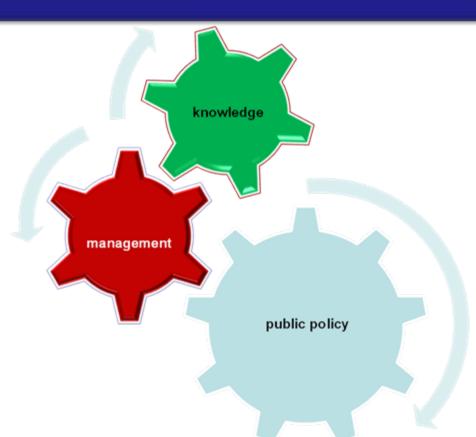


# People mobility...the bottom line of transport system









Paibul Suriyawongpaisal



### TRACKING Y CHROMOSOMES THROUGH TIME Geneticists can track the path of ancient migrations by examining genetic markers in Y chromosomes from men who hail from different parts of the world. Each marker, such as M168 or M89, identifies a lineage of men and where the lineage originated. By building an evolutionary tree based on observing many living people with the markers, investigators can determine the approximate ages of the lineages. Mobility = survival M174 -M45 M9 M201 M20 **Approximate First** M35 **Appearance of Marker** (years ago) M175 M89 60,000 M168 M69 50,000 M60 45,000 Origin 40,000 M91 35,000 30,000 M130 25,000 20,000 10,000

Scientific American Jul 08:38-45

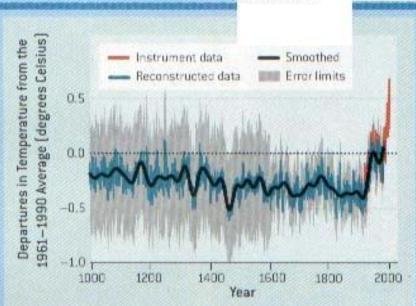
Paibul Suriyawongpaisal



### THE HEAT IS ON

A U.S. senator has called global warming the "greatest hoax" ever foisted on the American people. But despite persistently strident rhetoric, skeptics are having an ever harder time making their arguments: scientific support for warming continues to grow.

sciam sep 06



This "hockey stick graph," from one of many studies showing a recent sharp increase in average temperatures, received criticism from warming skeptics, who questioned the underlying data. A report released in June by the National Research Council lends new credence to the sticklike trend line that traces an upward path of temperatures during the 20th century.



A line of SUVs symbolizes high per-capita U.S. energy consumption.
But rising expectations pervade the developing world.
Many Chinese dream of trading a bicycle for a car.





### World GHG Emissions Flow Chart End Use/Activity Gas Road 9.9% Transportation 13.5% 1.6% Bail, Ship, 8 Other Transport 2.3% Residential Buildings 9.9% Electricity & Heat 24.6% Commercial Buildings 5.4% Unal ocated Fuel Combustion 3.5% ron & Steel 3.2% Alaminum Aren-Ferrous Motors Caroon Dioxide (CO<sub>2</sub>) 77% 9.0% Other Fuel Chemicals. 4.8% Combustion Cement 3.8% Other Industry 5.0% Industry 10.4% I&D Losses 1.9% Fucitive Emissions 3.9% Oll/Gas Extraction, Refining 6.3% & Processing Industrial Processes 3.4% Deforestation 18.3% Afforestation -1.5% Reforestation -0.5% Land Use Change 18.2% Harvest/Management 2.5% HFCs, PFCs, Other -0.6% SF<sub>8</sub> 195 Agricultural Engray Us 1,4% Methane (CH<sub>2</sub>) 14% Agriculture Solls 6.0% Agriculture 13.5% Livestock & Manure 5.1% Rice Cultivation 1.5% Nitrous Oxide Landfills 2.0% (N<sub>c</sub>C) 8% Waste 3.6% Wastawatar, Other Wasta WORLD RESOURCES INSTITUTE



## Foot prints ...no more bearable





The residential sois of Bangkok are jammed with traffic and there are few places to walk or ride safely

