*In the driver's seat: Subsidies for transport fuels*

**-- Anumita Roychowdhury**
**Centre for Science and Environment**

***The Hidden Costs of Fuel Subsidies in India to the Corporate, Transport and Household Sectors***

**The IISD's Global Subsidies Initiative**
**International Development Centre Foundation**

**Mumbai, March 8, 2011**

# Why are we angry with the new Union Budget?

**Budget skirts the real issues, does not do enough for environmental concerns: CSE**

Finance minister loses courage to put fiscal breaks on SUVs and diesel cars

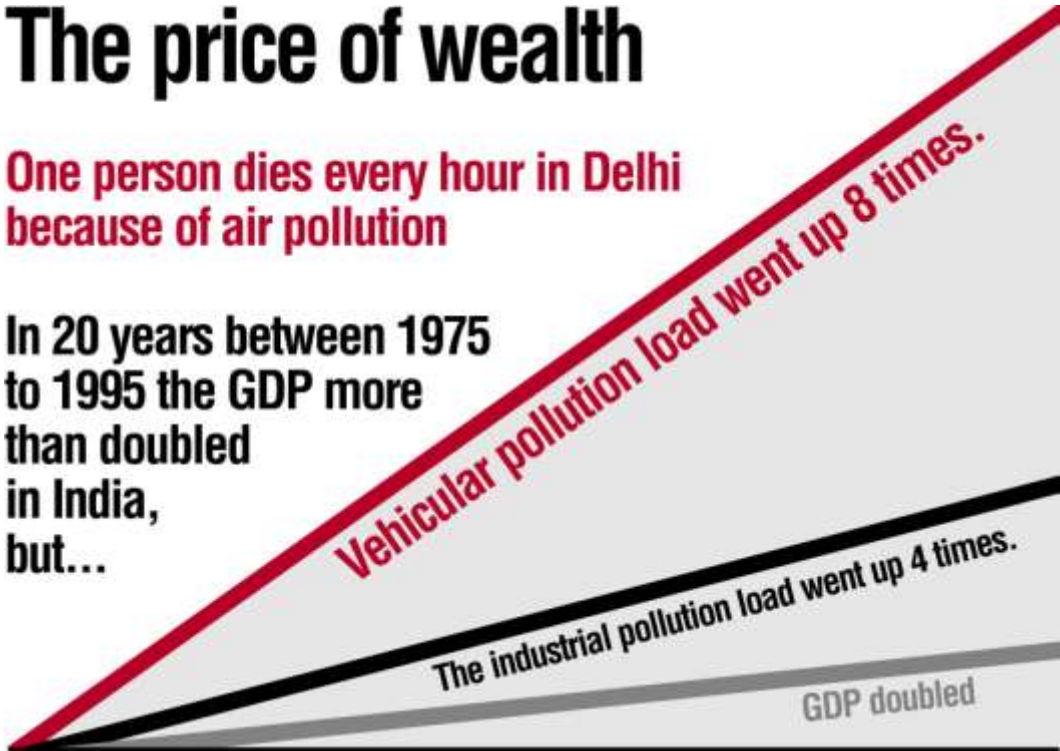
Budget fails to put forward any new proposal to strengthen bus transport…….

If external impacts of growth are ignored economic growth and livability of our cities will suffer

….. Therefore the story begins not with the fuel pricing but with pollution, public health, energy security, climate change ……..

These are also the ugly manifestations of the distorted fuel pricing……

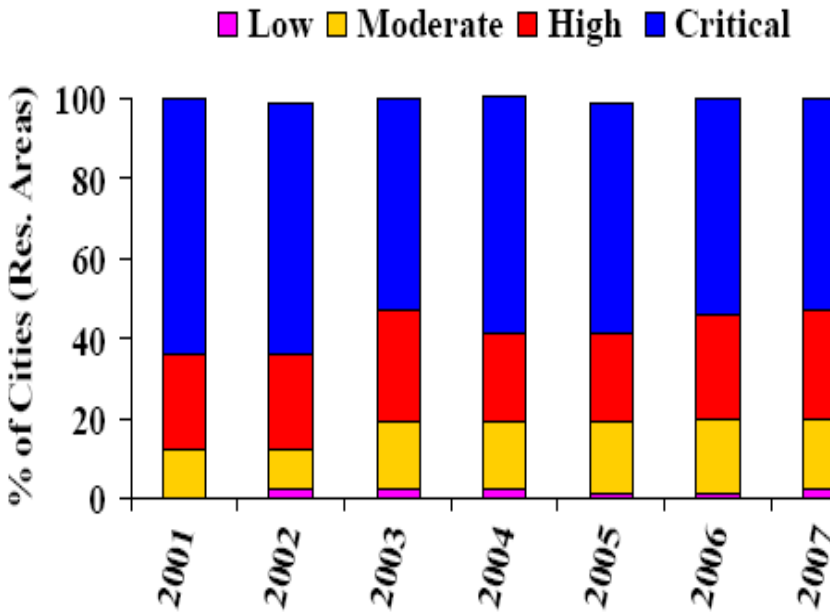
**Why are we discussing cars and diesel today?**



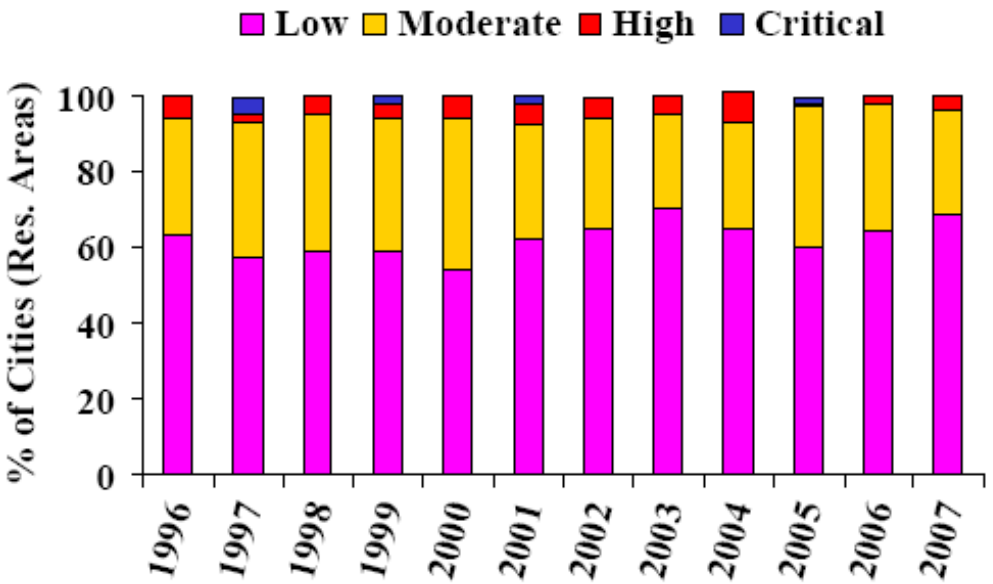
# This story begins with air quality of our cities…..

Half of our cities have critical level of PM10. NO2 levels are rising in many cities. Smaller cities are more polluted than mega cities…….

PM10




NO2




Source: Estimated based on CPCB data

# Daily dose of poison…

Most locations in Delhi have Unhealthy levels of PM10, PM2.5 and NO2.

CO level is also unhealthy for sensitive groups

Ozone levels are moderately high in 5 locations

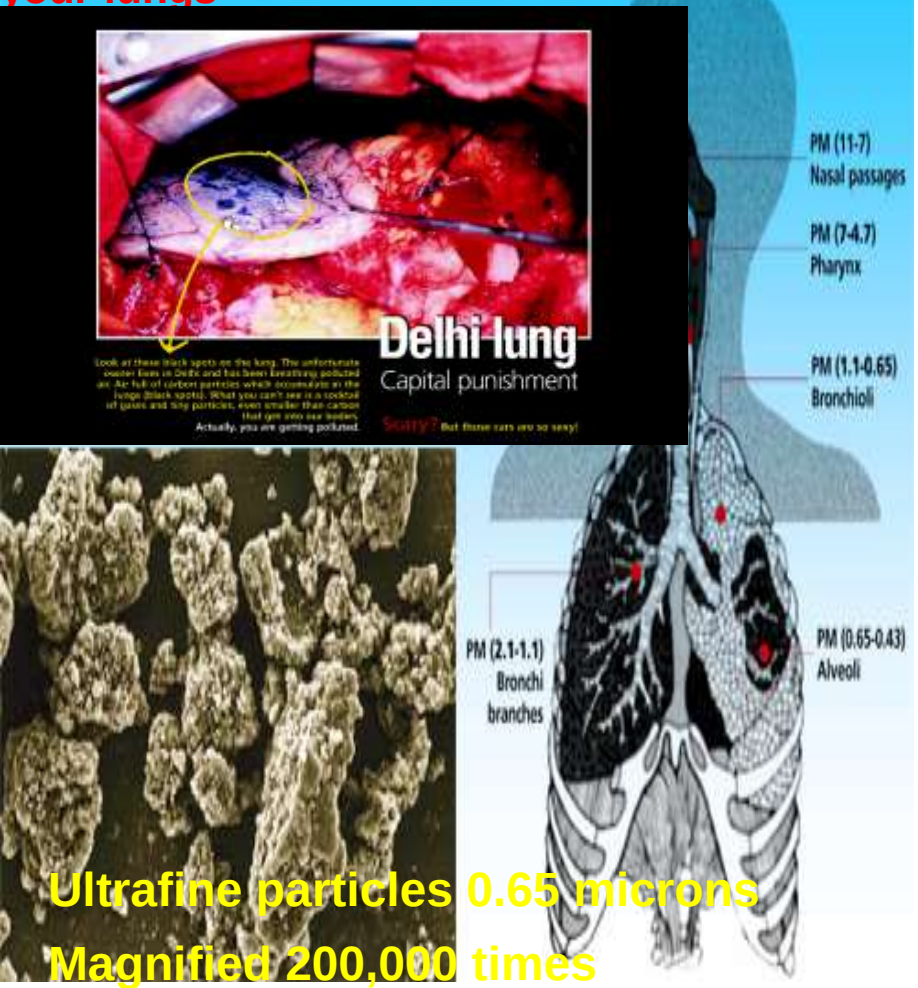
| AQI Range | |
|---|---|
| 0 to 50 | Healthy |
| 50 to 100 | Moderate |
| 100 to 150 | Unhealthy (Sensitive Groups) |
| 150 to 200 | Unhealthy |
| 200 to 300 | Very Unhealthy |
| > 300 | Hazardous |

November 18, 2010

| | Location | CO | $O_3$ | $PM_{10}$ | $PM_{2.5}$ | $SO_2$ | $NO_2$ |
|---|---|---|---|---|---|---|---|
| 1 | National Stadium | 96 | 36 | 161 | 176 | 57 | 173 |
| 2 | Nehru Stadium | 91 | 40 | 163 | 179 | 59 | 173 |
| 3 | Velodrome Stadium | 92 | 29 | 168 | 181 | 63 | 174 |
| 4 | Indira Gandhi Stadium | 95 | 22 | 170 | 185 | 69 | 177 |
| 5 | Games Village | 82 | 39 | 161 | 174 | 53 | 171 |
| 6 | Karni Shooting Range | 67 | 54 | 152 | 163 | 58 | 166 |
| 7 | Jamia Millia Islamia Univ | 90 | 44 | 164 | 183 | 61 | 175 |
| 8 | Talkatora Stadium | 90 | 36 | 158 | 169 | 53 | 170 |
| 9 | Yamuna Sports Complex | 88 | 38 | 157 | 167 | 57 | 167 |
| 10 | Thyagaraj Sports Complex | 87 | 42 | 163 | 177 | 58 | 171 |
| 11 | Siri Fort Sports Complex | 88 | 48 | 164 | 180 | 56 | 171 |
| 12 | Airport | 71 | 50 | 142 | 155 | 49 | 161 |
| 13 | AIIMS Hospital | 100 | 40 | 172 | 186 | 61 | 175 |
| 14 | India Gate | 102 | 32 | 165 | 179 | 56 | 176 |
| 15 | Connaught Place | 106 | 31 | 166 | 179 | 61 | 177 |
| 16 | Nizamuddin | 104 | 23 | 198 | 215 | 62 | 192 |
| 17 | ITO | 97 | 28 | 162 | 177 | 64 | 175 |
| 18 | Delhi College of Engg | 77 | 27 | 135 | 152 | 51 | 166 |
| 19 | Janakpuri | 101 | 30 | 182 | 195 | 53 | 181 |
| 20 | CPCB | 92 | 41 | 159 | 171 | 54 | 168 |
| 21 | NSIT Dwarka | 73 | 50 | 152 | 160 | 46 | 163 |
| 22 | DMS Shadipur | 106 | 17 | 169 | 184 | 63 | 179 |
| 23 | IHBAS Shadara | 89 | 34 | 156 | 165 | 57 | 167 |
| 24 | Punjabi Bagh | 100 | 31 | 167 | 181 | 52 | 174 |
| 25 | Anand Vihar | 103 | 22 | 173 | 188 | 58 | 179 |
| 26 | Duala Kuan Junction | 101 | 25 | 177 | 187 | 52 | 178 |
| 27 | Karol Bagh | 97 | 31 | 159 | 170 | 55 | 171 |
| 28 | GK2 | 100 | 44 | 182 | 199 | 58 | 181 |
| 29 | Chanakyapuri | 86 | 42 | 155 | 165 | 50 | 167 |
| 30 | RK Puram | 98 | 36 | 167 | 178 | 50 | 172 |
| 31 | Pragati Maidan | 96 | 36 | 161 | 176 | 57 | 173 |
| 32 | Vasant Kunj | 73 | 53 | 153 | 162 | 58 | 163 |
| 33 | Mayur Vihar | 88 | 51 | 162 | 174 | 53 | 169 |
| 34 | Okhla IDE | 90 | 24 | 165 | 184 | 72 | 182 |
| 35 | Gurgaon | 79 | 58 | 154 | 162 | 48 | 165 |
| 36 | Faridabad | 68 | 43 | 154 | 169 | 58 | 174 |
| 37 | Badarpur | 68 | 61 | 156 | 171 | 59 | 166 |

# The myth of safe air

## How far tiny particles penetrate your lungs




## Our health is at serious risk…….

### Particulate matter: Special worries:

Acute and chronic effects; Cause premature deaths. Studies show association of PM with mortality at much lower level (less than 50 microgramme per cum (HEI)

**WHO says** -- no safe level

Global evidences abound: Clinching evidences from American Cancer Society study that tracked effects in 600,000 people over 18 years.

Observed large effects….-- A mere increase of 10 microgramme per cum of PM2.5 can increase the risk of lung cancer by 8%, cardiopulmonary deaths by 6%, all deaths by 4%.

