

# Promoting smart travel through tax policy

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**Abstract:** This article discusses the need for the Australian Government to explore smart commuting policies due to the impact of using passenger motor vehicles on negative transport externalities, such as congestion, greenhouse gas emissions, health and safety, energy security and economic prosperity. The lack of tax incentives and the convenience of parking facilities provided by employers are barriers to the adoption of travel smart choices. This article explores the tax constraints that hinder smart commuting and examines how a subsidy for smart commuting can be provided through tax policy changes, especially the fringe benefits tax. In the authors' opinion, the Australian Government should follow the example of other countries that are using taxation as a tool to promote alternative travelling initiatives, such as the transit program in the United States, the Cycle to Work Alliance in the United Kingdom, and the income tax exemption in Ireland.

## The need for smart commuting

There is no doubt that there is a need for the Australian Government to promote policies that encourage smart commuting whereby Australians are encouraged to use public transport, walking and cycling for commuting rather than personal passenger motor vehicles. The reason for this is that the increase in the motor vehicle population, especially passenger motor vehicles, is unsustainable. The motor car population in Australia has increased at an average annual growth of 4%, from 1.4 million in 1955 to 13 million in 2013, and 76% of motor vehicles in 2013 were passenger motor vehicles.<sup>1</sup> This growth in passenger motor vehicle population is staggering, even after taking into consideration the growth in the Australian population. This is evident when the passenger motor vehicle population is measured against the population data. The Australian Bureau of Statistics (ABS) motor vehicle census data state that, in 1955, there were 153 passenger vehicles per 1,000 people in Australia, compared with 568 passenger vehicles per 1,000 people in 2013, an increase of 371%.<sup>1</sup> Without any policy changes that promote smart commuting, this trend is likely to get worse as not only will the road transport activity more than double by 2050,<sup>2</sup> but the Australian population is projected to grow and change over the next 40 years.<sup>3</sup> Passenger motor vehicles have been the main form of transportation to get to work or full-time study. In 2012, 71% of Australian commuters used passenger motor vehicles to travel to work or

full-time study, 16% used public transport, 4% walked and 2% cycled.<sup>1</sup> Passenger motor vehicles were also the main mode of transportation for other travel purposes, such as shopping or visiting friends and family, ie 88% in 2012.<sup>1</sup> The ABS survey of the reason why Australians did not choose public transport to travel to work or full-time study revealed the following main reasons: lack of public transport services (53%); and preferred motor vehicle for convenience, comfort or privacy (28%).<sup>1</sup> Before examining how taxation can be used as a tool to promote alternative travelling initiatives, the next part of this article examines the cost and impact this has on negative transport externalities.

## The need to minimise negative transport externalities

The use of passenger motor vehicles for transportation creates a cost to Australian society arising from congestion, greenhouse gas (GHG) emissions, health and safety, and also has an impact on the preservation of energy and the promotion of economic prosperity.

The growth and use of motor vehicles in Australia causes congestion on our limited road network and many studies have noted the increase in economic and social costs of congestion on Australian roads.<sup>4</sup> The Bureau of Transport and Regional Economics estimated that the cost of congestion in 2005 across eight state and territory capital cities was approximately \$9.4b, made up of approximately \$3.4b in private time costs, \$3.6b in business time costs, \$1.2b in extra

vehicle operating costs, and \$1.1b in extra air pollution damage costs.<sup>5</sup> This cost was estimated to have risen to more than \$14.2b in 2012,<sup>6</sup> an increase of 51% over seven years. The national cost of congestion is further expected to increase to \$20.4b by 2020.<sup>6</sup> A recent inquiry into microeconomic reform in Western Australia reported on Perth's rapidly increasing traffic congestion and also the impact congestion has on alternative modes of transport, such as the reliability and average speed of bus services, and the increase in accidents involving cyclists and pedestrians.<sup>7</sup> The report of this inquiry also confirmed that the answer to reducing congestion is not to widen existing roads or build new ones, as this would divert funding from much-needed public transport investment.<sup>7</sup>

There is also a need to reduce GHG emissions from road transport. The Australian Government has projected that emissions from road transport would increase by 24% over the period from 2000 to 2020.<sup>8</sup> Table 1 shows the

**Table 1: Projected emissions from transport**

Year	MtCO <sub>2</sub> e <sup>9</sup>
1990	62
2000	75
2020	99
2030	106

Source: Australian Government, Department of the Environment.<sup>10</sup>

projected increase in emission from transport to 2030.

