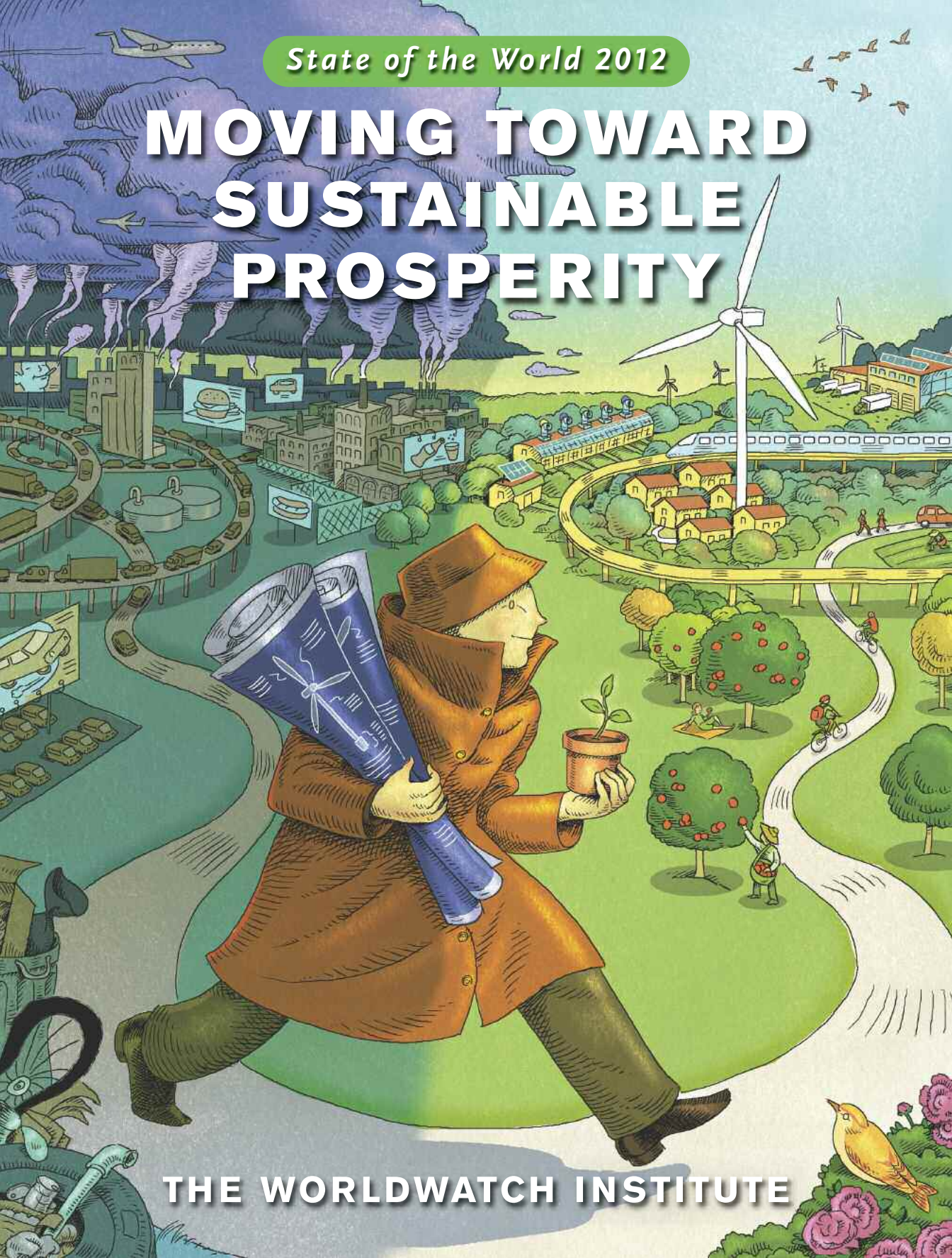


State of the World 2012

MOVING TOWARD SUSTAINABLE PROSPERITY



THE WORLDWATCH INSTITUTE

Moving Toward Sustainable Transport

Michael Replogle and Colin Hughes

Danica May Camacho was born in Manila on October 31, 2011—one of a number of children chosen by the United Nations to symbolize the world’s 7 billionth resident. Born in one of the fastest-growing megacities in the world, Danica will spend her youngest years in a landscape dominated by cars, jeepney mini-buses, heavy trucks, and motorcycles that make it dangerous for her to breathe the air or cross the streets. Manila ranks among the world’s worst cities for traffic congestion, commute times, and harmful airborne fine particulate matter from transport sources. In addition, 371 people were killed in traffic in Manila in 2006 alone, and over half of these deaths were of pedestrians. This means that Danica and her parents have an increased risk of respiratory illness and they will spend less time together in their home and more time in traffic. They will also spend a larger portion of their limited income to take motorized modes for trips that are not viable on foot due to unsafe conditions.¹

Yet these same transport systems also offer important opportunities. They will give Danica and her family access to jobs, markets, and schools. They also provide her city with a way

to improve its quality of urban life and lift people from poverty by making its transport infrastructure and services more economically, socially, and environmentally sustainable. The manner in which Manila and thousands of other cities in the developing world manage their transport systems will determine the sustainability of urban life in coming decades for Danica and any children she might have.