### Other cocktail of pollutants -- A Killer mix:

Ozone, Nitrogen oxides, hydrocarbons, Carbon monoxide…Air toxics: -- Aldehydes, formaldehydes, acetedehydes, benzene, 1,3 butadiene, metals, PAH etc……..Dangerous at trace levels

# High exposure to vehicular fume need special attention

Vehicular emissions contribute to significant human exposure. Pollution concentration in our breathe is 3-4 times higher than the ambient air concentration.

In densely-populated cities more than 50 – 60% of the population lives or works near roadside where levels are much higher. This is very serious in low income neighborhoods located close to roads.

Poor have a higher prevalence of some underlying diseases related to air pollution and proximity to roadways increases the potential health effects.

In three cities World Bank review found vehicles contributing an average 50% of the direct PM emissions and 70% of PM exposure.

The WHO report of 2005: Epidemiological evidences for the adverse health effects of exposure to transport related air pollution is increasing.

Some of the deadliest air toxics, also carcinogens, are related to vehicular emissions. Blamed even for killing foetus.

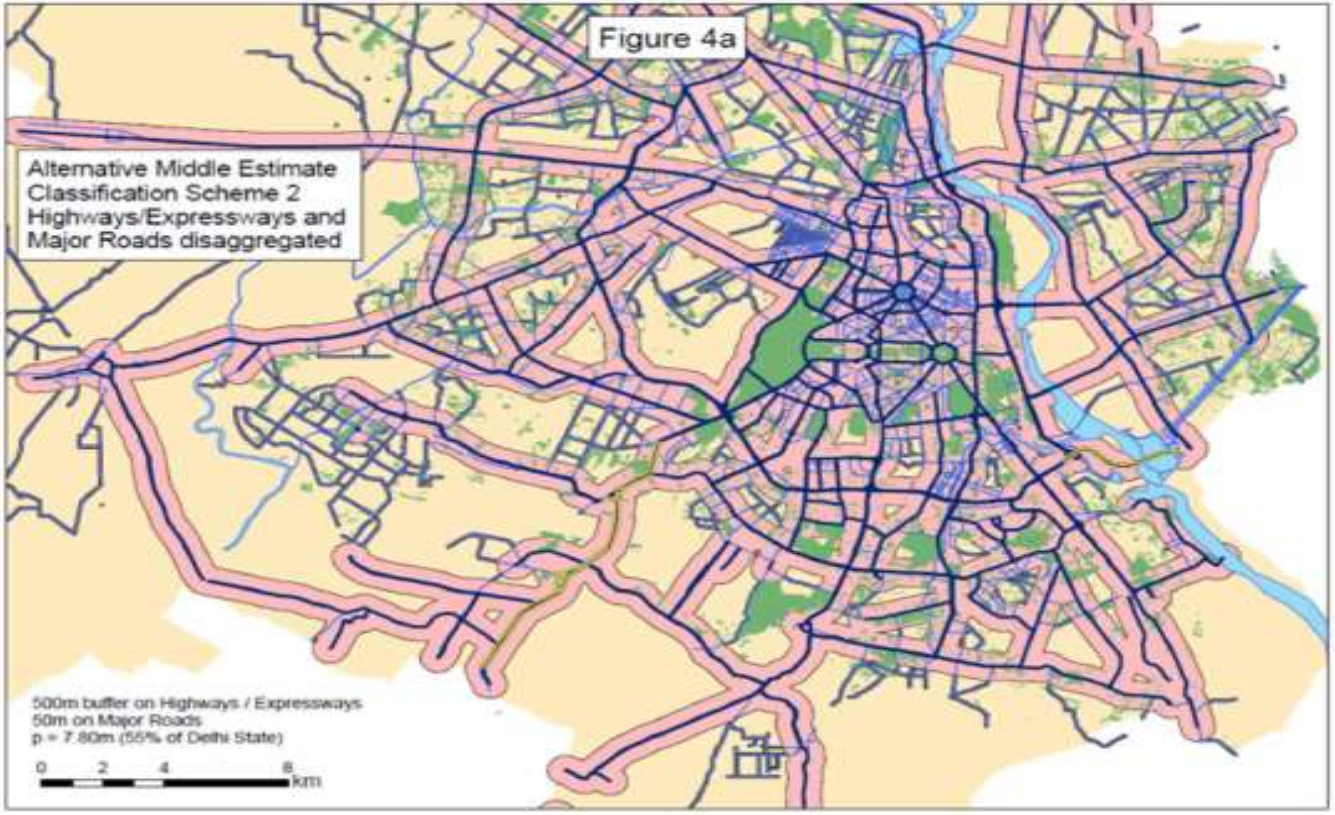
Public transport users, walkers and cyclists are the most exposed groups – most of them are also poor.

# People living close to road side are most exposed to vehicular fume

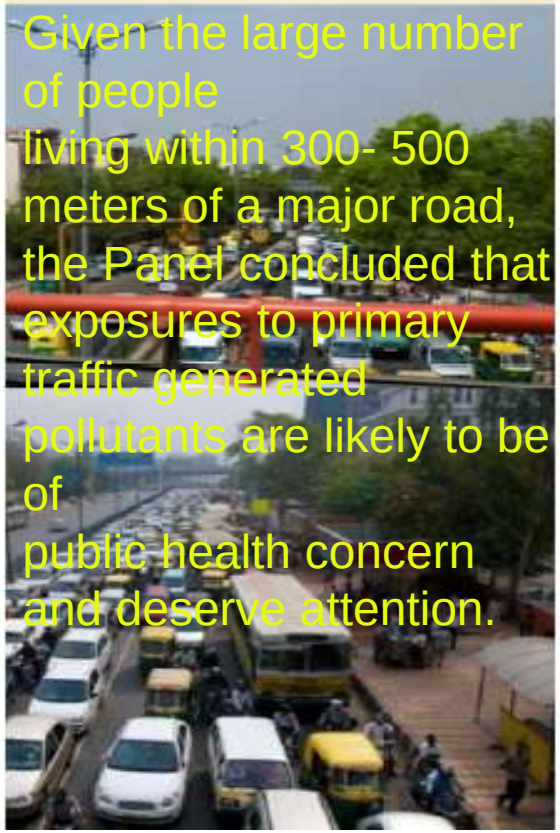
Evidence from Delhi….


## *The Traffic Impact Area in Delhi:*

*New HEI Analysis: **55% of the Population** within 500 meters of a Freeway; 50 meters of a Major Road*

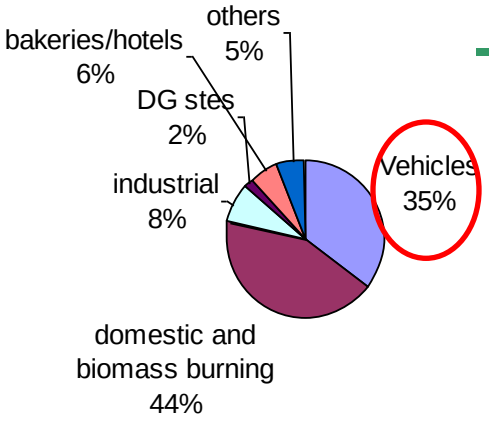



Given the large number of people living within 300- 500 meters of a major road, the Panel concluded that exposures to primary traffic generated pollutants are likely to be of public health concern and deserve attention.

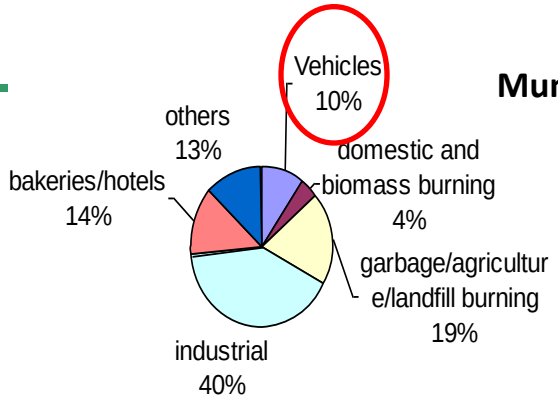


## Suppose we take out the road dust …. and consider only the combustion sources in the emission inventory results…..
## Vehicles become a very significant source of pollution…..

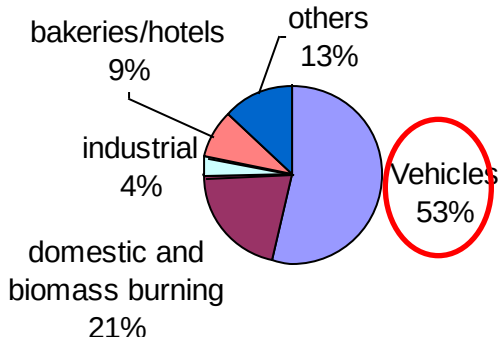

### Delhi



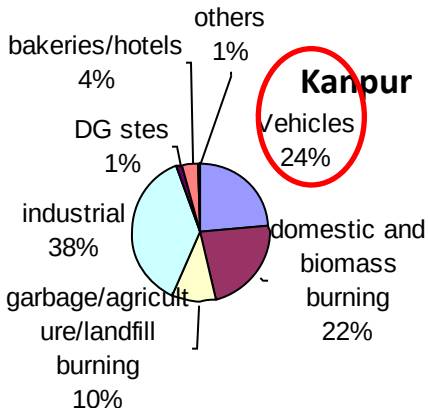

### Mumbai




### Pune



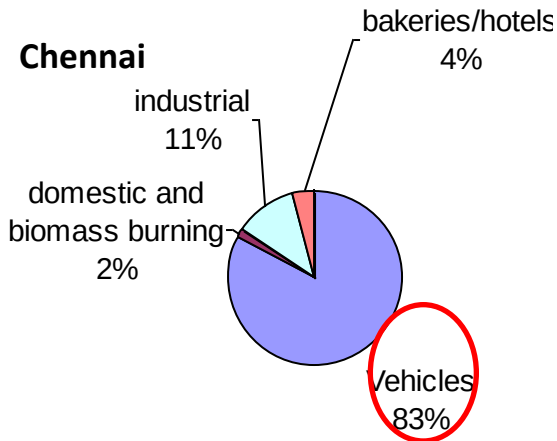

### Kanpur



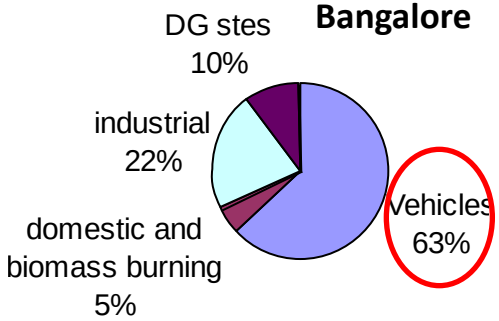

Vehicles share increase to 83% in Chennai, 63% in Bangalore and 53% in Pune. Vehicles become the second major contributor in Delhi and Kanpur.