*Australia's Emissions projections 2012* report states that the transport sector is the third largest emitting sector in Australia.<sup>11</sup> Within the transport sector, road transport contributed 84% of all transport emissions in 2012,<sup>12</sup> caused by the continued growth in passenger vehicle numbers, and greater consumption of diesel fuel by heavy vehicle users.<sup>13</sup>

The Australian Government has established an emissions reduction target of 5% below 2000 levels by 2020,<sup>14</sup> although this target is currently under review. To achieve this target, in November 2014, the Australian Government established the Emissions Reduction Fund (ERF).<sup>15</sup> The ERF is a direct financial assistance mechanism that encourages the reduction of GHG emissions in all economic sectors. Incentives to reduce GHG emissions are created by the issuing of Australian carbon credit units to entities in relation to expected emissions savings (per tonne) arising from eligible projects. Entities that can reduce emissions from transport activities can benefit from the ERF through the *Carbon Credits (Carbon Farming Initiative) Methodology (Transport) Determination 2014*. However, at the first ERF auction held on 15 to 16 April 2015, the transport sector only committed to abate 0.15 MtCO<sub>2</sub>e, compared with other sectors that committed to abate 46.8 MtCO<sub>2</sub>e.<sup>16</sup> Thus, it is doubtful whether the establishment of the ERF will succeed in reducing GHG from the transport sector.

The Australian Government is also committed to improving Australia's air quality. In this respect, a discussion paper was released in March 2015 entitled *Working towards a national clean air agreement* and the Australian environment ministers have agreed to work towards establishing a National Clean Air Agreement by 1 July 2016.<sup>17</sup> Emissions from vehicles have an impact on the quality of air as particulate matter is released into the atmosphere via the exhaust due to the burning of fossil fuels. The *Working towards a national clean air agreement* report states that road transport is an important source of particulate matter and that the health costs arising from PM<sub>10</sub> emissions from road transport in Australia have been estimated to be \$2.7b per year.<sup>19</sup> Thus, policy changes are urgently required to reduce emissions from road transport, and smart commuting policies, as reflected

in this article, can assist the government in achieving this task.

Health and safety costs can arise as a result of using motor vehicles as a mode of transportation, resulting from motor vehicle accidents, congestion, air pollution or just physical inactivity. The Australian Conservation Foundation states that, in 2007, the social cost of road crashes was over \$18b,<sup>20</sup> and physical inactivity was estimated to cost the Australian community \$10b per year in direct health care costs.<sup>21</sup>

“  
*Road vehicle crashes cost us more than \$18b every year, kill over 1,600 Australians, and seriously injure 30,000 more.*”

Motor vehicles are a major contributor of ambient air pollution. A study undertaken by the Australian Government Bureau of Transport and Regional Economics in 2005 on the economic costs of the health impacts of transport emissions estimated that, in 2000-01, motor vehicles contributed 47% of nitrogen oxide levels in Perth and 82% in south-east Queensland. Motor vehicles also contributed an estimated 60% of carbon monoxide levels for all capital cities in Australia other than Darwin.<sup>22</sup> The study estimated that, in 2000, ambient air pollution from motor vehicles accounted for between 900 and 4,500 morbidity or illness cases arising from cardiovascular, respiratory diseases and bronchitis, and between 900 and 2,000 early deaths, with an estimated economic cost ranging from \$0.4b to \$1.2b.<sup>23</sup> The study also measured the mortality effect, being the extent of premature death due to air pollution, and estimated that life expectancy lost due to premature mortality can range from a few months to 10 years, with an estimated economic cost of between \$1.1b and \$2.6b.<sup>23</sup>

The use of motor vehicles for transportation has an impact on Australia's oil security. Australia has limited resources of crude

oil, ie seven to 10 years of estimated crude oil resources to production.<sup>24</sup> Australia imports about 80% of the crude oil and the oil products it requires<sup>25</sup> and the transport sector accounts for about 70% of the total use of oil.<sup>26</sup> Examination of fuel consumption patterns within the road transport sector reveals that passenger motor vehicles consume the most. In 2012, registered motor vehicles in Australia consumed 31,839 million litres of fuel. Of the total fuel consumed by motor vehicles in 2012, 57.3% was petrol and 37.7% was diesel. Passenger vehicles consumed 18,510 million litres of fuel in 2012, of which 84.8% (15,696 million litres) was petrol.<sup>27</sup> In January 2014, there were 17.6 million motor vehicles registered in Australia, 79% of which were petrol driven and 19% were diesel driven.