World leaders will help shape that future at the June 2012 global summit on sustainable development in Rio de Janeiro. At the 1992 Rio Earth Summit, 187 governments adopted *Agenda 21*, an international action plan on sustainable development that included language supporting sustainable transport. In the two decades since, considerable progress has been made in demonstrating the viability and potential for sustainable transport strategies to meet the mobility needs of growing economies while reducing costs and harm to the environment. But most of the world’s transport investments continue to favor unsustainable transport modes. The requisite institutional capacity and governance structures to plan and successfully operate more-sustainable transport systems have not been

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widely developed. Systems to monitor and report on progress toward sustainable transport goals remain weak.

Without changes in policy to mend the trend of unmanaged motorization (see Table 4-1), the outlook for the transport sector is bleak, especially in developing countries. The International Energy Agency (IEA) forecasts that the current number of cars will increase 250–375 percent by 2050, based on various population and economic growth scenarios, while freight activity will also increase 75–100 percent in the same period. The bulk of this growth in transportation activity will happen in the developing world and will impose significant costs to society there. By 2020, road fatalities are projected to rise by 80 percent in low- and middle-income countries. Transportation contributes as much as 80 percent of the harmful air pollutants that cause 1.3 million premature deaths each year, mostly in developing and middle-income countries. And carbon dioxide emissions from transport, an important contributor to climate change, are

expected to grow 300 percent by 2050—with most of the growth again coming from the developing world. This is about five times higher than the minimum reduction of greenhouse gases (GHGs) that the IEA maintains is needed if the transport sector is to meet the Intergovernmental Panel on Climate Change (IPCC) target for avoiding catastrophic climate change.²

In the next 20 years the world will see massive growth in demand for transportation fueled by rapid economic development and urbanization. But the current pattern of addressing increased demand for transport—mainly through the expansion of automobile fleets and road network capacity—is unsustainable from economic, social, and environmental standpoints. As former Bogota Mayor Enrique Peñalosa has pointed out, transportation is unique among the problems of the developing world in that it gets worse as a country grows more prosperous. Generally, building new urban high-speed roads and parking capacity for private cars not only fails to

Table 4-1. Characteristics of Unmanaged Motorization and Sustainable Transport

Unmanaged Motorization	Sustainable Transport
Subsidies for motor fuel, parking, and company or government cars	Subsidies for public transport, cycling, and affordable housing close to public transport
Focus on capacity expansion of roads; neglect of local street and sidewalk maintenance	Modernization of roads with real-time traffic management and operations
Motor vehicle traffic and parking displaces cyclists, pedestrians, public transport, parks	Road space protected for pedestrians, cyclists, public space
Disorganized public transport leaves buses stuck in traffic	Bus rapid transit or rail in high-demand corridors, with performance-based contracting
Unmanaged sprawl and urbanization	Public-transport-oriented development
Weak governance structures for transport and land use policy/planning/management	Stronger governance structures for transport and land use policy, planning, and management
Little attention to equality of access among different social and economic groups	More equitable access for the poor, disabled, young, and old

decongest transport networks, it also contaminates urban air, accelerates climate change, increases reliance on imported fuel, and contributes to obesity, respiratory disease, and a growing number of traffic-related fatalities. And it isolates the urban poor, forcing them to choose between low incomes in informal sector employment close to affordable housing and higher-wage jobs that force them to spend a large share of their income and hours each day commuting. But none of this is inevitable. Investments in more-sustainable transport systems can spur more jobs and support more-equitable long-term economic development while protecting the environment.³

The Arc of Sustainable Transport in International Agreements

The sustainability challenges facing individual cities and communities—from economic development to climate change—are challenges that are global in scope. They require a framework of commitment at the international level in order to provide incentives for global participation, support global initiatives, and monitor global progress toward goals. In 1992, *Agenda 21* considered transportation a key program area for both resource management and for “improving the social, economic and environmental quality of human settlements.” It even went so far as to specifically call for efficient and cost-effective approaches such as integrated land use and transportation planning, high-occupancy public transport, safe cycleways and footpaths, international information exchange, and a reevaluation of present consumption and production patterns. Although transport was featured prominently, however, and even discussed in some depth, no targets, goals, commitments, or other forms of accountability were incorporated.

The Kyoto Protocol adopted by 191 countries since 1997 established legally binding targets for an average reduction of 5 percent

of global greenhouse gases relative to 1990 emissions by 2012. With its focus on using markets to find least-cost GHG reduction strategies, it avoided sectoral strategies and did not specifically mention transportation. The climate finance mechanisms it endorsed—the Global Environmental Facility (GEF) and the Clean Development Mechanism (CDM)—were designed primarily around the energy sector, where relatively accurate GHG accounting requires fewer data and is easier to estimate than in the transportation sector. This led to underfunding of sustainable transport projects. While the transport sector now accounts for 27 percent of energy-related GHGs, these climate change mitigation funds have disbursed less than 10 percent of their funding to it.⁴