**Why is everyone ignoring this message?**

### Chennai




### Bangalore

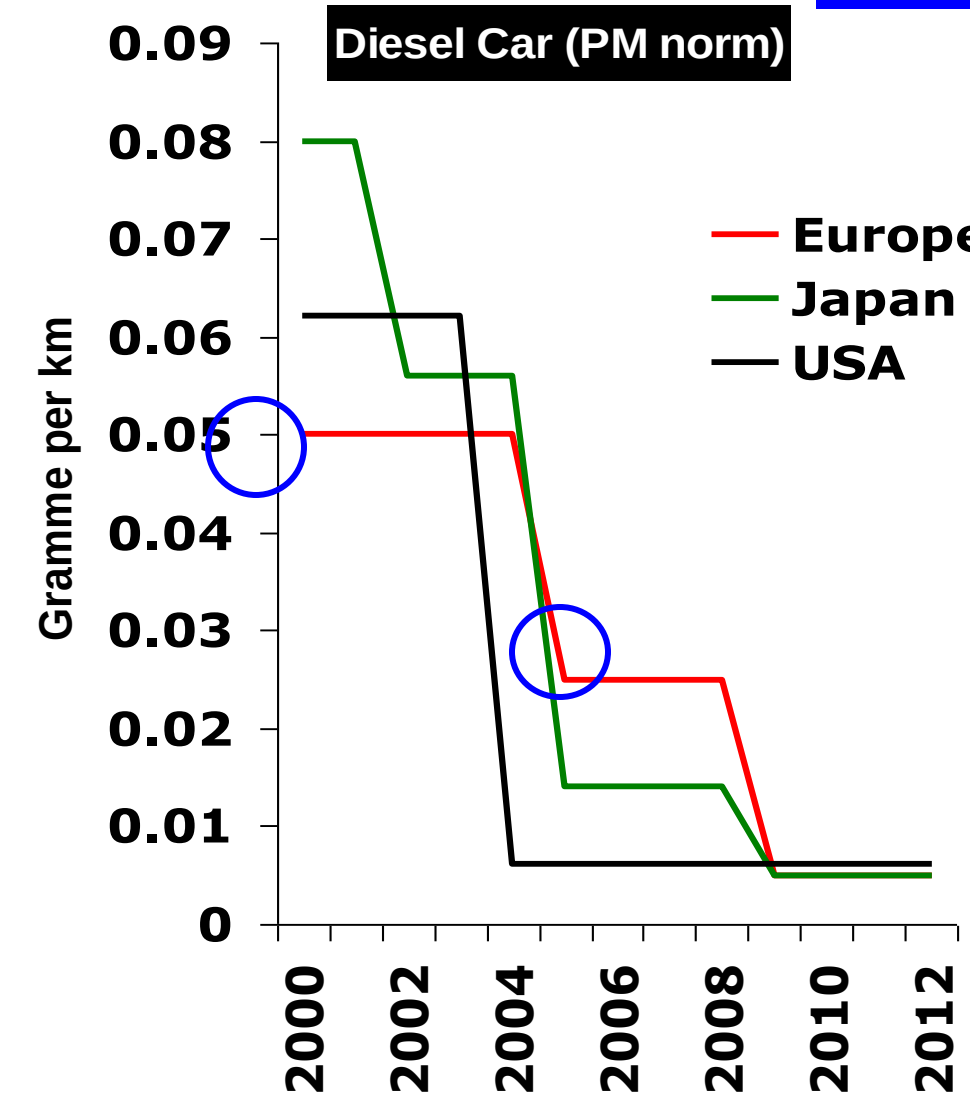


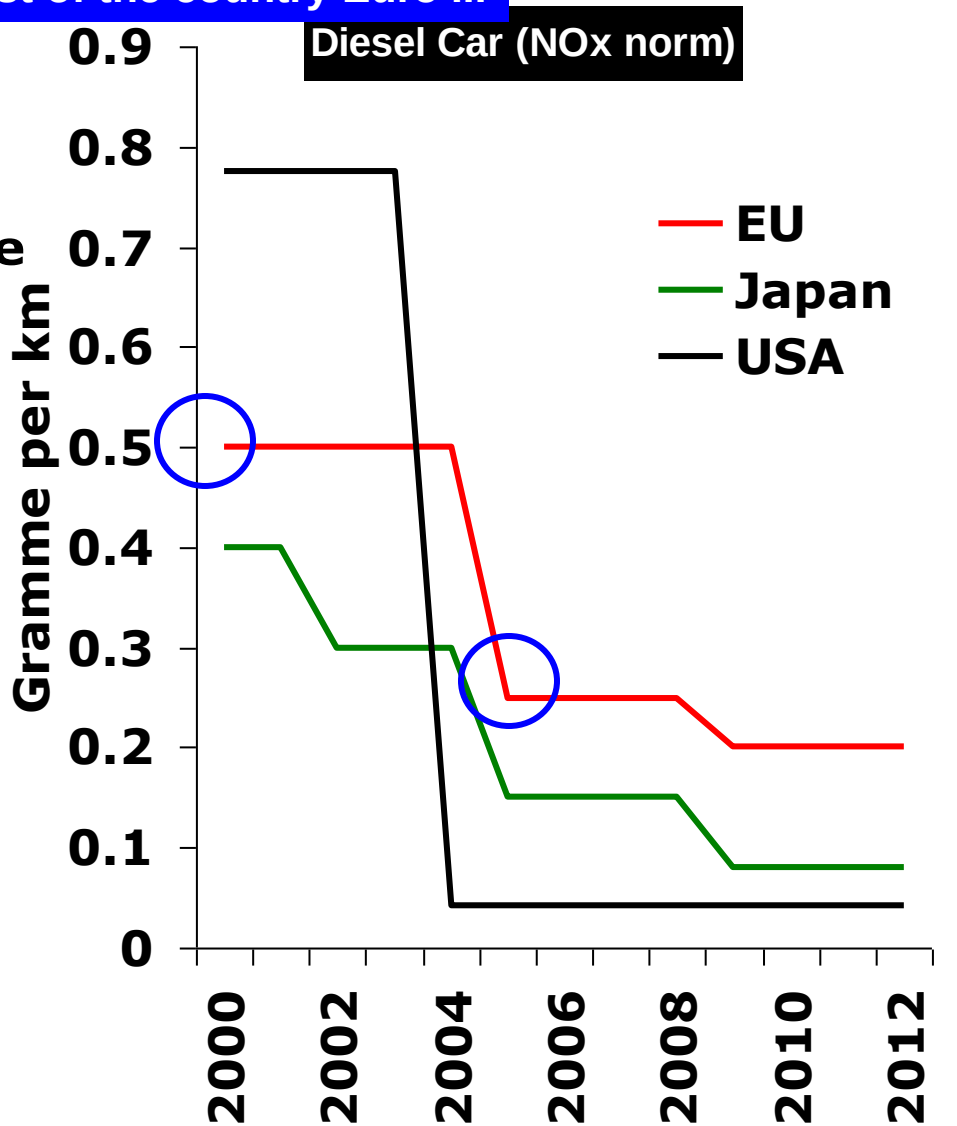

*(CSE analysis)*

# Why are we specially worried about diesel?

# Public policy fails to reduce the time lag in emission regulations

Indian metros today (Euro IV).
But rest of the country Euro III



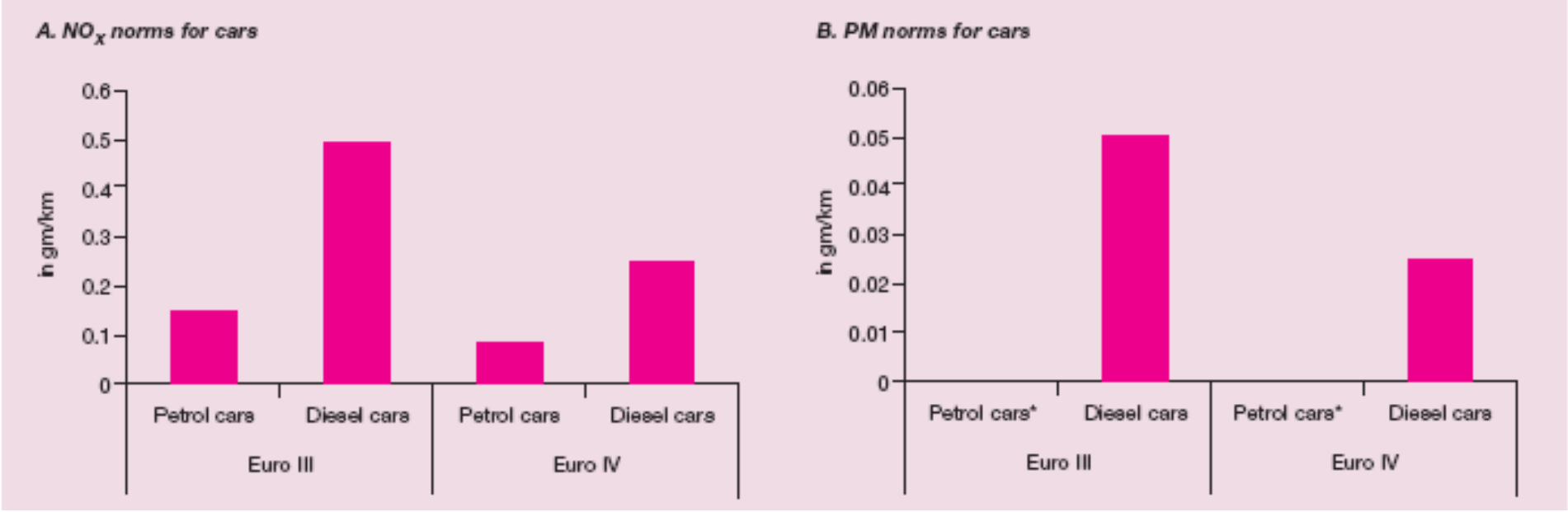



# Diesel cars have the legal license to emit more PM and NOX that are the key concerns in our cities

Diesel cars are legally allowed to emit three times more NOx than petrol cars under the Euro norms

## NOx norms for cars

## PM norms for cars

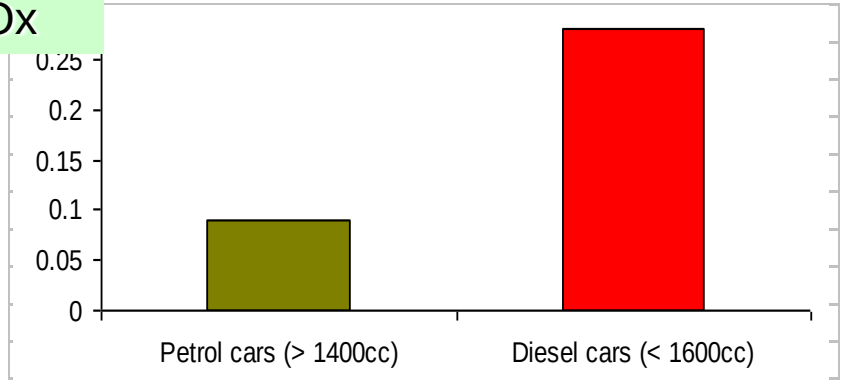



**One diesel car emits as much NOx as 3 to 5 petrol cars. PM is several times higher**

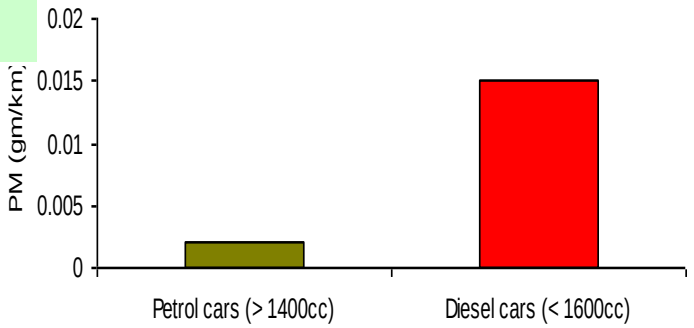
Source: MP Walsh

# Euro III diesel cars emit more harmful pollutants than petrol cars… But less CO2

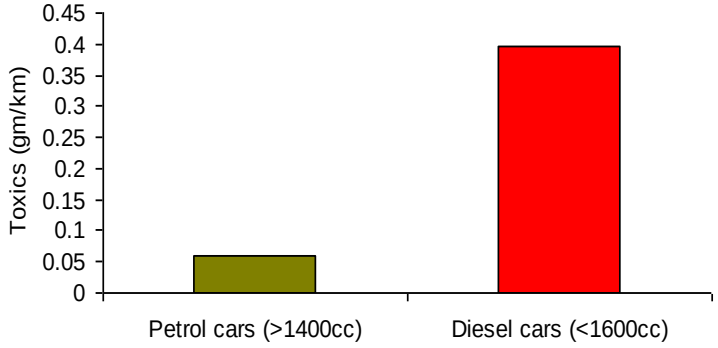
## NOx



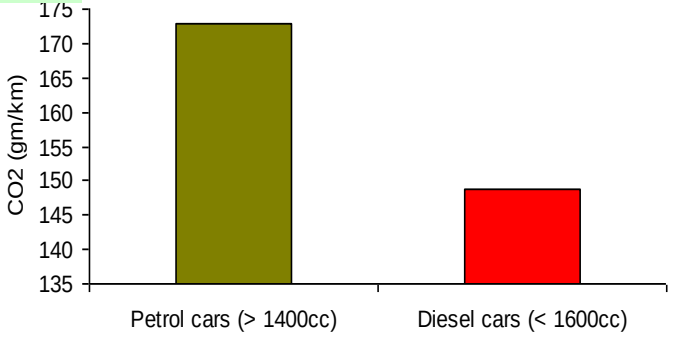

## PM




## Toxics



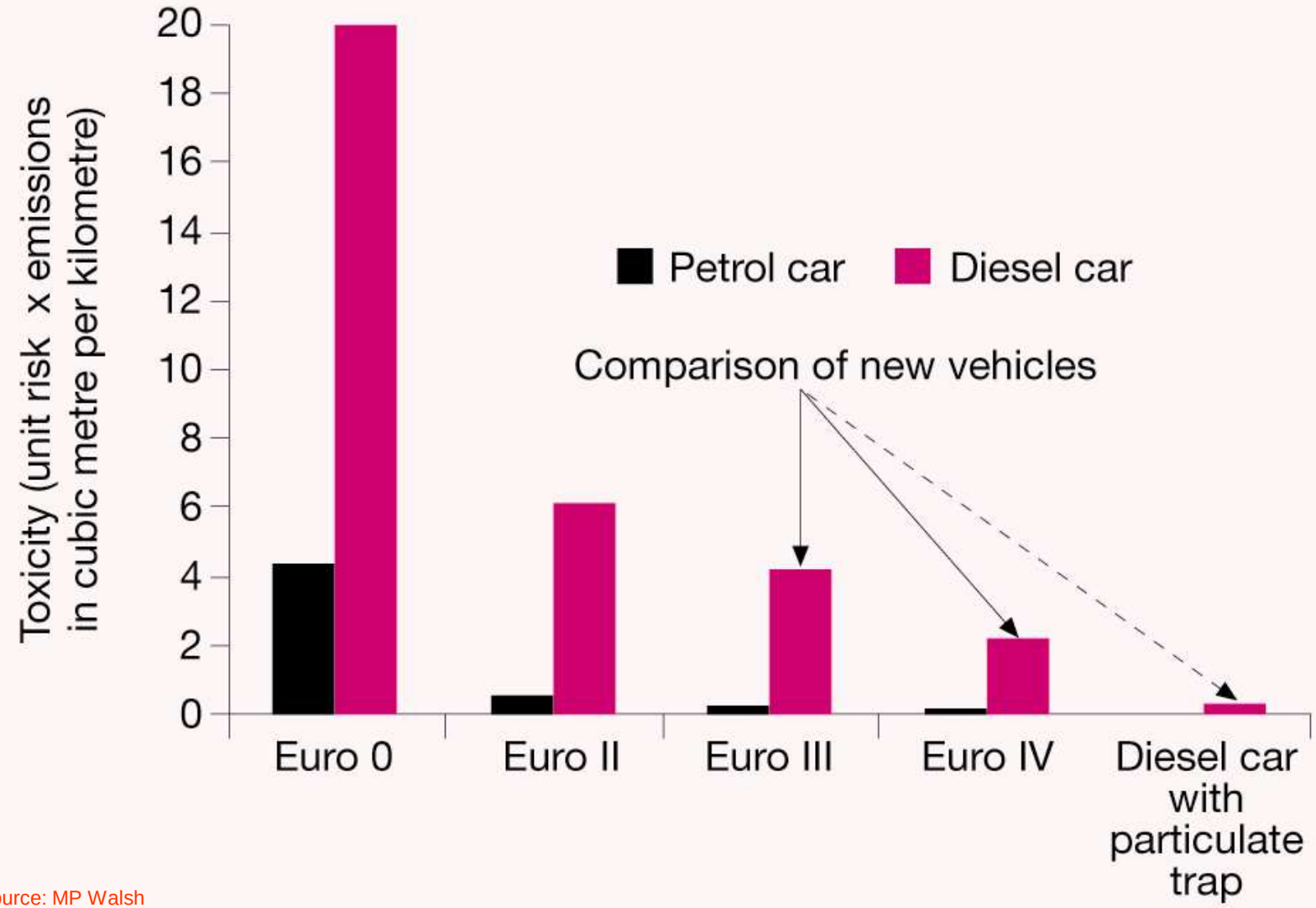

## CO2




Emissions vs efficiency remains unresolved in India……

Source ARAI

# But diesel emissions more toxic


Source: MP Walsh

# How safe it is to have diesel particles in our air?

## Other governments consider toxic Air contaminant Unit Risk Factors to prioritise action

| Toxic Air Contaminant | Unit Risk/Million People | Detection limit (ppb) |
|---|---|---|
| Acetaldehyde | 2.7 | 0.10 |
| Benzene | 29 | 0.05 |
| 1,3-Butadiene | 170 | 0.04 |
| Carbon Tetrachloride | 42 | 0.02 |
| Chromium, Hexavalent | 150,000 | 0.06 (in nanogram) |
| *Para*-Dichlorobenzene | 11 | 0.30 |
| Formaldehyde | 6 | 0.10 |
| Methylene Chloride | 1 | 0.10 |
| Perchloroethylene | 5.9 | 0.01 |
| **Diesel particulate matter** | **300** | **N/A** |

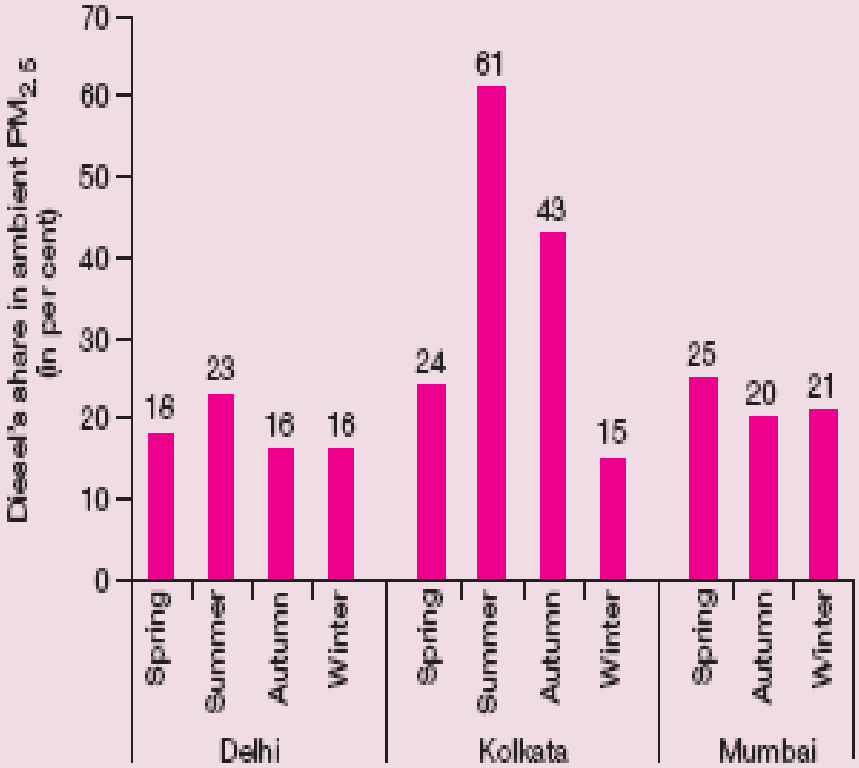
Note: Unit Risk represents the number of excess cancer cases per million people per micrgramme per cubic meter TAC concentration over a 70 year lifetime exposure
A diesel particulate matter unit risk value of 300 is used as a reasonable estimate in the “Risk Reduction Plan to reduce Particulae Matter Emissions from Diesel Fuelled Engines an vehicles (ARB, October 2000)
Source: California Air Resource Board

# Studies have found very high contribution of diesel combustion to PM2.5 in Indian cities

- 
  - In three cities among six cities reviewed by the World Bank shows that vehicles contribute an average 50 percent of the direct PM emissions but 70 per cent of PM exposure.
  - The WHO report of 2005 Health effects of transport-related air pollution weighed in that epidemiological evidences for the adverse health effects of exposure to transport related air pollution is increasing.

