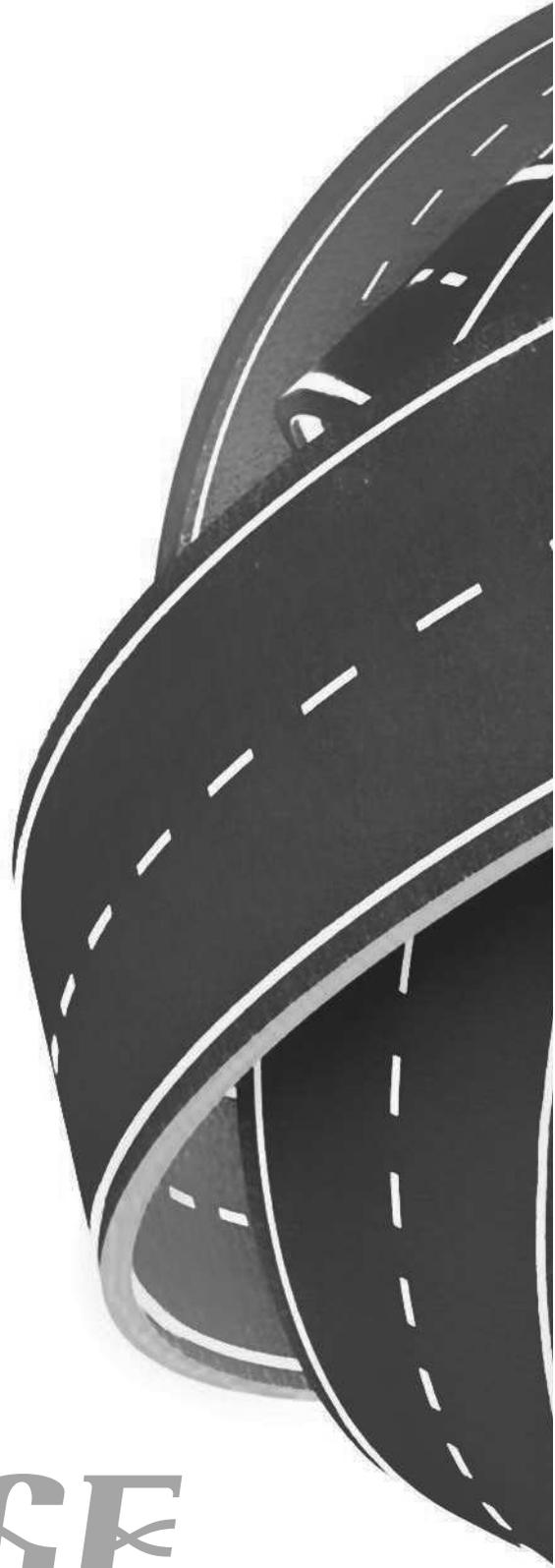


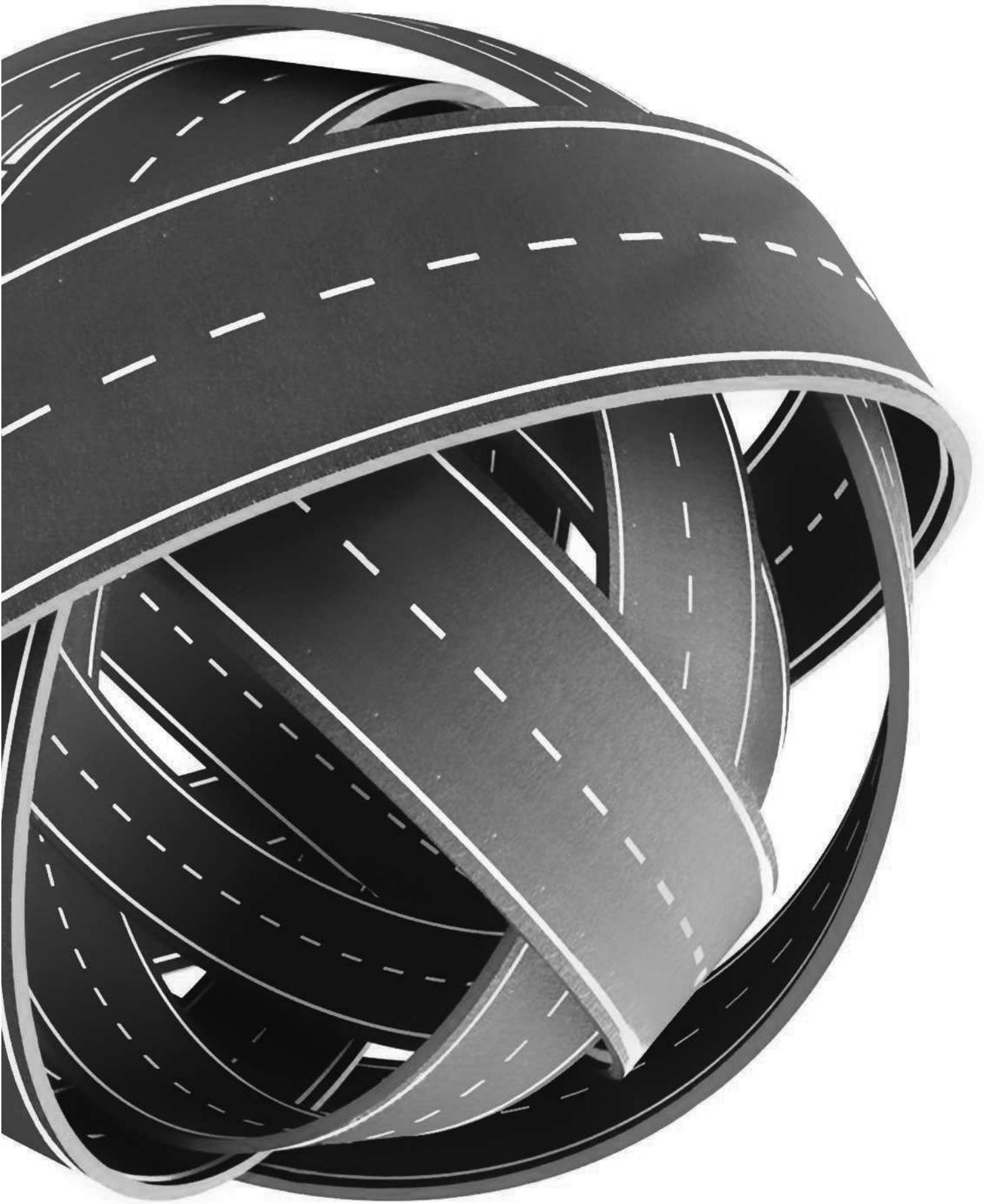


MOBILITY

The history of transport is the story of how we, as humans have created and innovated increasingly smart and streamlined ways to get from here, to there. Carel Snyman, General Manager of SANEDI's Cleaner Mobility Programme take a look at how our own mobility has jeopardised our future.

**A
TIME
FOR
CHANGE**





Starting on foot our resourceful imaginations have automated transport taking us from horse drawn journeys to wheeled and winged adventures across the globe. Building ports and laying railway tracks and highways, we've expanded a network of connection across towns, cities and countries.

As the world becomes increasingly urban, densely populated areas will face dramatic and seemingly intractable transportation issues. 50% of the global population already lives in cities and, according to the United Nations, that number will approach 70% in the next 40 years.

If current trends continue, people's reliance on cars will only increase, particularly in emerging markets. As the growing population becomes more affluent, the number of vehicles on the road worldwide is projected to triple, to as much as 3 billion by 2035, according to economic forecasters Global Insight. It is in developing countries that the greatest growth rates in motor vehicles have been seen in the past few years and are expected in the future, primarily in urban areas.

And as the traffic jams worsen, much more than time will be lost. Vehicle congestion typically erodes a country's GDP by 1-3%. And the pollution, noise, accidents, and altering of the landscape attributable to cars and roads may leave long-term health and psychological scars on local communities.