Although transport is both directly and indirectly crucial to many of the Millennium Development Goals (MDGs), which focus on ending human poverty and were adopted by 193 countries in 2000, transport was scarcely mentioned among the goals and their indicators. The initial recommendations for transport goals as a part of the UN Millennium Project, written by people unfamiliar with the transport sector, were misguided and heavily focused on governmental spending on new road construction. Experts from the World Bank and nongovernmental organizations (NGOs) lobbied to change the recommendations, but the final result was that the UN Millennium Project simply avoided mention of transport. Although it was a blessing that a misguided approach was avoided, ITDP Executive Director Walter Hook noted that “the lack of inclusion of concrete targets for transport in the MDGs carries with it two risks: 1) that critical transport sector interventions will get left off the development agenda entirely, and 2) that the lack of specific targets will give wide latitude to donor agencies and governments to intervene in the sector without any clear guidance from the MDGs, leading to mis-specified

interventions that do little to reduce poverty or even make it worse.”⁵

The first commitment period under the Kyoto Protocol expires in 2012. In December 2011, the Durban Platform for Enhanced Action was established to present a new plan of action for crafting an agreement to follow Kyoto by 2015. Establishing such a legally binding agreement that includes targets for the world’s biggest emitters of GHGs—including the United States, China, and India—in the near term is an essential goal in order to responsibly address the threat of climate change. Another relevant outcome from the Durban summit was the design and structure of a Green Climate Fund that would set up a new system by which industrial countries will help finance implementation of Nationally Appropriate Mitigation Actions (NAMAs) in developing countries. NAMAs are voluntary agreements to reduce GHGs. A key issue in the negotiations is how to design monitoring and evaluation frameworks that enable new funding for NAMA activities in developing countries.⁶

At the moment, this new, bottom-up approach—whereby nations set their own goals for sustainable transportation, receive financing from industrial countries, and cooperate regionally to build capacity and realize goals—represents the most promising pathway to sustainability.

In regards to the transportation sector, several countries have expressed interest in developing transport-specific NAMAs in 2012. Twenty-eight of the 44 NAMA submissions made as of May 2011 specifically refer to mitigation activities in the transport sector. At the same time, a number of leading transport sector NGOs, acting under the umbrella of the Bridging the Gap coalition and the Partnership for Sustainable Low-Carbon Transportation, are working with countries to help them advance this approach.⁷

These efforts have already been advanced through the recent Environmentally Sustain-

able Transport Forums for Asia and Latin America. The forums resulted in the Bangkok 2020 Declaration, endorsed by 22 Asian countries, and the Bogota Declaration, endorsed by nine Latin American nations. Together with the Report of the Secretary-General to the U.N. Commission on Sustainable Development entitled *Policy Options and Actions for Expediting Progress in Implementation: Transport*, these provide recent evidence of accelerating interest in joint action in this arena. The regional declarations represent a pathway to advance sustainability agreements in a way that avoids the impasse over reduction targets between industrial and developing worlds. But it remains to be seen if these voluntary actions and agreements can engage countries on the wide scale that Kyoto did and achieve the depth of carbon cuts needed for climate stabilization.⁸

Current State of the World: Unmanaged Motorization

Despite growing understanding of the need for sustainable transport, the motorization of the global transport sector has seen unabated growth since at least the 1970s. Recent trends and forecasts of increased growth of vehicle activity in the near future suggest an urgent need to go beyond the status quo approach of linking transport and sustainable development in only a general sense. More-specific institutional development, funding commitments, and accountability frameworks are needed to put transportation on a sustainable path.

Global transport sector energy use has been growing steadily by about 2–2.5 percent a year since 1970 (see Figure 4–1) and is forecast to grow even more quickly in the future. Although the average fuel economy of vehicle engines has improved over time, increases in average vehicle weight, vehicle kilometers traveled, and vehicle fleet size have all led to continued growth in the transport energy consumed and

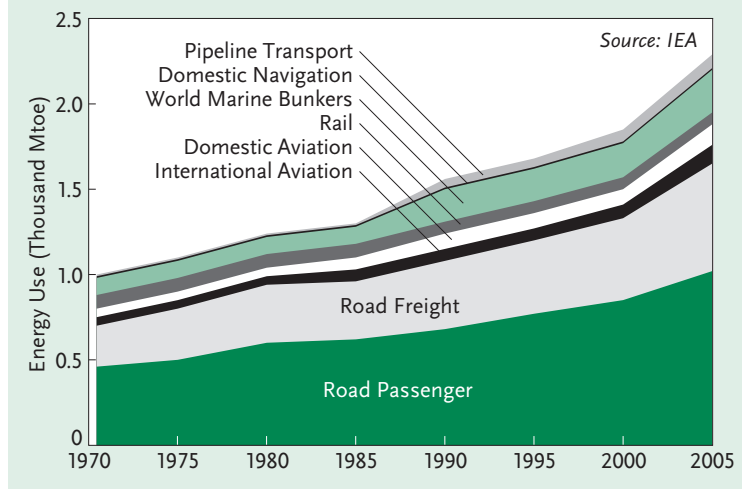
related social costs. In 1990 there were 500 million cars in the world; today there are nearly 800 million, and the IEA forecasts that by 2050 there will be between 2 billion and 3 billion. This means that for every one car stuck in traffic today there will be three or four in 2050. The additional energy use by the transport sector from such rapid growth in vehicles and vehicle activity would far outstrip any reductions from vehicle fuel efficiency improvements, driving transportation energy use even higher.⁹