DIESELISED AIR

Diesel's contribution to ambient PM2.5 levels



# Understand toxic environment risk

Numerous studies in the West to assess the causes of cancer -- genetic susceptibility, environment factors and lifestyle. Show overwhelming influence of environmental factors. **A study that has shocked the western world is based on a survey of cancer incidence amongst 4,47,888 pairs of twins in Denmark, Sweden, and Finland.** Risk of cancer at 28 anatomical sites were studied in twins.

**The study concludes:** "Inherited genetic factors make a minor contribution to susceptibility to most types of neoplasms. This finding indicates that the environment (pollution, radiation, diet etc) has the principal role to play in causing sporadic cancer."

## CANCER RISK

| Cancer | Statistically signi-ficant genetic risk | Environ-mental risk |
|---|---|---|
| Prostrate | 0.42 | 0.58 |
| Pancreas | 0.36 | 0.64 |
| Colorectum | 0.35 | 0.65 |
| Bladder | 0.31 | 0.69 |
| Stomach | 0.28 | 0.72 |
| Breast | 0.27 | 0.73 |
| Lung | 0.26 | 0.74 |
| Ovary | 0.22 | 0.78 |
| Leukaemia | 0.21 | 0.79 |
| Lip/oral/cavity/pharynx/larynx/brain and Other nervous system/thyroid/bone/Esophagus/liver/gall bladder and Biliary tract/cervix/uteri/testis/kidney/Skin/soft tissue/non-hodgkin's Lymphoma/hodgkin's diseases/Multiple myeloma | 0.00 | 1.00 |

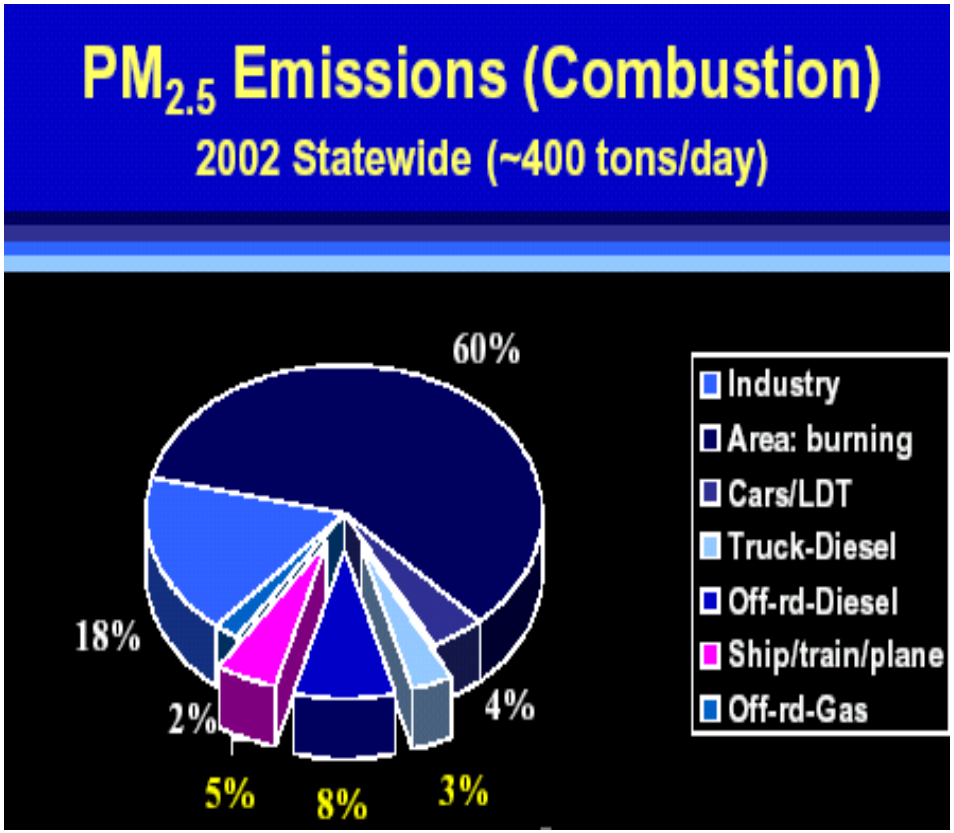
*Source:*Paul Lichtenstein *et al* 2000, Environmental and heritable factors in the causation of cancer, *The New England Journal of Medicine,* Vol 343, No 2, July 13.

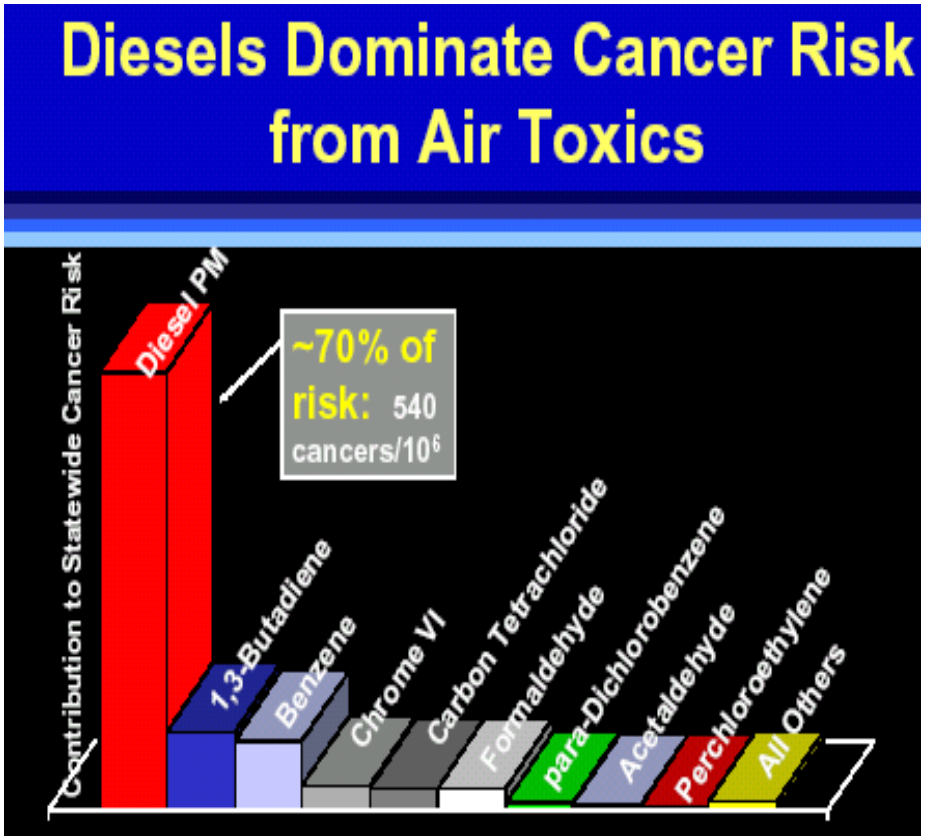
# Factoring in toxicity

Dangerous at very small doses: Example from California

The contribution of on-road diesel to PM2.5 load in California is 8-13%. But its contribution to cancer risk is 70%.

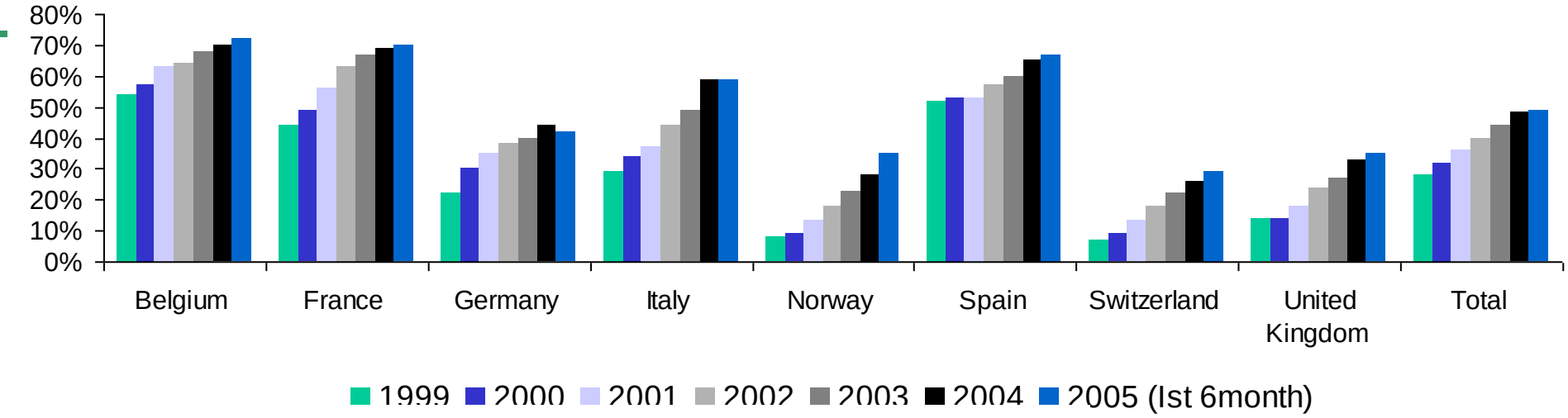
**This science eludes our regulators.**

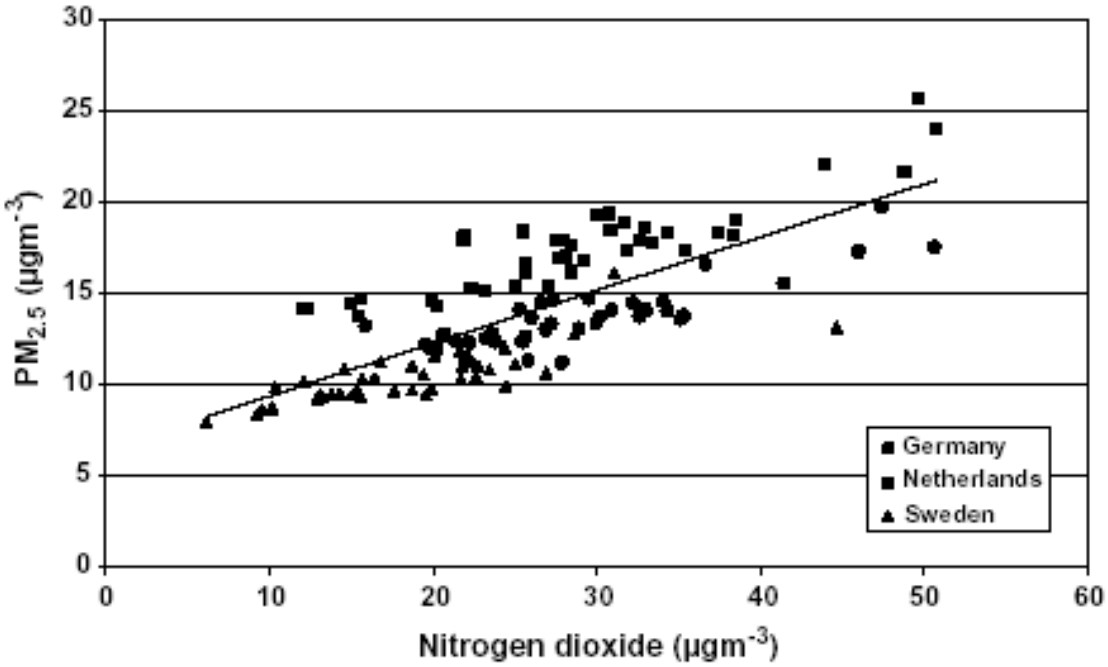


# *Just not us… even Europe has faced the problem of dieselisation…….*

**Europe:** Share of diesel cars in new sales in Western Europe




Cheaper diesel, disproportionate focus on diesel cars to meet CO2 targets etc have led to massive dieselisation…

……But at a cost..