Sadly, in our hunger for newer and faster we have not always considered the environmental impact of our transit choices and what once seemed so smart is having an increasingly negative impact on our health and the health of our planet. Instead of moving us faster our transport systems are slowing us down and sometimes even reversing our progress. The streets that once connected us are now congested sites of anger and frustration. Our cool wheeled inventions no longer providing us with safe, cost-effective, efficient means to get from A to B.

Congestion is perhaps the most visible manifestation of the failures in urban transportation planning, and its costs are significant. For example, in Bangkok alone, yearly congestion cost estimates vary from \$272m to more than \$1b according to the Road Management & Engineering Journal of TranSafety, Inc.

The rapid, unplanned, and uncoordinated growth of cities has dispersed their populations, with more

'Adding highway lanes to deal with traffic congestion is like loosening your belt to cure obesity.'

Lewis Mumford,
The Roaring Traffic's Boom

people moving from the city centres to their urban periphery. This dispersion reduces access to public transportation and makes the cost of building and maintaining new public transportation systems prohibitive. Overall, non-motorized modes of transportation even in the urban areas of developing countries can only remain viable options if there is a suitably high population density and a mixed land use development pattern.

The environmental and social impacts of these trends are significant because they are directly related to quality of life and urban productivity. These impacts include congestion, energy consumption, air pollution, and traffic accidents.

In addition to the huge amounts of energy transportation consumes, motor vehicles produce more air pollution than any other human activity. In city centres, where traffic congestion levels are high, traffic can be responsible for as much as 90-95% of the ambient carbon monoxide levels, 80-90% of nitrogen oxides and hydrocarbons, and a large portion of the particulates, posing a major threat to human health and natural resources. The transportation sector is the most rapidly growing source of greenhouse gas emissions. (Urban Transportation in Developing Countries: Trends, Impacts, and Potential Systemic Strategies)

Due to our choices, of energy carriers (fuels like petrol, diesel, etc) and vehicles technologies (internal combustion engines) to do the transportation work, the world is facing challenges in terms of the energy





supply and exhaust gasses released into the air. In terms of energy supply, fluctuating prices and availability of the primary energy (oil) have been issues that led to conflict in the past. The toxicity and environmental damage of the exhaust gases have led to laws that aim to clean the combustion process as well as limiting the release of the emissions.

This led to changes in the specification of the combustion engine, the exhaust system, and the fuel specification. All of these resulting in higher costs of vehicles as well as their fuels.

Something has to be done. There's no need to throw out all our smart thinking or our smart vehicles. What we need to do is re-think how best to use these to ensure safe, speedy and affordable transport for all. Concentrating on getting the mix right and giving priority to environmentally friendly options, together we can reclaim our streets as sites of community and connection.

The need to find and implement alternatives to finite fossil fuels, end-use technologies that are wasting energy and produce harmful emissions is becoming more important. The mode of transport that stands out as the "weak link" in terms of energy consumption, emissions produced and the main cause of city congestion, is the century old personal car.

Due to the internal combustion engine technology used for propulsion, most of the fuel in the tank (64%) ends up in heat and only

about 15% in kilometres. A process of combustion that releases harmful exhaust gases to the urban atmosphere – an unsustainable practice that should be discontinued.

Typically most cars, designed to carry up to an average of four passengers, carries only a single passenger into the city during the commuting times. This means that the road space is wasted and badly utilized in terms of people moved per area of road. This compares badly with public transport infrastructure or the use of smaller modes such as a bicycle.

So let us re-invent the way we move. The focus is on the daily commute – that is where most damage is done in terms of eroding our earnings from mineral exports paying for imported fossil fuels, poisoning the urban air that we breath and disrupting the CO₂ balance in the world contributing to climate change.

Think before you drive, rather ride on public transport, change and improve on your mobility habits. You can right-size your ride, share your ride and power your ride with sustainable energy sources. This means your own human energy or renewable energies from the sun, wind, biomass waste and others.

Do not expect change if you continue to do the same things that got you in this mess. Realise that you are part of the problem. You are not in traffic – you are traffic. Do not demand the change – be part of the change. Make it happen. **SG**