If current motorization trends continue, the transportation sector will not only help tip the Earth toward catastrophic climate change, it will impose a number of other local economic, social, and environmental costs of motorization. From the health costs related to air pollution to deaths from traffic fatalities and time wasted in traffic, these costs may capture as much as 10 percent of the gross domestic product (GDP) of some countries.¹⁰

Air Pollution and Public Health. In cities of the developing world, transportation is the source of up to 80 percent of certain harmful air pollutants, including fine particulate matter, carbon monoxide, volatile organic compounds, and lead, as well as nitrous and sulfur oxides. These pollutants can lead to cardiovascular, pulmonary, and respiratory disease as well as various cancers and other illnesses. Threats from transportation-related air pollution are particularly high in developing countries, where less-refined fuels and less-efficient vehicles emit higher levels of pollutants and where a million people die every year from illnesses related to local air pollution.¹¹

These health impacts have an economic cost as well. A recent World Bank study on

Figure 4–1. Global Transport Energy Use, 1971–2005



environmental priorities and poverty reduction in Colombia estimated that urban air pollution cost the country \$698 million a year due to mortality (65 percent of total cost) and morbidity. The U.S. Federal Highway Administration estimated the total social costs of air pollution associated with U.S. motor vehicle use in 1999 at anywhere from \$30 billion to \$349 billion a year, mostly associated with premature death and illness caused by particulate matter. While improving air quality requires significant initial investment, the benefits significantly outweigh the costs. A U.S. Environmental Protection Agency study of the Clean Air Act found that between 1970 and 1990 implementation cost \$523 billion but the monetized benefits from improved environmental and public health totaled \$22.2 trillion. Improved transportation systems combined with air quality regulation could have similar benefits in other countries.¹²

Noise pollution generated by transport can also be detrimental to health and well-being, particularly if it contributes to sleep disturbance, which can lead to increased blood pressure and heart attacks. One study found that

the economic cost of noise can reach nearly 0.5 percent of GDP in the European Union.¹³

Congestion. Growth in urban population, income, vehicle fleets, and vehicle travel has in many cities choked road networks. Yet efforts to reduce congestion through expansion of vehicle capacity have been shown to only induce more car travel and increase congestion in the long run. Congestion has many costs: it increases the costs for transport of goods, decreases work productivity, significantly decreases the fuel efficiency of vehicles, increases stress, and decreases the amount of time families can spend together. The Texas Transportation Institute estimates that in 2010, commuters in the 439 U.S. metropolitan areas experienced 4.8 billion vehicle-hours of delay—resulting in 1.9 billion gallons of wasted fuel for a total cost of \$101 billion in lost productivity and fuel due to congestion. In the United Kingdom, the estimated cost of time lost in travel is equal to 1.2 percent of GDP. People living in Lima, Peru, are estimated to lose an average of four hours every day in travel, which leads to a loss of approximately \$6.2 billion, or around 10 per cent of GDP, every year.¹⁴

Social Inclusion. Transportation directly affects the places people go and the things they have access to and thus plays an integral role in determining a city's level of equity and social inclusion. The urban poor are particularly vulnerable to the costs of motorized transport while reaping fewer of the benefits because they often cannot afford a car. Without a good public transportation system, the urban poor are further marginalized by their location. This social exclusion affects many aspects of a city-dweller's life, including access to employment, health care, education, markets, and social and cultural events.

Traditional, auto-focused investments, such as highway and road expansion, tend to benefit the poor the least. Even if public transportation is available, it is often unsafe,

expensive, and slow due to congestion caused by private vehicles in mixed traffic lanes. Considerably more public road space is also allocated to car drivers, despite that mode using road space the least efficiently. While a normal bus with a maximum capacity of 50–70 passengers takes up approximately the same amount of space as only three cars with a total average capacity of six passengers, many cities still fail to allocate priority traffic lanes to buses. With 7 billion people and 800 million cars worldwide today, only a minority of people in most of the world have ready access to private motor vehicles. By investing in quality sustainable transportation and giving priority to walking, cycling, and public transport, governments increase social and economic equality and improve the lives of the poor.¹⁵

Investments that increase car dependence tend to also increase average trip lengths and to put more jobs and opportunities out of reach of the poor. In the United Kingdom, where the length of an average journey has increased by 42 percent since the 1970s, nearly half of the people in the lowest social class report lack of transportation as a barrier to employment. The poorest 20 percent of São Paulo's population spend an average of four hours per day commuting to and from work.¹⁶

Women also experience social exclusion due to transportation systems. The trips they need to make tend to be off of main public routes, making their transportation more costly in terms of time and money. Additionally, cultural and security factors may restrain women from using certain forms of transportation, such as bicycles, or from riding public transportation after dark.