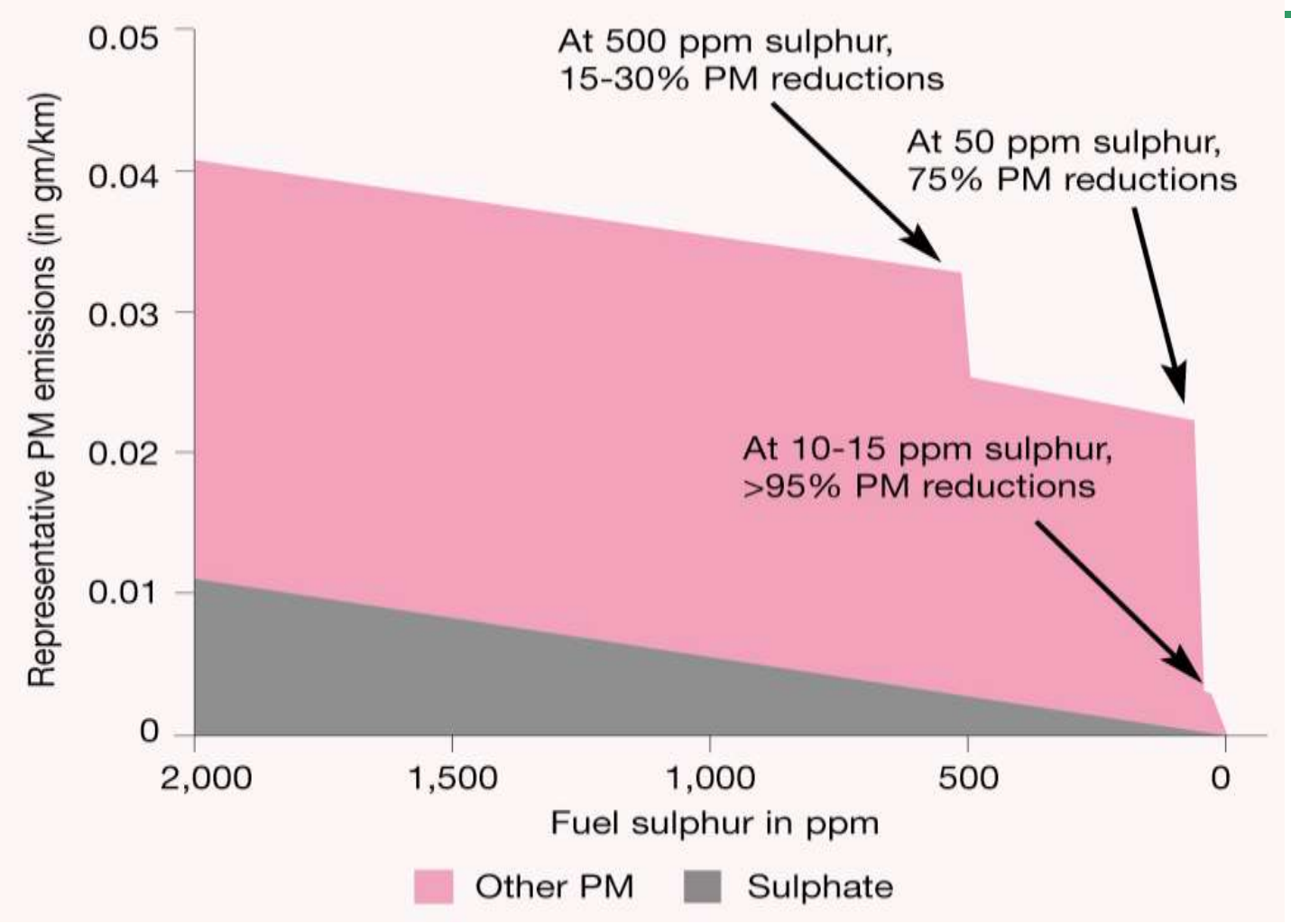
European cities are violating air quality standards:

NO2 levels strongly co-relate with PM2.5 in European cities

## But both Europe and the US have moved towards Clean diesel technology

## It is possible to reduce harmful diesel emissions drastically.

## But India is diselising without clean diesel



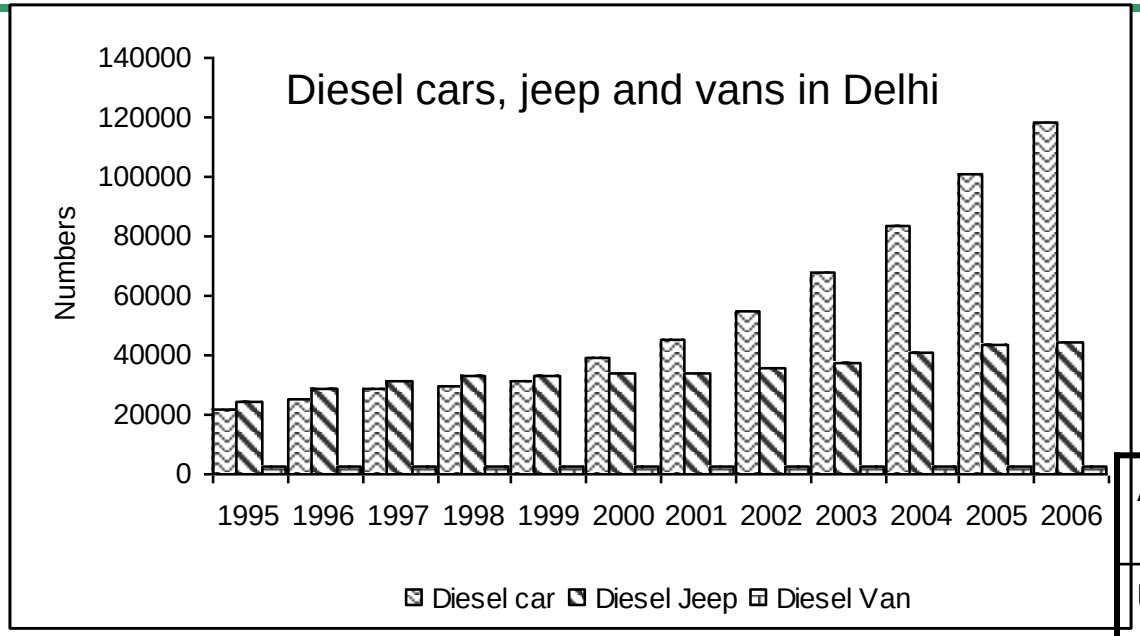

Source: ICCT

**What experts say?**

Do not replace a new petrol car with a diesel, unless they meet:

- US Tier 2 or Euro 5 Standards
- And ULSD is Available

# India dieselised


## India

**1998:** Diesel cars only 2% of the new car sales

**2010:** Diesel cars about 36% of new car sales

**2012:** Projected to be 50% of the sales

| Agency | Red alert on diesel exhaust |
|---|---|
| US EPA (2002) | **Likely human carcinogen** |
| CARB (1998) | **Toxic air contaminant** |
| HEI (1995) | **Potential to cause cancer** |
| NIOSH (1988) | **Potential occupational carcinogen** |
| IARC (1989) | **Probable human carcinogen** |
| WHO IPCS (1996) | **Probable human carcinogen** |

# Diesel car campaign in India


Dirty air, dirtier lungs
A cloud of pollutants over the Indian Ocean
Dioxin scare in Europe and Asia

Transnational carmakers were competing with each other to promote 'slow murder', said *Down To Earth*

## *1999: Diesel car campaign*

***Indian Express*, June 6, 1999:**

***According to CARB, chronic exposure to 1 microgramme of diesel exhaust will lead to 300 additional cases of lung cancer per million people…" The greatest threat to our health comes from the high levels of toxic dust in Delhi's air…"***

***Hindustan Times*, July 4, 1999:**

***Well aware that tiny particles from diesel exhausts kill thousands in Indian cities, MNCs …are bent upon introducing diesel vehicles…"***


**ENGINES OF THE DEVIL**

WHY DIESELISATION OF PRIVATE AUTOMOBILE FLEET SHOULD BE BANNED — THE CASE OF DELHI

Anil Agarwal
Prepared for CSE's Right to Clean Air Campaign
May 1999

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41, Tughlakabad Institutional Area, New Delhi-110062 India
Tel: 91-11-6981110, 6981124, 6983394, 6986399
Fax: 91-11-6985879, 6980870 E-mail: cse@cseindia.org
Website: www.cseindia.org

***Times of India*, September 2, 1999: *Auto manufactures and environmentalists are bracing themselves for September 17 when hearing of diesel as a fuel comes up before the Supreme Court….***

Air quality and public health: victim of fuel pricing policy……..

# Perverse fiscal incentive

## Under-taxed diesel:

Partial dismantling of APM……

Difference in excise, customs, and state level taxes are price distorting (Eg Excise duty -- Excise duty on petrol - Rs14.35 a litre, on diesel at Rs 4.60 per litre – 3.5 times higher.)

Massive under recovery: Chaturvedi committee report -- In June 2008 the crude prices had hit $130 a barrel – which was 348% higher than December 2003. But petrol and diesel prices had increased by only 50 to 60% since 2004.

-- Only 13% of the price increase was passed on to the consumer. The rest was absorbed by the government and oil companies. The losses per litre of petrol was Rs 16.33 for diesel it was as high as Rs 28.12.

--- Freeing of petrol prices and controls on diesel prices further adds to the subsidy. Since 2008 The price gap between petrol and diesel widened further -- 28% in 2008 to 35% now in Delhi for instance

.

Ironical -- price per unit of fuel is higher for two-wheeler driver than diesel SUV owner

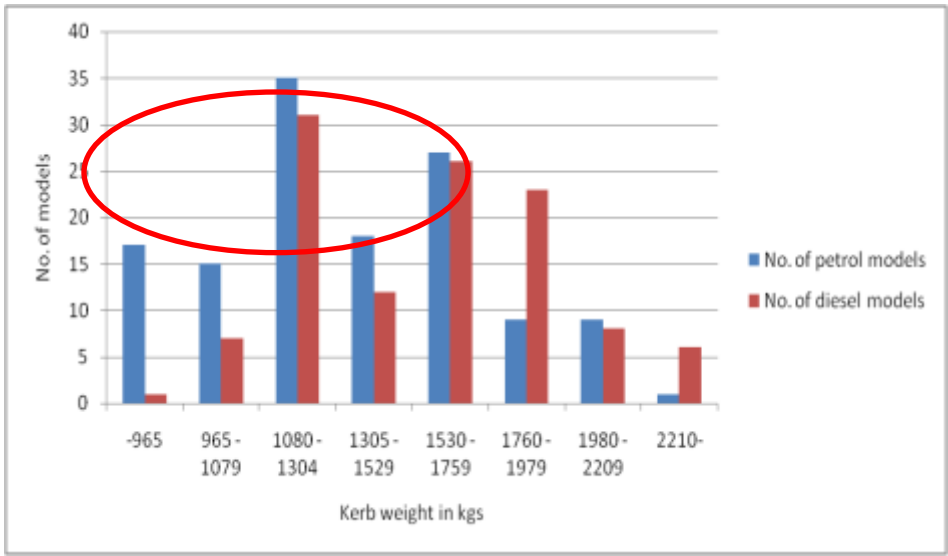
# Who is gaining from low taxed diesel? Car industry and Rich car owners…….

This gross misuse has already made the cars the second biggest beneficiaries of the official tax policy after trucks.

- **Cars use up 15% of diesel in the country**
- Buses and agriculture 12% each,
- Industry 10 %
- Railways 6 %
- Power generation 8 %

- Car industry is on overdrive… Small cars attract 10% excise as opposed to 22% and special duty for big cars and SUVs.
- But a quirk in the definition of small diesel car -- For the purpose taxation small diesel car is defined as -- length not exceeding 4,000 mm and with an engine capacity not exceeding 1,200 cc for petrol cars and 1,500 cc for diesel cars.
- This has seen rapid proliferation of diesel models even in small segments
- Diesel car sales explosive -- 36 % of the new car sales and is expected to be half soon.

**Number of cars (by fuel type) in different weight categories as given in fuel economy database**



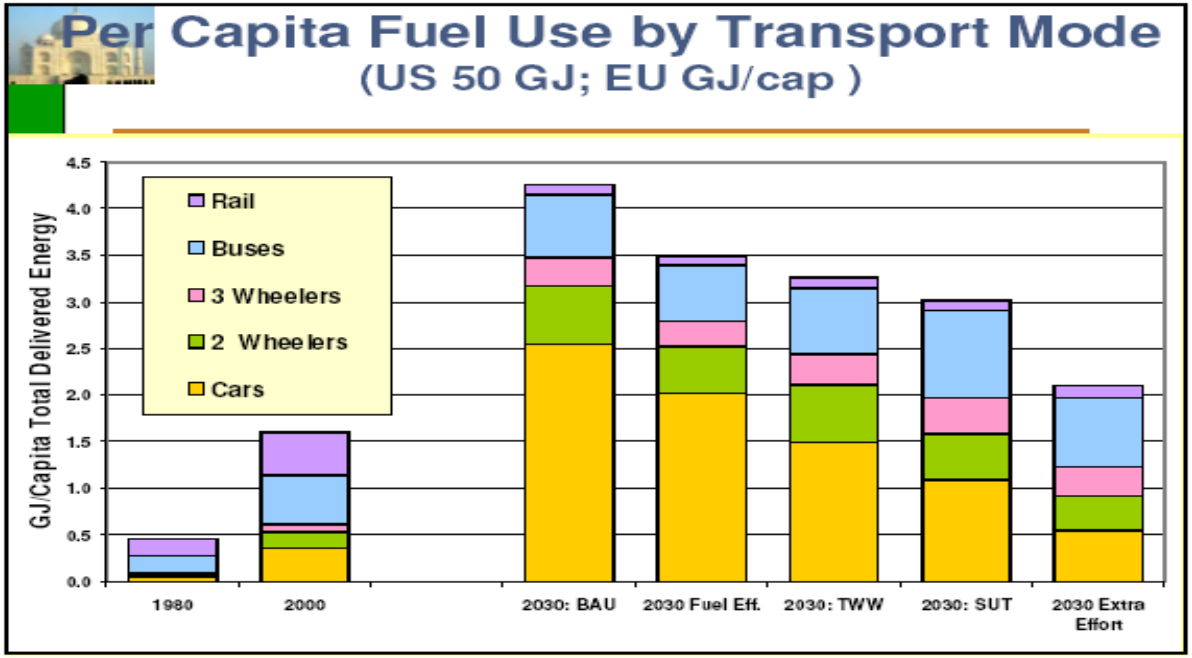
Diesel cars are supposed to be more fuel efficient……But…..

Cheap diesel also threatens energy and climate security……

How?

# The great guzzle …..Challenge of fuel efficiency

## Cars threaten energy security and climate




Transport energy demand has grown at 1.2 times the GDP growth rate. Transport sector uses up nearly 40 per cent of total consumption of oil. Fuel consumption by vehicles in 2035 could be six times that of the 2005 level.