The residential sois of Bangkok are jammed with traffic and there are few places to walk or ride safely





Source: Kenworthy JR,1995



# Profile: top 10 mortality, Thailand 2004 Total deaths 390,285

Deaths								
	Male				Female			
Rank	Disease	Deaths ('000)	%	%	Deaths ('000)	Disease		
1	HIV/AIDS	26	11.7	14.4	24	Stroke		
2	Traffic accidents	24	10.7	8.3	14	Diabetes		
3	Stroke	22	9.7	6.5	11	HIV/AIDS		
4	Liver and bile duct cancer	20	8.9	5.9	10	Ischaemic heart disease		
5	COPD	13	5.7	5.9	10	Liver and bile duct cancer		
6	Ischaemic heart disease	13	5.6	3.5	6	Lower respiratory tract infections		
- 7	Bronchus and lung cancer	9	3.9	3.5	6	Other infectious diseases		
8	Diabetes	8	3.5	3.5	6	COPD		
9	Cirrhosis	8	3.4	3.4	6	Nephritis & nephrosis		
10	Lower respiratory tract infections	6	2.7	3.3	5	Traffic accidents		

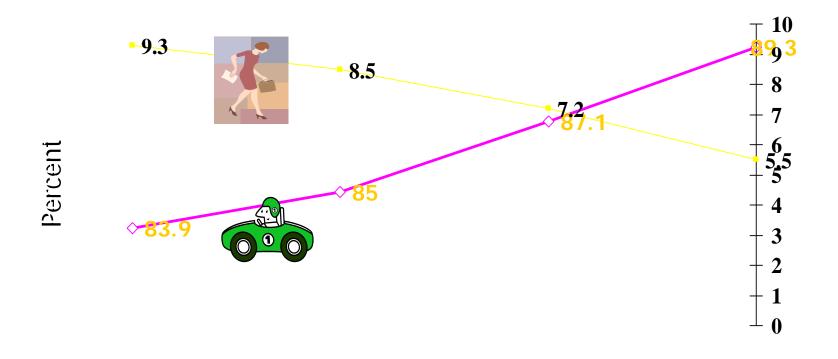
Top 10 deaths share 63% of total national deaths