Road Accidents. The motorization model is also dangerous, especially for the most vulnerable populations. Currently, more than 1.2 million people are killed and 50 million injured every year on the world's roads. Over 90 percent of these deaths occur in developing countries, even though they contain less than half

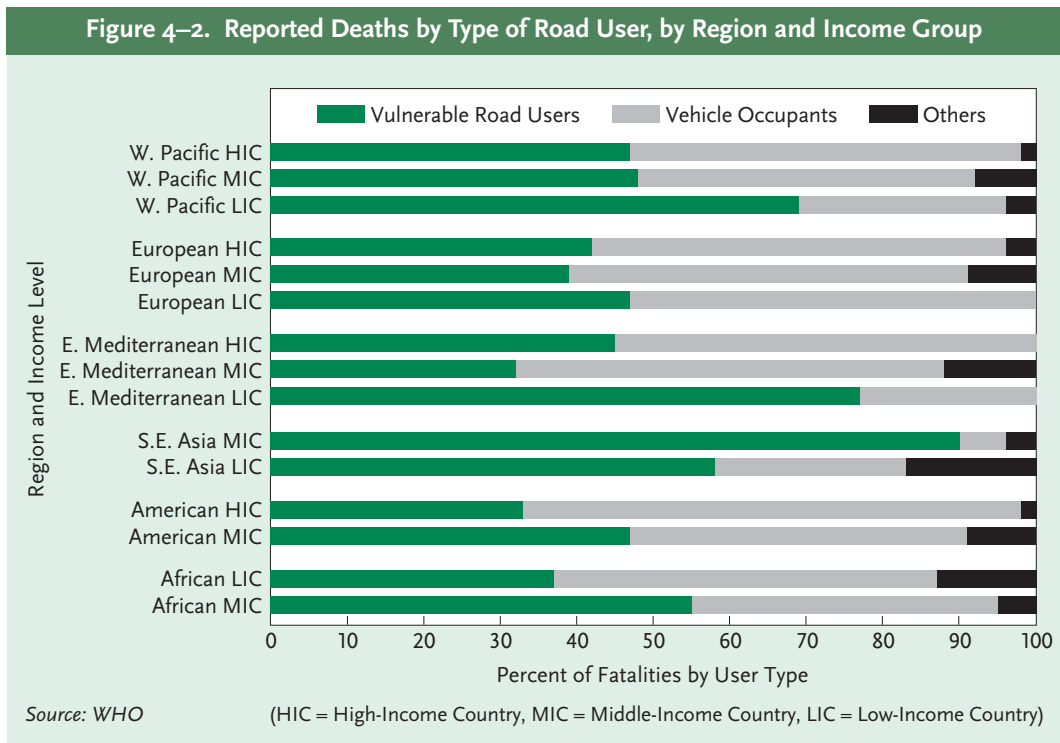
of the world’s roads. Today road accidents are the ninth leading cause of death worldwide, but by 2030 they are expected to be the fifth leading cause—greater than deaths from AIDS, lung cancer, diabetes, or violence.¹⁷

Nearly half of these deaths will be of pedestrians and cyclists killed by drivers. Figure 4–2 illustrates one way that the costs of motorization are disproportionately borne by the poorest segments of society, even though these groups often have little or no access to the mobility benefits from motorization. Vulnerable road users such as cyclists and pedestrians account for 70 percent of traffic deaths in low-income countries, 90 percent of traffic deaths in middle-income countries, and at least 35 percent of deaths even in high-income countries. It is estimated that the global cost of traffic accidents amounts to \$518 billion, representing 1–1.5 percent of GDP in low- and

middle-income countries and 2 percent of GDP in high-income countries.¹⁸

In Surabaya, Indonesia, 60 percent of the roads have no usable sidewalks, leading to increased use of motorized transport. For trips of less than 3 kilometers, 60 percent are made by motorized transport. This increases both traffic congestion and the cost to people and businesses that must make more motorized journeys. Investment in sustainable transportation systems and policy changes can make an immediate impact on traffic safety. For example, after implementing the *Transmilenio* Bus Rapid Transit system and *cyclovía* bicycle paths, Bogota, Colombia, saw traffic-related fatalities decrease by 50 percent between 1996 and 2005.¹⁹

Climate Change. The Intergovernmental Panel on Climate Change’s most recent report indicates that in order to limit climate change



to a global average of 2–2.5 degrees Celsius, global GHGs must be cut by 50–85 percent by 2050 (relative to year 2000 emission levels). Several leading climatologists warn that even greater, more immediate GHG cuts may be needed to avoid catastrophic weather events. Given current trends, however, baseline transport GHGs are currently expected to actually increase by 250 percent by 2050. Despite high-level global agreements to promote sustainable transport and reduce greenhouse gases by 5 percent, and despite improvements in sustainable transport technology, planning, and monitoring, the GHGs emitted by transportation have already increased 35 percent since the 1992 Earth Summit in Rio de Janeiro.²⁰

Transport is now the fastest-growing source of emissions, and the GHGs associated with all aspects of transportation currently account for 27 percent of global energy-related emissions, as noted earlier. Transport-sector GHG emissions are approaching 10,000 gigatons and growing fast. (See Figure 4–3.)²¹

