2001 Southern California Studies Center, University of Southern California <<http://www.brookings.edu/es/urban/la/blackandwhite.htm>>
- (12) "Vacant Land in Cities: An Urban Resource" by Michael Pagano and Ann O'M. Bowman Brookings Institute <<http://www.brookings.edu/es/urban/pagano/paganofinal.pdf>>
- (13) "Americans trade urban bustle for rural life" by Laurent Belsie, Christian Science Monitor 4 Apr 2001 <<http://www.csmonitor.com/durable/2001/04/04/fpcon-intl.shtml>>
- (14) "Nine fires have been set in the Phoenix area" BBC News Online 13 Apr 2001 <http://news.bbc.co.uk/1/hi/english/world/americas/newsid_1274000/1274994.stm>
- (15) "Cities and Suburbs" Harvard Magazine Dec 2000 <<http://www.harvard-magazine.com/issues/jf00/citysuburb.html>>