ศ.นพ.ไพบูลย์ สริยะวงศ์ไพศาล





### Auto vs Walk Trips 1977-1995

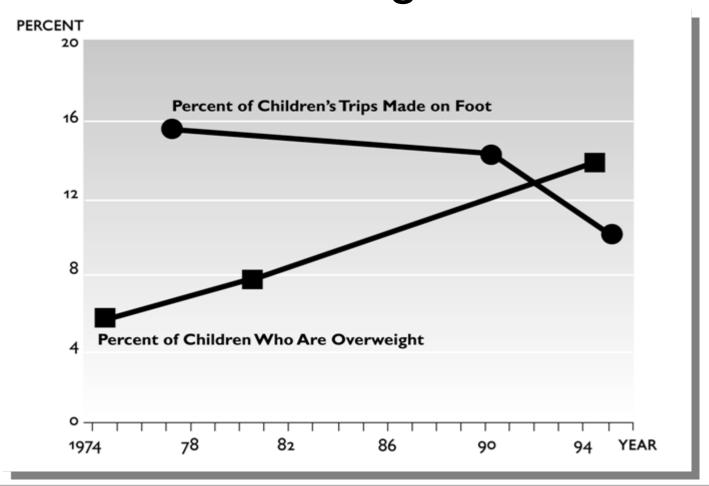


Source: Nationwide Personal Transportation Survey, 1995





# Children Are Walking Less and Becoming Increasingly Overweight

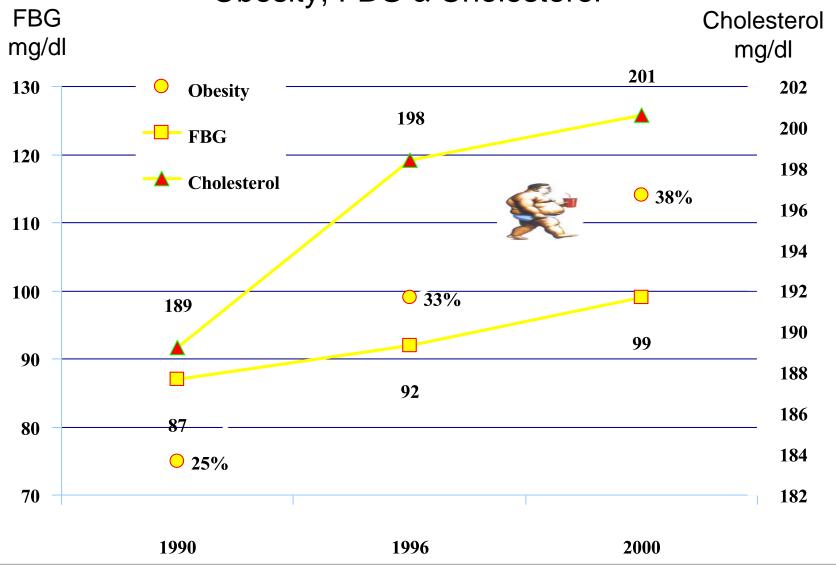






### Trend of Major Risk Factor in Thailand









http://www.dietandcancerreport.org/downloads/chapters/chapter\_08.pdf

Table 8.2	<del></del>	pproximate relative risk of physical ealth problems associated with obes			
Relative risk greater than 3	Relative risk 2–3	Relative risk 1–2			
Type 2 diabetes	Coronary heart disease	Cancer			
Gallbladder disease	Hypertension	Reproductive hormone abnormalities			
Dyslipidaemia	Osteoarthritis (knees)	Polycystic ovary syndrome			
Insulin resistance	Hyperuricaemia and gout	Impaired fertility			
Breathlessness		Low back pain			
Sleep apnoea		Increased risk of anaesthesia complications			
		Fetal defects (associated with maternal obesity)			



### PHYSICAL ACTIVITY, AND THE RISK OF CANCER

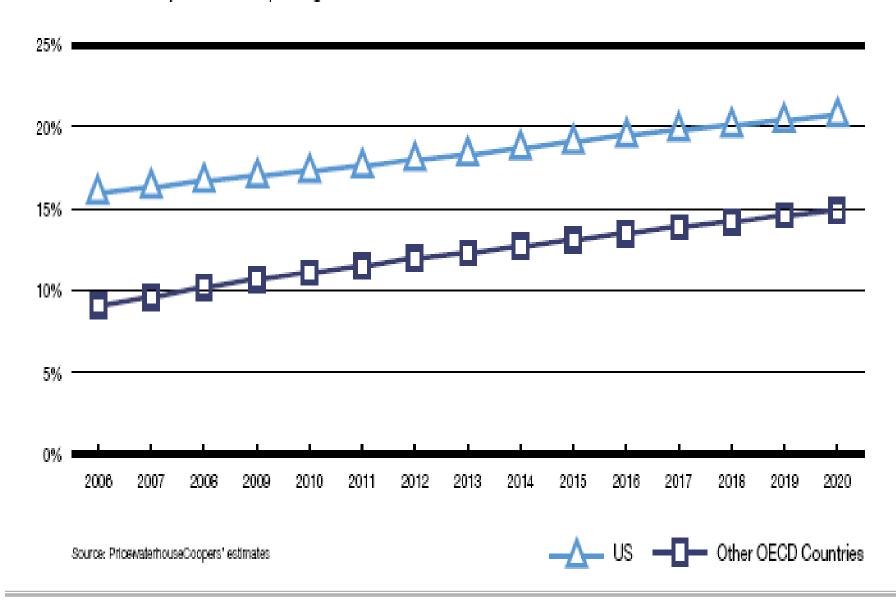
In the judgement of the Panel, physical activity<sup>1</sup> modifies the risk of the following cancers. Judgements are graded according to the strength of the evidence.