A recent transport sector assessment by

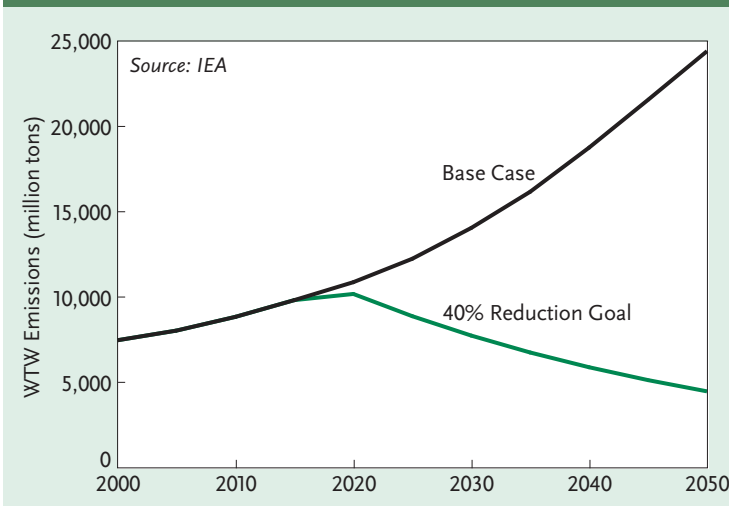
the IEA illustrated how the world could cut transport-sector GHG emissions 40 percent below 2000 levels by 2050 through vehicle and fuel technology and mode-shifting. Several high-level studies suggest that sustainable land use planning, urban design, transportation demand management, and other ways of encouraging low-carbon transport could achieve additional gains while producing net positive user cost savings for travelers. Transportation must undergo major shifts to shape the rate and pattern of motorization, the level of activity of motor vehicle use, and the character of vehicle technology and fuels if it is to contribute reasonably to achieving IPCC targets. Tech fixes alone will not solve the problem.²²

Targeting a Paradigm Shift in Transport

The good news is that the policies, plans, and technologies that make up this new sustainable transport paradigm have already been identified and proved around the world. They are known as “Avoid, Shift, Improve.” They focus

on simultaneously avoiding unnecessary motorized trips (with smarter planning, pricing, and telecommunications), shifting trips to more sustainable modes (with sound incentives, information, and investments), and improving vehicle efficiency (with cleaner fuels, better-operated networks, and vehicle technology that is better adapted to individual application environments). Examples of this include Bus Rapid Transit, bike-sharing and cycle-path networks, integrated transit and land use planning, parking limits and pricing, smart parking and car sharing, vehicle registration limits, congestion pricing,

Figure 4–3. Well-to-Wheel GHG Emissions for Baseline Scenario and IEA Goals



ing, and vehicle emission standards. They include freight logistics and road charging systems, rail modernization, and low-energy freight systems like water and rail. Box 4–1 lists some examples of the Avoid, Shift, Improve approach that have been implemented successfully and shown to reduce transportation user costs, lower emissions, and improve transport service.

These practices also bolster the economy by in many cases creating more jobs, decreasing the time and money wasted in traffic, and achieving independence from costly imported fuels. They generally decrease the local pollutants that cause respiratory illness, reduce obesity through higher activity, reduce traffic fatalities, and lower the emissions of greenhouse gases that cause climate change. When well-managed and taken to scale, sustainable transport can easily accommodate the projected mobility demand related to increases in population, employment, and trade, often at a net negative cost compared with current practices that favor costlier auto mobility.

Transportation is not only a question of energy efficiency and economics, it is an integral part of everyday human life and determines the quality of life in cities. At the same time, transport is highly dependent on the planning and design of cities. Urban development and transportation should first be planned and adapted around the physical scale, needs, and desired lifestyles of citizens—not vice versa. To aid in these efforts, the Institute for Transportation and Development Policy has developed eight principles for transport in urban life. (See Box 4–2.)²³

Despite its high societal return on investment, sustainable transport faces many barriers to wide implementation. In many countries, the financial and institutional frameworks favor rapid motorization due to specific economic interests, outdated approaches to transportation development, and the dispersal of negative costs to society-at-large instead

Box 4–1. Examples of Best Practices in Avoid-Shift-Improve Approach

Avoid Unnecessary Motorized Trips

- Vehicle registration quotas allocated through auction (Singapore)
- Congestion charging (London, Stockholm, Milan, Oslo, Bergen, Singapore)
- Emission-based road use charges for heavy goods vehicles (Germany’s national road system)
- Mixed-use, public transport-dependent development (Curitiba, Hong Kong, Stockholm)

Shift to More-Sustainable Modes

- Bus Rapid Transit (Bogota, Guangzhou, Ahmedabad, Eugene in Oregon)
- Public bike systems (Paris, Hangzhou, Shanghai, Barcelona)
- Rail-based mass transit (New York, Hong Kong, Berlin, Tokyo)
- Pedestrianization, greenways, and cycling networks (Copenhagen, Guangzhou)
- Parking management and pricing (Zurich, Paris, Tokyo, San Francisco)
- Intermodal freight system management for optimizing rail and water freight (Germany)