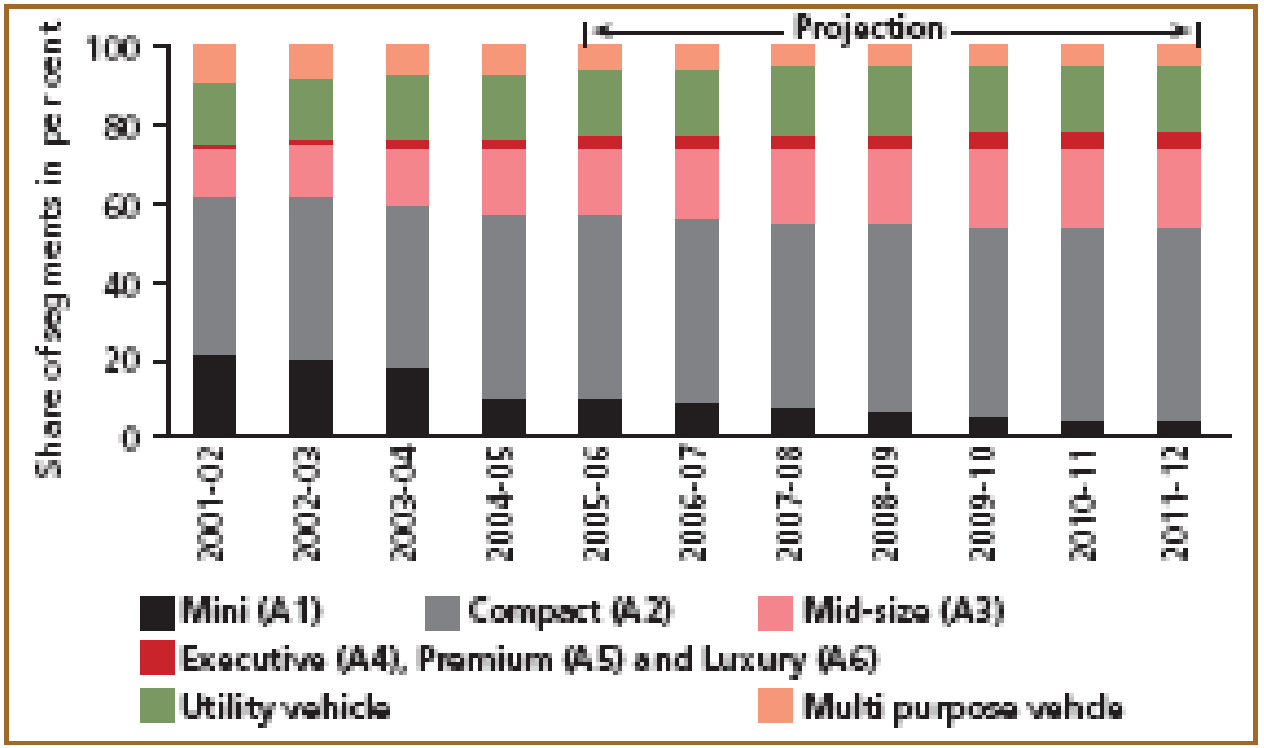
Urban car travel consumes nearly twice as energy on average as average urban bus travel; 3.7 times more than the typical light rail or tram; 6.6 times more than average electric urban electric train

By 2030-31 on an average Indians will travel thrice as many kilometers as they traveled during 2000-01.

Shift of freight from railways to trucks: Share of railways down to 26%. Transport energy demand in India would grow even faster if all highways planned are constructed. (WEO 2006)

# Shift from small to big cars threaten energy security

SUV and big car market is expected to develop rapidly.




*Source: Computed on the basis of sales data published by Society Indian Automobile Manufacturers (SIAM), Delhi*

# How can diesel cars make India more energy insecure?

- Cheaper diesel fuel encourages customers to opt for bigger and more powerful cars. This is a threat to energy security. -- A 10% increase in large vehicle sales can create additional demand for more than 17,500 barrels of oil annually. (ICCT) Can we afford this?

- Check out the difference in impact of fuel pricing on the petrol and diesel cars:
  - Higher petrol prices have effectively kept the petrol car market focussed on small car segment. --- 85% of the petrol cars sold in India have less than 1200 cc engines
  - But 64 % of diesel cars are just under 1500 cc and the rest above. Despite fuel efficiency bigger engines will always use more fuel

- Growing numbers, weight and increased dieselisation can lead to a cumulative loss of 6.5 mtoe of energy between 2010 and 2020. This equals the fuel use of all four-wheeled passenger vehicles in 2006 -- around 6.6 mtoe (ICCT).
- This defeats the objective of improving India's energy security.

# Why climate insecure?

Auto industry claims diesel cars are more fuel efficient and therefore the solution for climate change…Is that true?

**What are the facts?**

Diesel fuel has higher carbon content than petrol. If more diesel is burnt encouraged by its cheaper prices and more driving, more heat-trapping CO2 will escape.

Black carbon emissions from diesel vehicles are several times more heat trapping than CO2 and this nullifies fuel efficiency gains.

Europe has found that with increased demand for diesel energy consuming refining process will expand to increase the share of diesel from each unit of oil refined. CO2 emissions from the upstream refining process will increase. This negates the benefit of shift from petrol to diesel cars.

European Commission has calculated the difference in lifetime pollution costs of Euro IV compliant diesel car and petrol car. Total pollution cost of a Euro IV diesel car is 1195 Euros vis a vis 846 Euros for a petrol car.

This nullifies the marginal greenhouse gas reduction benefit of diesel car and costs higher to the society.

# Learn from Europe's mistake

European car industry made voluntary commitment to meet stringent fleet average CO2 reduction targets-- (Fleet-wide CO2 standards of 140 gm/km by 2008 and 120 gm/km by 2012).

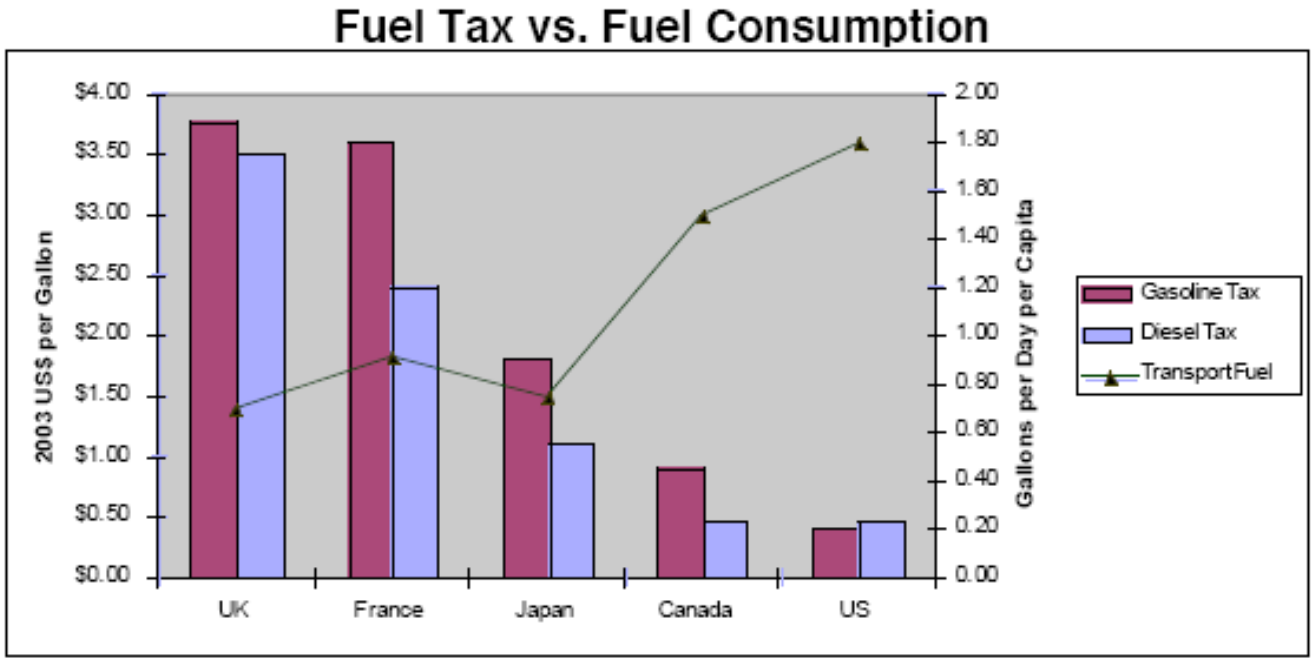
European industry relied heavily on expanding the diesel car fleet to improve the fleet average fuel economy to reduce CO2 emissions.

Diesel cars are nearly half of their car fleet – but Europe is neither close to meeting their target for CO2 emissions, nor their local air quality targets of NOx and PM reduction.

**With a combination of cheaper diesel prices, voluntary CO2 targets, and a diesel strategy, the average power of the car fleet in Europe has increased gradually by 30% since 1990**

**Need performance based fiscal incentive. Link up car taxes directly with the CO2 emissions for more effective imapcts**

# Cheaper fuel leads to more oil guzzling: Evidences from other countries




*Sources: Fuel Consumption (2001 thousand bpd) - EIA, International Energy Outlook 2002; Fuel taxes (2003 $) – Davis, S., 2004, Tables 10.1 and 10.2; Population (2003) – US Census Bureau, 2004.*

A World Bank study (2010) has found six countries (the U.S, Russia, China, Brazil, Mexico and Canada), that under tax fuels, responsible for more than 40% of transport oil GHG emissions. But a much larger number of countries that overtax transport fuels together account for 28% of transport fuel GHG world emissions.

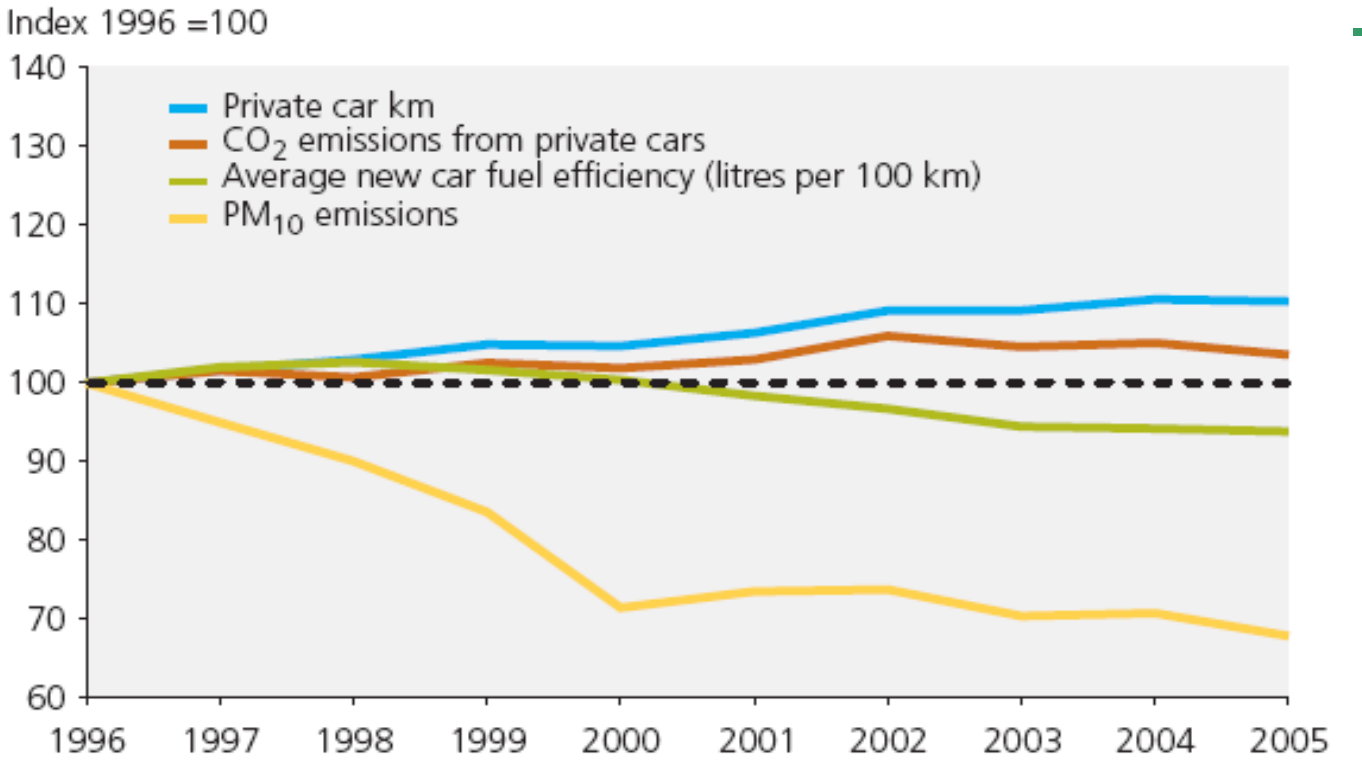
# So who is losing? Government and our health

## Why should government bear the cost of subsidy to rich car owners

- If the use of subsidised diesel continues to increase the government will continue to incur a huge revenue losses as it earns much less from excise on a litre of diesel used by cars, as opposed to petrol – about three times.
- Revenue losses will compound with increased share of diesel cars and SUVs.
- Only in Delhi this revenue loss amounts to close to Rs 300 crore. This can be mammoth on a nation-wide basis.
- How can Government justify this?

# What about rebound effect?.....India does not calculate this… But evidence from other countries……

*UK distance driven, fuel use and emissions from private car transport: 1996-2005*




Source: The environment in your pocket 2007, Department for Environment, Food and Rural Affairs. UK Govt.

**•Between 1996 and 2005 the amount of fuel used for each 100 km driven by new cars in the UK decreased by 6% as a result of improvements in efficiency.**

**•Emissions of CO2 from private cars rose by 4% in the same period, mainly because of increasing distances travelled by car, which rose by 10%.**

**•PM10 emissions declined by 29% between 1996 and 2000 but subsequently decreased by only a further 3% … the improvements offset by an increase in the use of, and emissions from, diesel cars.**

## Other governments are taking active fiscal measures

- Fiscal measures to discourage conventional diesel.
  - In **Brazil** diesel cars are actively discouraged because of the policy to keep taxes lower on diesel.
  - In **Denmark**, diesel cars are taxed higher to offset the lower prices of diesel fuel.
  - In **China**, taxes do not differentiate between petrol and diesel. Beijing does not allow diesel cars
  - **UK** has equalised diesel and petrol prices
  - **Germany, Hong Kong etc** introduced differential pricing to expand the market of cleaner diesel