	DECREASES RISK	INCREASES RISK			
Convincing	Colon²				
Probable	Breast (postmenopause) Endometrium				
Limited — suggestive	Lung Pancreas Breast (premenopause)				
Substantial effect on risk unlikely	None identified				

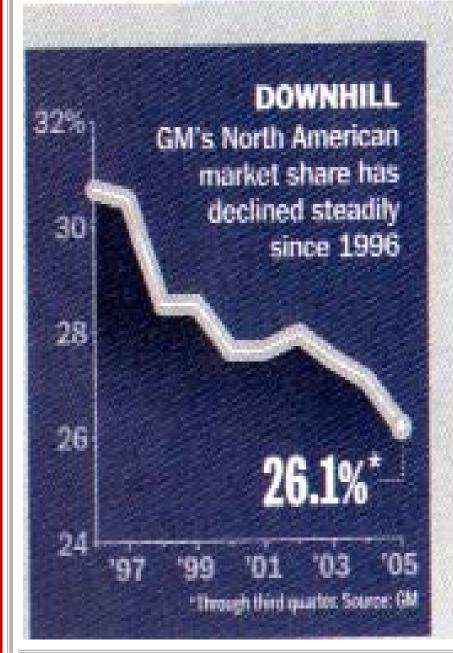
- 1 Physical activity of all types: occupational, household, transport, and recreational.
- 2 Much of the evidence reviewed grouped colon cancer and rectal cancer together as 'colorectal' cancer. The Panel judges that the evidence is stronger for colon than for rectum.

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FIGURE 4: Projected Health Spending as Percent of GDP







# The Legacy Effect

Burdened by health-care and pension costs, GM is losing share to nimbler foreign makers