Improve Vehicle Efficiency

- Fuel efficiency regulation (Japan, California, European Union)
- Electric bikes (20 million+ a year produced in China)
- High-efficiency cars and trucks: hybrids, neighborhood electric vehicles, biogas buses (Stockholm)
- Time-of-day road charges (keep traffic at optimal speeds 85 percent of the time in Singapore)

of drivers. This includes domestic public finance, fuel subsidies, official development assistance (ODA) to developing countries, private financial flows, and carbon mitigation financing instruments.²⁴

Box 4–2. Principles for Transport in Urban Life

- Walk: Develop neighborhoods that promote walking
- Cycle: Make cycle networks and secure cycle parking a priority
- Connect: Create dense networks of streets and paths
- Transit: Support high-quality transit
- Mix: Plan for mixed uses
- Density: Match density and transit capacity
- Compact: Create dense regions with short commutes
- Shift: Increase mobility by regulating parking and road use

Source: See endnote 23.

In many countries, a major share of public funds for the transport sector is focused on building roads to support increasing levels of motorized traffic. Subsidies for fossil fuels also claim a significant amount of public funding. These subsidies are socially regressive: the IEA estimates that only 8 percent of the \$409 billion that the world spent in 2010 to subsidize fossil fuel consumption (about half of which is used for transport) went to the poorest 20 percent of the population. As the Global Subsidy Institute argues, “while fossil-fuel subsidies are often designed for the interests of poorer populations, they typically benefit medium- to high-income households or lead to diversion. Subsidy reform should be complemented with measures to protect poor and vulnerable groups in society.” Additionally, global fossil fuel producer subsidies are estimated to total at least \$100 billion annually. Phasing out fossil fuel subsidies would reduce global energy demand by 4.1 percent and carbon dioxide emissions by 4.7 percent by 2020.²⁵

ODA flows are also frequently directed

toward development based on the motorization model, reflecting both the requests of recipient countries as well as the interests of donor organizations. Financing is particularly directed toward high-value construction and engineering, which overvalues vehicle operating cost savings and undervalues cost-effectiveness, socioeconomic development, and environmental impacts. While some development agencies are improving their planning and transparency toward sustainable transport interventions, cost-effective low-carbon transport is still not a primary goal of assistance.

Private-sector financial flows are also directed toward the development of goods, services, and infrastructure that support the motorization model of transport development, such as motor vehicle manufacturing. One reason is the exclusion of environmental and social costs in the pricing of transport services and vehicles in most countries, which distorts market signals. Regulatory measures, such as emission standards for new vehicles, congestion taxes, carbon taxes, and vehicle registration limits, are currently inadequate in scale and scope to provide a strong signal to the contrary.

Climate mitigation financial instruments such as the GEF and the CDM currently underinvest in carbon mitigation in the transport sector. Funding levels are far from proportionate to the sector’s mitigation potential and too limited in scale to catalyze projects. Further, their accounting methodologies, which were designed around the energy sector, are difficult to apply to the transport sector. Emissions from transportation account for over a quarter of all GHG emissions and are the fastest-growing source. Yet much less than one tenth of the cumulative climate change mitigation funds available from the GEF, CDM, and Clean Investment Funds currently goes to the transportation sector, despite the fact that such investments tend to also carry huge co-benefits for local populations in terms

of cleaner air, faster travel times, less expensive travel, and more equitable mobility.²⁶

While carbon finance typically demands proof of “additionality”—that an investment would not have been made without the availability of the carbon funding—transport investments are almost always made because they produce improved access, economic development, safety, and environmental benefits, and it is carbon reduction that is at best a co-benefit of these primary investment drivers. Moreover, many of the largest impacts of transport investment are indirect, secondary, cumulative, and hard to measure with precision. Nevertheless, the Clean Technology Fund has begun investing in the public transport sector

(see Table 4–2), and the GEF has recently begun to increase transportation sector investment and take a more comprehensive approach to sustainable transport.²⁷

Multilateral development banks (MDBs) contribute large flows of capital investment to the transport sectors of developing countries. Investment in transport by the five major MDBs—the African Development Bank, Asian Development Bank (ADB), European Bank for Reconstruction and Development, Inter-American Development Bank, and World Bank—has grown significantly in the last two years, reaching nearly \$20 billion in 2010, with continued growth expected thereafter. MDB spending is driven considerably by

Table 4–2. Transport Components in the Clean Technology Fund, March 2010

Country	Investment Cost Transport Component	Total CTF Allocation	Transport CTF Allocation	Transport Components	Emission Reductions from Transport Component
	(million dollars)				(MtCO _{2eq} per year)
Egypt	865	300	100	BRT; light rail transit and rail links; clean technology bus	1.5
Morocco	800	150	30	BRT; tramway; light rail	0.54
Mexico	2,400	500	200	Modal shift to low-carbon alternatives (BRT); promotion of low-carbon bus technology; capacity building	2.0
Thailand	1,267	300	70	BRT corridors	1.16
Philippines	350	250	50	BRT Manila–Cebu; institutional development	0.6–0.8
Vietnam	1,150	250	50	Enhancement of urban rail	1.3
Colombia	2,425	150	100	Implementation of integrated public transit systems; scrapping of old buses; low-carbon bus technologies in transit systems	2.8
Total	9,257	1,900	600		9.9–10.1