# The story is not complete….There are other hidden subsidies for cars…..

## Responsible for Mobility crisis in our cities…..

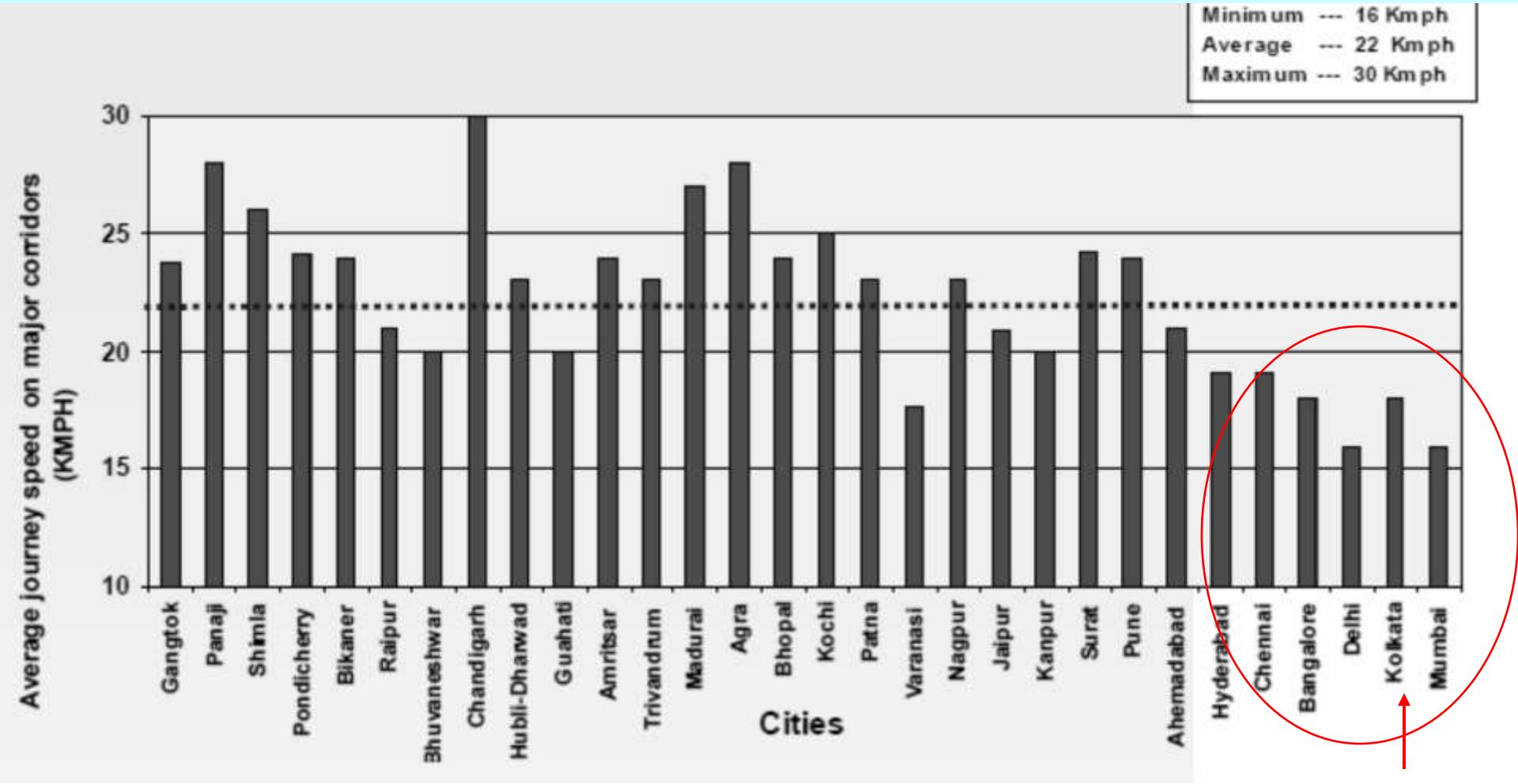
- …… an increasing share of our daily trips are being made by cars that occupy more road space, carry fewer people, pollute more, guzzle more fuel. They edge out pedestrians, bicycles, cycle rickshaws and buses…….

- Need tax measures to discourage unintended uses. Tax the bad and favour the good….

# Only investing in roads will not help

## Ugly signs of Crawling Traffic

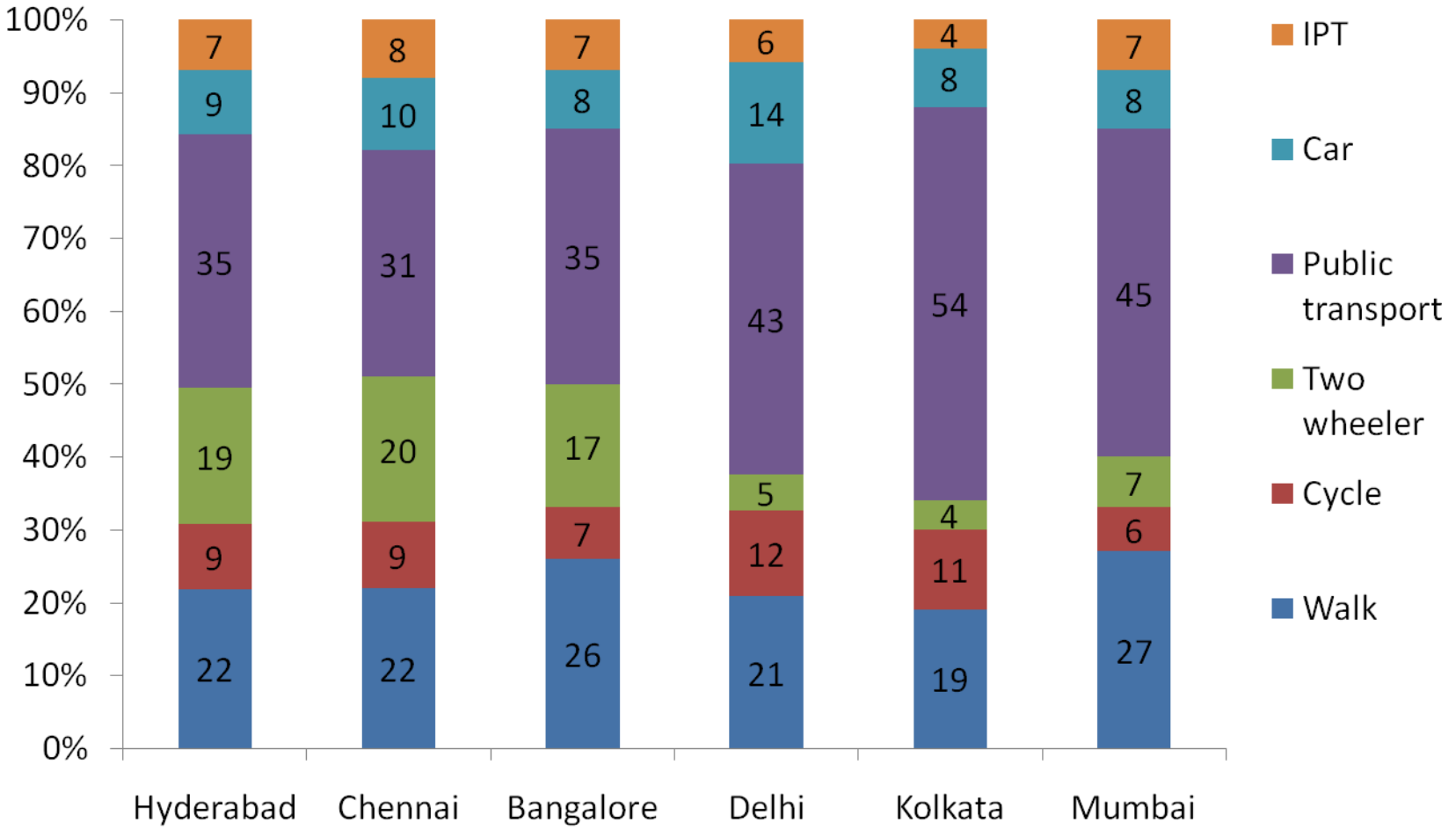
The average journey speed in Delhi (16 km/hr), Mumbai (16 km/hr) and Kolkata (18 km/hr): Abysmally poor compared to smaller cities




Source: Anon 2008, Study on traffic and transportation policies and Strategies in Urban Areas in India, MOUD, p63

# Under taxed car and oil can decimate public transport and NMT ridership

**Modal Share in Key cities**



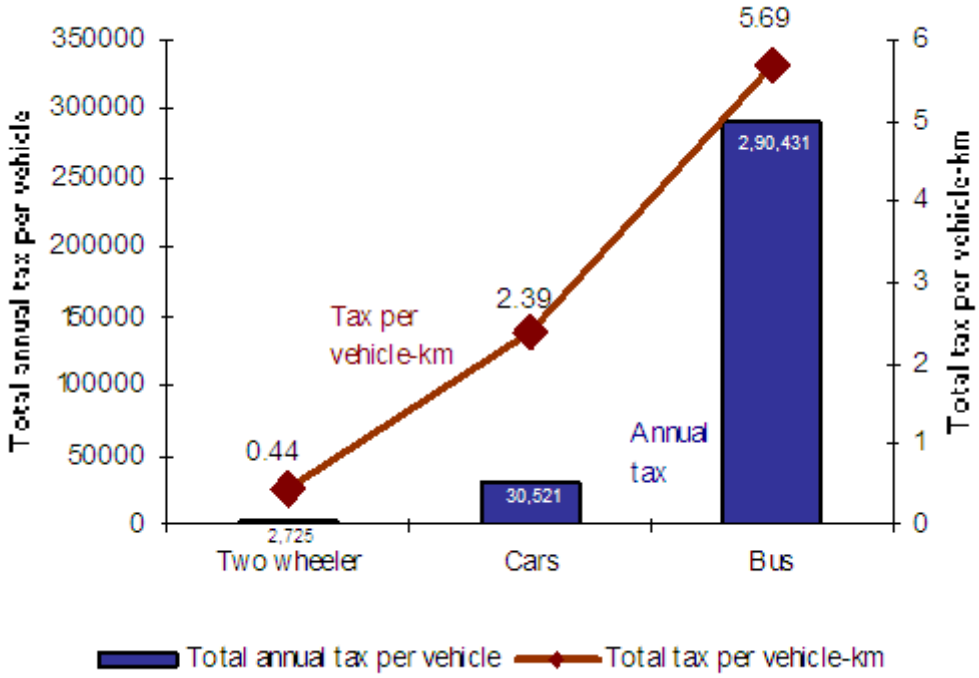
# We tax our public transport more than cars…

## Correct distortions...

Buses bear high tax burden than cars and two-wheelers. If lifetime tax is amortised then car pays roughly Rs 300 per year. But buses pay about Rs 13,000 per year – 43 times more than cars. Thus, penalised for carrying more passengers

If bus fares are raised, a substantial public transport ridership can be lost to two wheelers with running cost of just Re 1/km

For example -- Delhi with nearly the highest per capita income and car pays the lowest taxes.



# State funding is biased against public transport……

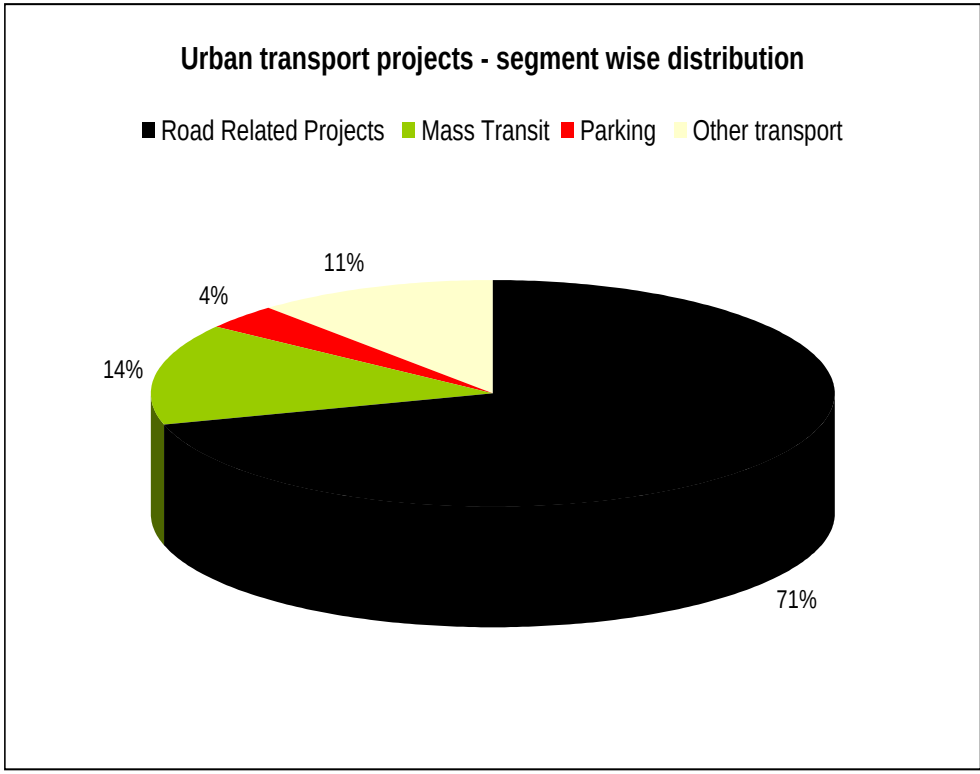
In India National Urban Renewal Mission has a reform based funding scheme for transport.

But…..

The investment so far is heavily biased towards road infrastructure. More than 71% of the transport related projects are road related projects.

Little on public transport and barely any in cycling and walking infrastructure.