Since Australia has limited oil reserves and our road transport sector is heavily dependent on imported oil, there are concerns about oil security. A report commissioned by the NRMA in 2013 questioned the Australian Government's response to Australia's fuel security. According to the NRMA report, if Australia's fuel supply chain were to be disrupted, the road transport network would be crippled within weeks.<sup>28</sup> Australia is not currently complying with its commitment to the 1974 Agreement on an International Energy Program (Treaty) to hold a required amount of oil stock for emergency action.<sup>29</sup> The Australian Government's concern about the value of developing fuel reserves to meet Australia's international oil security obligations and augment domestic security can be observed in the *Energy white paper*.<sup>30</sup>

The debate on oil security and the vulnerability of the transport sector in the event that the supply chain is disrupted reveals that a smart commuting government policy with reduced reliance on oil would certainly be in the right direction and satisfy Australia's commitment to the global community to preserve energy.

The need for smart commuting can be linked to Australia's commitment to sustainability and the precautionary principles laid down by the global community through United Nation (UN) resolutions and declarations. The key message from the UN's Brundtland Report is sustainable development, defined as "development that meets the needs of

the present without compromising the ability of future generations to meet their own needs".<sup>31</sup> The precautionary principle was enunciated at the 1992 UN Earth Summit held in Rio de Janeiro.<sup>32</sup> Smart commuting can assist in preserving the non-renewable resources of the earth for future generations and protecting the environment through reduced emissions. Passenger motor vehicles used for personal transportation are considered expensive in terms of energy use. Buses and trains are far more energy efficient than a personal passenger motor vehicle. Newman and Kenworthy note that a fully loaded electric train is five times more energy efficient than a car.<sup>33</sup> The Australian Government should be adopting the sustainability and precautionary principles or approaches proposed and declared by the Brundtland Commission and the Rio Declaration discussed above by promoting travel smart choices.

It is time for the Australian Government to make changes to promote smart commuting, especially policies that encourage the use of public transport.<sup>34</sup> In this respect, the Australian Government should review its fiscal policies in order to promote smart commuting. Governments in many countries heavily subsidise public transport services, for example, the United States subsidises up to 89% of the operating costs of some rail and bus services.<sup>35</sup> The subsidy to encourage the use of public transport can be provided directly, or through tax policy design, such as the fringe benefits tax (FBT). A subsidy to encourage the use of public transport is justified as a subsidy increases the economies of scale. Parry and Small argue that subsidies are required to cover some of the fixed costs of providing a public transport service to reduce the deficit caused by pricing public transport at a marginal cost and also due to the "Mohring effect". The Mohring effect implies that waiting time has a cost and with an increase in public transport frequency and routes, waiting time decreases, thereby increasing the demand for public transport.<sup>35</sup> A subsidy to increase the use of public transport is also justified as it reduces the negative transport externalities (discussed above).

The next part of this article explores the tax constraints that hinder smart commuting and how a subsidy for smart commuting can be provided through tax policy changes, especially the FBT.

## Tax constraints and tax policy changes for smart commuting

Some employers in Australia are taking the initiative to promote travel smart policies within their organisations. One such employer is the Australian Government Defence Force, which has introduced a public transport ticket or bicycle advance scheme in order to encourage employees to travel to and from work using modes of transport that minimise the impact on the environment. The strong desire for employers to provide or subsidise public transport tickets and provide bicycles and reward schemes to encourage travel mode shift was revealed by a small survey that was carried out by the authors of this article on the attendees of a TravelSmart<sup>36</sup> seminar organised by the Department of Transport in Perth in October 2014. The survey was returned by 22 attendees, 12 of whom were employers from government departments, five from not-for-profit organisations, and the rest from private businesses and other types of organisations. Most of the attendees were managers or coordinators involved with travel or parking within their organisation. The survey revealed the following barriers to implementing travel smart initiatives: lack of tax incentives; convenience of parking facilities provided by employers; and lack of cycling infrastructure and safety issues relating to cycling.

The design of our tax laws should encourage both employers and employees to make the travel mode shift from driving to using public transport or other modes of transport, such as cycling. A study undertaken in the US concludes that an employer-based tax incentive is one of the best ways to promote public transport use for employees due to their ability to directly offset the motor vehicle and parking subsidy impacts already in place at most workplaces.<sup>37</sup> In the US, tax-free employer-provided benefits for public transport were first established and embraced by employers to counter the widely available employer-provided free or subsidised parking.