Source: See endnote 27.

the types of projects being requested by their member developing countries.²⁸

Historically, from the 1970s to 2000, MDB transport sector investment went almost exclusively to building roads for freight and motorized passenger transport. Over the last decade a new approach has taken shape, with action plans, strategic initiatives, and policies on sustainable transport being put in place in different MDBs. Of the \$64 billion the MDBs invested in the transport sector from 2006 to 2010, a combined total investment of about \$6–7 billion was approved specifically for sustainable transport modes (inclusive of all rail, public transport, non-motorized transport, and demand management investments). It is expected that in the coming years the portion of MDB funding for road construction will decrease while funding for urban transport, railways, traffic management, and safety will increase.²⁹

For example, ADB's 2010 Sustainable Transport Initiative Operational Plan sets a target of investing 30 percent of its transport portfolio in urban transport by 2020 and 20 percent in railways, while reducing road investment to about 42 percent of its portfolio. Within its road operations, ADB—like other MDBs—is emphasizing improved operations and maintenance and rural roads rather than new motorway construction. And recently MDBs have hired more urban transport specialists, railways specialists, and the like rather than traditional road engineers. A joint MDB working group is working toward a common methodology for assessing the GHG impacts of projects they fund. There are discussions between MDBs on road safety, aiming to contribute to the Moscow Declaration on Road Safety and the Global Decade of Action in a harmonized way.³⁰

These are welcome changes, but for the MDBs to successfully claim a fundamental reorientation of their transport operations toward sustainable, low-carbon transport they

will need to commit more resources in order to create a significant shift to sustainable transport. MDBs will also need to put in place clear criteria for what counts as sustainable transport and set targets for the next decade in consultation with key stakeholders. For instance, not all urban transport is necessarily sustainable. Some types of road investments support sustainability, such as maintenance of existing roads, bicyclist and pedestrian safety improvements, and better traffic management and transit operations. MDBs need to monitor and report publicly on their investments and the impacts of them as well as intensify their efforts to build institutional capacity and partnerships with NGOs, U.N. agencies, and other stakeholders involved with sustainable transport.

Committing to Achieve Sustainable Transport

Despite a long-standing consensus on and understanding of the need for sustainable transport, the lack of clear, transport-specific commitments from the most important stakeholders has largely translated into inaction. New commitments by national governments, MDBs, and other stakeholders to adopt specific sustainable transport goals—with progress measured through appropriate indicators—could help shift the global transport sector to an economically, socially, and environmentally sustainable path.

As a part of any international sustainable development agreements, nations should adopt a transport-specific sustainable development goal or other type of global goal with three targets and appropriate indicators to measure progress toward reducing pollution, facilitating economic development, and promoting equitable transportation:

- ensure global transport GHG emissions and transport sector fossil fuel consumption peak by 2020 and then are cut by 2050 by at least 40 percent below 2005 levels, while

ensuring that transport contributes to timely attainment of healthful air quality;

- support the Decade of Action for Road Safety (2011–20) and cut traffic-related deaths in half by 2025; and
- ensure universal access to sustainable transport through support for safe, affordable public transport and safe, attractive facilities for walking and bicycling.³¹

The United Nations should enhance its agency coordination around critical sustainable transport tasks to improve effectiveness in global agenda setting, capacity building, data collection, and cooperation between regions and sectors. It should consider the establishment of a U.N. Transport coordination body to improve its capacity to organize transport sector efforts.

Carbon finance funds, including any future Green Climate Fund, should create a transport-specific financing window to facilitate investment in the sector. This would include transport funding targets commensurate with the sector's share of emissions, adapted impact accounting methodologies without overly restrictive data and modeling requirements, and support for local data collection, monitoring, and institutional development.

National governments, MDBs, and climate funds must also continue to ramp up their engagement with the private sector through public-private partnerships. And they can send the appropriate regulatory signals by working to eliminate subsidies for fossil-fueled vehicles and fossil fuels, adopting polluter pays principles. Fostering multistakeholder partnerships and sharing data with NGOs, civil society, and academia is a key way to build a dynamic and successful shift to sustainable transport.



Wu Wenbin, ITDP

A formerly congested 10-lane street converted into a multimodal corridor in Guangzhou, China

Opportunities for Shifting to Sustainability

The Rio+20 Conference on Sustainable Development presents an important opportunity for the world to make the specific commitments needed to shift the transport sector to a sustainable path. Transport-specific goals as a part of any international agreement will set the stage for global action in this sector and will help foster implementation of sustainable transport even at the neighborhood and city level. These goals can and should continue to guide important initiatives like the Nationally Appropriate Mitigation Actions on climate change submitted by developing countries.

What kind of city will Danica Camacho's children be born into? Will they be able to cross the street safely and breathe healthful air? Will they grow up to get jobs that pay a reasonable wage without wasting hours stuck in traffic? These will be determined by the goals set today and the choices governments make about investing in and managing transportation for tomorrow.

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