\$2,200

\$1,525 on health care per vehicle \$675 on pensions per vehicle

Source: Center for Automotive Research



# Isn't it automobile dependent syndrome?





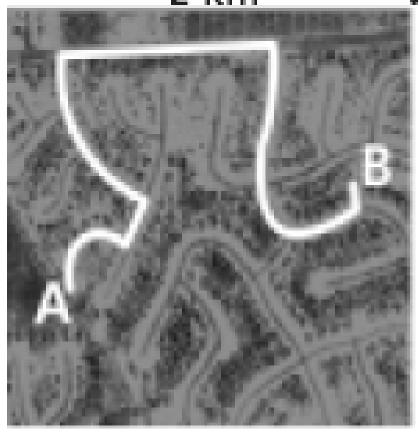
# Automobile favors residential areas

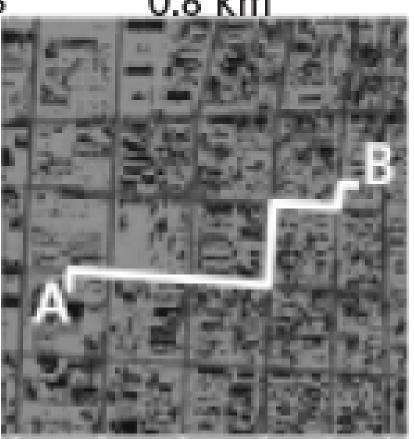




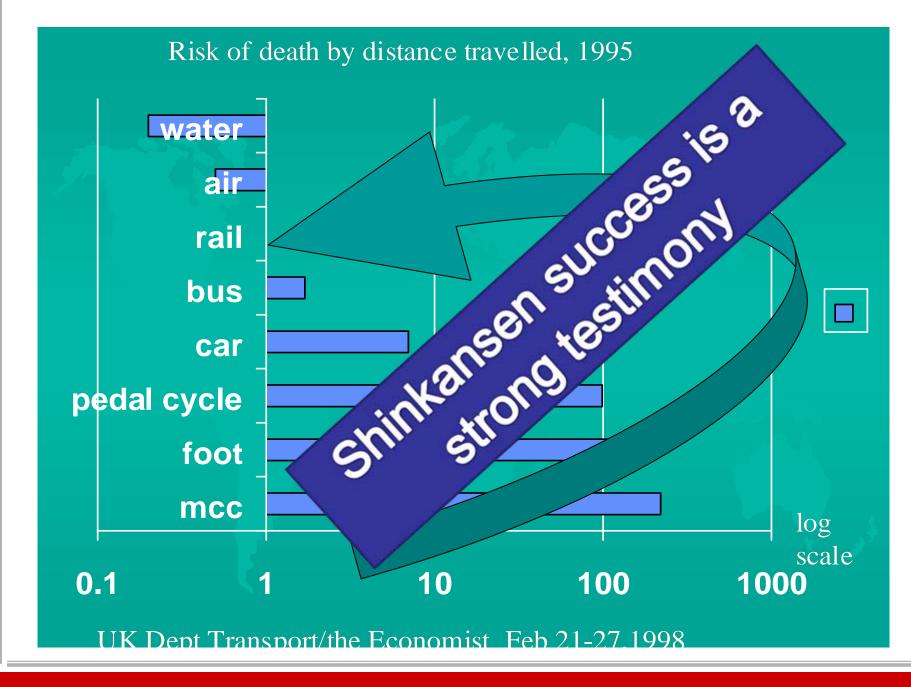
### Walking distances

Comparing Distances 0.8 km





Images are same scale, approximately 1.6 sq km







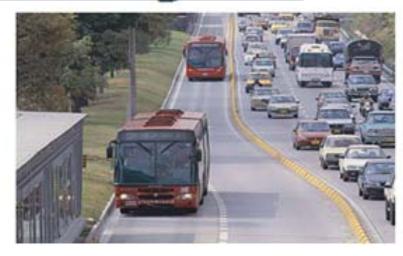


## Modal shift...the key BRT





Fig. 10 Taipei travel.



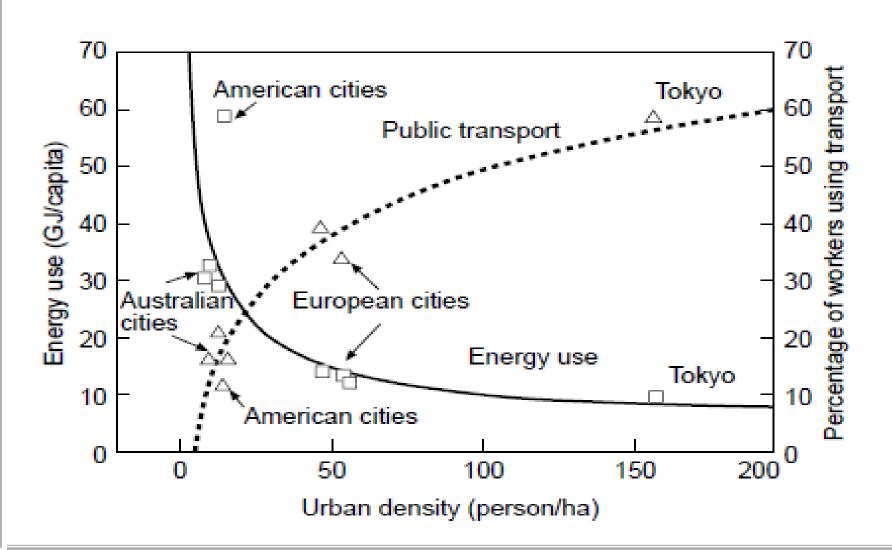


In 1962 Copenhagen's old main street became its first car-free street. It's now the central artery of the city's pedestrian street

The central traffic artery was removed from Town Hall Square (above) in 1996 and given Photo by Bob Krist for the Danish National Tourist Office

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Figure 1. Urban density, energy use and public transport for the journey to work in a global sample of cities









### Potential research areas

- 1. Externalities of BTS and MRT
- 2. Political-economy of -city planning & implementation -Transport planning & implementation
- 3. Alternative models of railway reforms