## Funding ignores sustainable modes



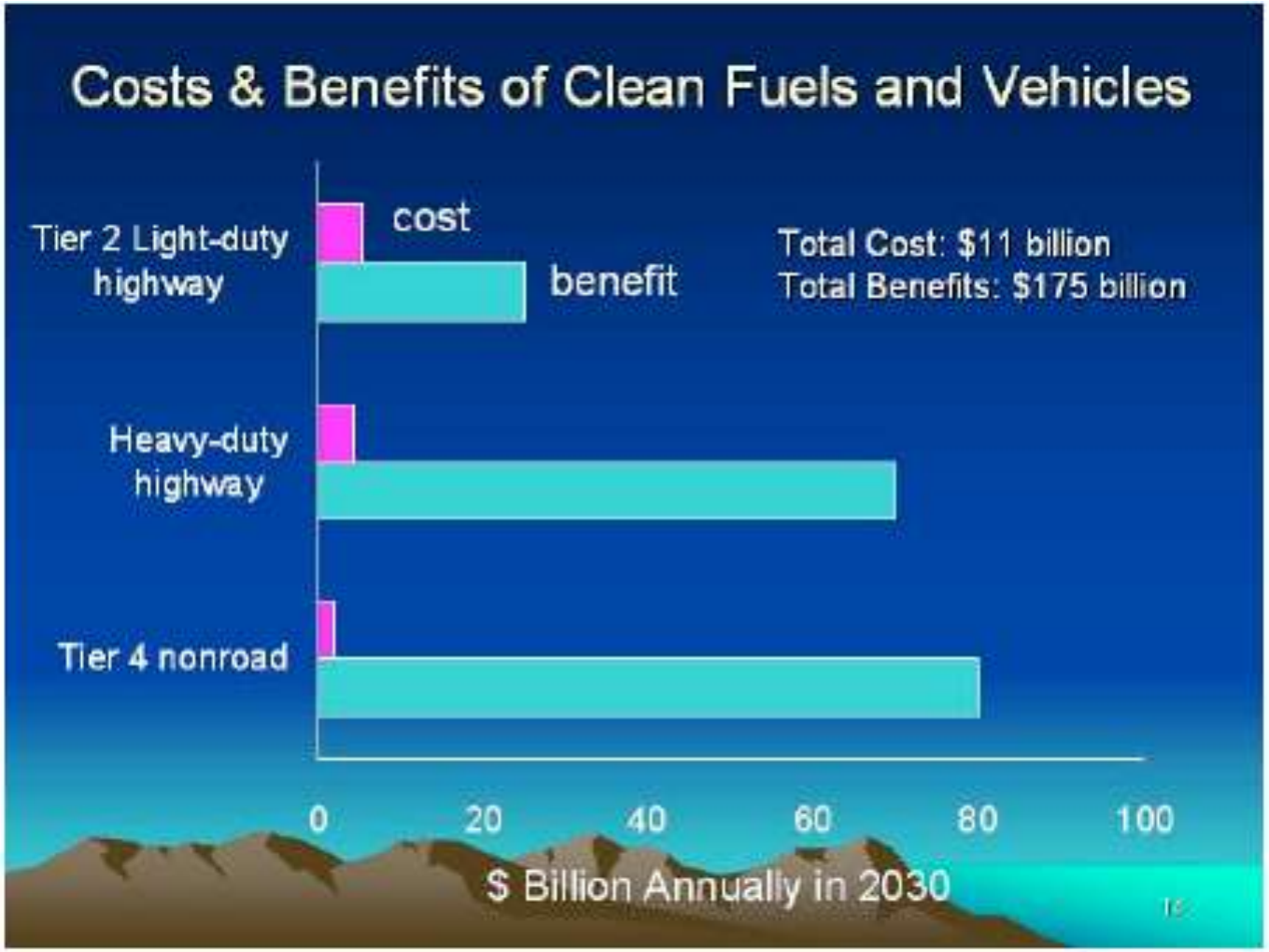

**Source: CSE**

# Other governments calculate hidden Subsidies for Urban Car transportation and public funds for private transport


| | Budget year | Inhabitants | Income from car transportation | Expenditure for car transportation | Difference | Subsidy per inhabitant | Cost-Recovery |
|---|---|---|---|---|---|---|---|
| Heidelberg | 2004 | 142.500 | 13.137.822 | 30.634.581 | 17.496.759 | 122,8 | 42,9% |
| Rotenburg | 2003 | 22.500 | 693.380 | 3.094.252 | 2.400.872 | 106,7 | 22,4% |
| Ludwigsburg | 2000 | 86.936 | 9.090.874 | 19.293.557 | 10.202.683 | 117,4 | 47,1% |
| Düsseldorf | 2002 | 569.046 | 24.699.867 | 167.106.878 | 142.407.011 | 250,3 | 14,8% |
| Lüneburg | 2000 | 70.000 | 3.411.848 | 9.194.623 | 5.782.775 | 82,6 | 37,1% |
| Augsburg | 2000 | 254.867 | 21.046.353 | 47.766.056 | 26.719.703 | 104,8 | 44,1% |
| Aschaffenburg | 2002 | 67.788 | 3.041.045 | 11.366.940 | 8.325.895 | 122,8 | 26,8% |
| Freiburg | 2000 | 201.000 | 17.163.087 | 37.993.383 | 20.830.296 | 103,6 | 45,2% |
| Ingelheim | 2003 | 26.000 | 1.264.617 | 6.985.282 | 5.720.665 | 220,0 | 18,1% |
| Bremen | 2000 | 547.000 | 12.551.020 | 72.959.184 | 60.408.163 | 110,4 | 17,2% |
| Dresden | 2000 | 459.000 | 9.132.653 | 65.306.122 | 56.173.469 | 122,4 | 14,0% |
| Stuttgart | 2000 | 581.000 | 20.663.265 | 104.591.837 | 83.928.571 | 144,5 | 19,8% |
| Average Germany (based on inhabitant numbers) | | | | | | 145,5 | 29,1% |
| Graz | 2003 | 238.000 | 20.832.664 | 60.959.484 | 40.126.820 | 169,0 | 34,0% |
| Geneve | 2002 | 182.560 | 13.944.143 | 40.038.362 | 26.094.219 | 142.0 | 34,8% |
| Ferrara | 2002 | 130.000 | 3.553.267 | 9.310.289 | 5.757.022 | 440 | 38,2% |

Source ICLEI, Hidden Subsidies for Urban Car Transportation

# Cost benefit analysis convince other governments to take hard action…..




*Source: Michael Walsh, 2005.*

USEPA calculates cost benefit of clean air regulations to justify aggressive action

Our government under tax diesel and also hesitate to invest in clean diesel

# Other hidden subsidy --- Free and discounted parking ….

- **Parking: wasteful use of cars**: Out of 8760 hours in a year the total steering time of an average car is 400 hours. For about 90 to 95 per cent of the time a car is parked.
- **Insatiable demand for land**:
    - If demand for land for an average car is computed based on average car size and multiple parking spaces per car -- the total cars already use up 10% city's urbanised area.
    - The forest cover in Delhi is 11.5 %.
    - Daily registration of cars is generating demand for land equivalent to 310 football fields! Land is expensive and has other opportunity costs.
- **Inequitous use of land**: A car is allotted 23 sq m for parking. Under low cost housing scheme only 18 sq m is allotted to poor families. The car owning minority using up more and more road space and urban space.

# Understanding cost of multi level parking

| | BKM multi level parking | | HT multi level parking | |
|---|---|---|---|---|
| | **Parking and commercial** | **Parking only** | **Parking and commercial** | **Parking only** |
| **ECS** | **941** | **780** | **1,209** | **1,025** |
| **Cap. Cost Rs in lakh per ECS** | 4 | 4 | 4 | 4 |
| **Total Cost in lakhs** **(including cap, working, taxes etc)** **(Net Present Value)** | **5,290** (Rs 1672 per sq feet) | **3,849** | **7,523** | **5,310** |
| **Revenue in lakhs (NPV)** | **6,724** | **4,168** | **9,352** | **5,574** |
| **IRR in %** | 12.68 | 12.67 | 12.68 | 12.69 |
| **Parking charges** | **Rs 10/h** | **Rs 30.25/h** | **Rs 10/h** | **Rs 39/h** |

# Wasteful investments….

## Lesson from Mumbai: Discrepancy in rates can lead to underutilisation of MLP

**INOX the multiplex in Nariman Point**

**Before construction of MLP:** No. of surface parking spaces: **140,** Utilisation: **100%** during office hours

**After:** No. of parking spaces: **540,** Utilisation of MLP during office hours: **10%**
Parking rates are Rs 5 per 30 minutes or Rs 10 per hour.

**Surface parking rates** : Rs 5 per hour and Rs 3 for every additional hour.

**Poor utilization of multi level lot**

Situation in INOX Parking area on 5th May 06 – a weekday at peak time of 11:am

Source: Mumbai Environmental Social Network

# A small whiff of change…..

JNNURM mandates dedicated urban transport fund

Identifies the following as the possible sources of funds that can act as a fiscal brake on car centric growth……

Waive off/reimburse  all its taxes on urban buses and city bus service

Need advertisement policy to tap newer source of revenues

Need parking policy as a car restraint measure

Additional cess on automotive fuels

Additional registration fees on cars especially diesel cars and two-wheelers

Annual renewal fee on driving license, vehicle registration

Congestion tax

# Nascent beginning green tax…

## Indian cities have begun to apply fiscal instruments

**Delhi: Air Ambience fee of 25 paise per litre on sale of diesel fuel has been implemented.** Revenue from this cess is used to create Air Ambience fund to meet the cost of Delhi's clean air action plan. This fund is used to subsidise battery operated vehicles and conversion of old commercial LCVs.

**Surat: Dedicated urban transport fund from** vehicle tax, pay and park charges, license fee for advertisement rights etc

**Bangalore: Green tax**: Bangalore has taken the lead to introduce Green tax that is imposed on the older vehicles.

**Hyderabad:** Exemption of motor vehicles tax on vehicles running on CNG, battery and solar power

# Indian style socialism……

**This brings us back to the new budget that made us angry……..**

The Union budget has come with its usual palliative on inclusive growth and *aam aadmi*. But the urban *aam aadmi* loses all.

- Despite recommendations from expert committees it has not increased taxes on diesel cars and SUVs. Government is wiling to suffer revenue losses from the luxury use of subsidised diesel. (Ignores Kirit Parikh Committee 2010, Chaturvedi Committee 2008, Raja Chellia committee 2004 etc…)
- Tax concessions are available only for hybrids, electric vehicles and fuel cell cars – that only a few mega rich can afford in the future.
- For public transport financial assistance is earmarked only for a few lines of expensive metro in Delhi, Mumbai, Chennai, Kolkata and Bengaluru.
- The bus, the real vehicle of the masses is completely forgotten. It gives up responsibility for bus transport that meets 40-60 per cent of the travel needs in key cities. …. Offers no more tax concession for buses or schemes to scale up bus transport.

**Is this a green budget for the polluted, congested and energy constrained Indian cities where three quarter of people earns less than Rs 85 a day……..**

# More worries…..

There are more worries about auto industry extracting more concessions from the tax reform package.

Government will phase in the proposed flat tax rates under goods and services tax (GST) and “maintain the standard rate of Central excise duty at 10 per cent.”

If the country and the Parliament are not vigilant the auto industry will try to get the same 10 percent GST on all passenger vehicles regardless of size, engines or emissions performance.

The only check of 22% excise and special duty on big cars and SUVs will also go. Can we afford the public health and environmental risks of such concessions?

However…. Budget has also provisioned less for oil subsidy in 2011-12 than the current fiscal. Will this increase diesel fuel prices?

# Learn from global approaches to green tax

## Tax the bad. Incentivise the good…..

**US** – Cars pay more taxes and also differentiates the tax according to engine size – fuel inefficient bigger cars pay more.

**Singapore** – Road tax differentiated by engine size, fuel type

**Germany** – Cars complying with older emissions standards pay more than the current standards.

**China** has a range of taxes on vehicles –

**On purchase-** Excise, VAT, Tariff, Vehicle acquisition tax

**On ownership** – New car check out fee, License plate fee, Vehicle usage fee,

**Vehicle use** – Insurance fee, Road maintenance fee, Consumption tax

London, Singapore -- Direct fees for using roads and congestion. London reduced congestion by 26%. Increased in public transport ridership.

**There is no one silver bullet. Need a package of fiscal strategy to make the difference**

# Cities are moving away from car centric infrastructure…….

## Expensive mistakes. Should we repeat them?

Before

After

Seoul's Cheonggyecheon restoration proj

Cities that have destroyed roadways

San Francisco

Milwaukee

New York

Portland

Toronto

Seoul

# Way ahead

-- Avoid subsidies that distort market and create public health and environmental risks. -- Get the prices right to minimise incorrect pricing signals.

-- Prices and taxes must vary according to the externality level – fuel consumption, air pollution, congestion impacts, fuel adulteration etc

-- If clean diesel is not available, need tax disincentive for diesel cars to neutralise the effect of price differentiation (Kirit Parikh Committee etc)

-- If car and oil are subsidised then public transport and NMT will not be successful.

-- Address equity – provide for all and not privilege for a few. Have targeted subsidy.

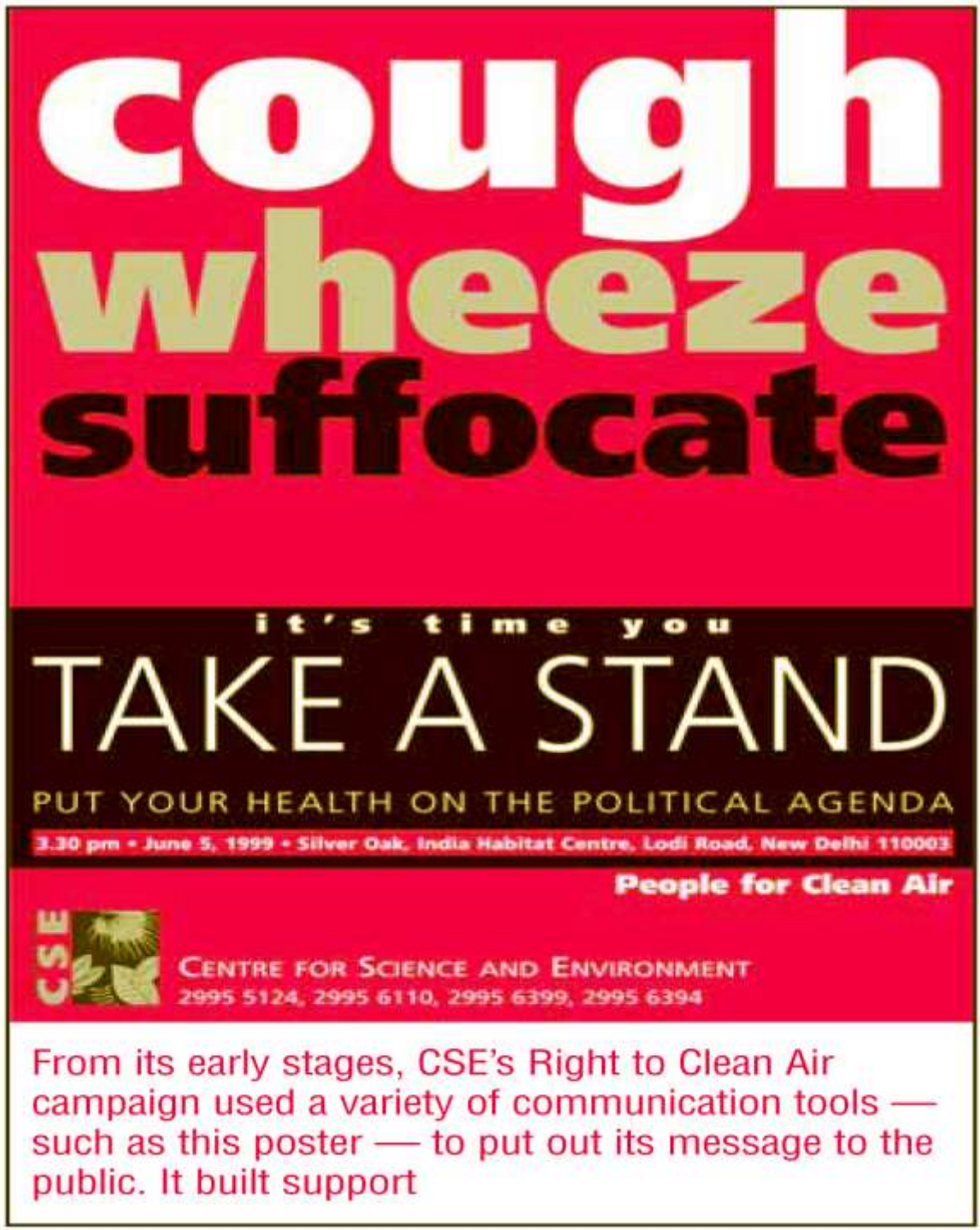
-- Avoid unintended consequences – gas guzzlers and diesel emissions

-- Remove incentive for car centric mobility

-- We know enough to act. Need a package of policies.

**Otherwise what ??????**

# Thank You….


cough
wheeze
suffocate
it's time you
TAKE A STAND
PUT YOUR HEALTH ON THE POLITICAL AGENDA
3.30 pm • June 5, 1999 • Silver Oak, India Habitat Centre, Lodi Road, New Delhi 110003
People for Clean Air
CSE
CENTRE FOR SCIENCE AND ENVIRONMENT
2995 5124, 2995 6110, 2995 6399, 2995 6394
From its early stages, CSE's Right to Clean Air campaign used a variety of communication tools — such as this poster — to put out its message to the public. It built support