The current design of the Australian tax laws, especially the FBT, encourages the use of a car to travel from home to work and provides little or no tax concessions for the use of other modes of transport, such as public transport or bicycles.<sup>38</sup> However, the current design of our tax laws is heavily costing Australians in terms of congestion, health and other environmental

costs as discussed above. It is time for the Australian Government to make changes to the FBT legislation and other income tax legislation, and either reduce the concessions for cars and car parking, or introduce concessions to encourage the use of public transport to travel to and from home/work and introduce cycle to work schemes as discussed below.

## Subsidies for cars and car parking

Although travel to and from work is considered private under s 25-100 of the *Income Tax Assessment Act 1997* (Cth)<sup>39</sup> and is therefore not tax deductible for an employee, when an employee uses a motor vehicle that has been provided by the employer to travel to and from work, depending on the salary sacrifice arrangement, the employer or the employee receives an indirect tax benefit as the statutory formula method used under the FBT legislation does not differentiate between private and business travel. Prior to the changes made in the May 2011 Budget when the statutory formula for car fringe benefits was amended to a single statutory rate of 20%, regardless of the kilometres travelled, the concession was even greater as the assumption was that business kilometres increased with the total kilometres driven.<sup>40</sup> This encouraged employees to drive more, even though the extra driven mileage may have related to private use. The estimated cost of this concession was \$1,140m for year 2010.<sup>41</sup> The Australasian Railway Association submission to the Australian Parliament report stated the discrepancy between the FBT applied to business motor vehicles versus public transport as follows:<sup>42</sup>

"The FBT applying to motor cars as a proportion of salary packages is approximately 10 per cent of the vehicle purchase price. The FBT applying to a public transport ticket is approximately 95 per cent of the ticket price. This policy creates a significant disincentive for companies to include public transport fares in salary packages and encourage greater use of company cars for commuter use."

Even with the changes in the statutory formula for car fringe benefits, there is still a concessional tax treatment as the FBT rate is effectively reduced from 46.5% to 20% and this encourages an employee to take a car as part of their remuneration package, when compared with other modes of transport, such as a travel pass for public transport or a bicycle, no such concession applies.

In comparison, if an employer pays or reimburses an employee's public transport fare, this will give rise to an expense payment fringe benefit and the taxable value will be the amount of payment or reimbursement.<sup>43</sup> On the other hand, if an employer pays a travel allowance to subsidise public transport fares, the employee will pay income tax on the amount received.<sup>44</sup> If an employer such as the Defence Force provides its employees with an advance to cover the upfront cost of an annual or multiple use public transport ticket to travel to work or the purchase of a bicycle, this gives rise to a loan fringe benefit and the taxable value determined is the prevailing notional interest rate reduced by the interest rate paid.<sup>45</sup> If the employer purchases a bicycle from a third party and provides it to an employee for using to travel to work, this will give rise to a property fringe benefit and the external benefit would be valued at the arms' length cost to the provider to acquire the property, reduced by any amount that the recipient has paid to acquire the property.<sup>46</sup> The FBT legislation does not encourage regular assistance to shift to public transport use other than through a one-off minor and infrequent benefit exemption up to a value of \$300 in a year.<sup>47</sup>

The FBT legislation also provides concessional treatment for car parking. The provision of car parking facilities at the employer's premises only gives rise to an FBT liability if there is a commercial parking station within one kilometre of the employer's premises that charges more than the parking threshold. Also, the car parking FBT liability is reduced if the employee parks in the employer's car park for less than four hours a day or the employer's business turnover is less than \$10m and the employer's car park is not a commercial parking station. The employer can reduce the cost of its FBT liability for car parking through a salary sacrifice arrangement with the employee or the employee makes a payment to the employer to the extent of the taxable value. By providing a car parking facility, the employer is making it very convenient to choose a car to travel from home to work or home to a place of study. To promote smart travel through tax policy, the Australian Government has to either reduce the FBT concessions on the provision of a car and car parking or introduce

concessional FBT treatment for the use of public transport or bicycles to work.

### The tax design criteria for a public transport travel concession

It is necessary to examine the design criteria that the Australian Government should consider in order to introduce tax concessions to achieve a shift from driving to using public transport. A study undertaken in the US concludes that an employer-based tax incentive is one of the best ways to promote public transport use for employees due to their ability to directly offset the motor vehicle and parking subsidy impacts already in place at most workplaces.<sup>48</sup> A study undertaken by the NSW Ministry of Transport<sup>49</sup> on tax incentives for public transport use states that once an employer-provided car has been salary packaged, there is little incentive for employees to choose public transport to travel to work. Thus, a tax incentive that requires some influence through the employers, such as an FBT exemption, is likely to have a greater chance of success than other forms of tax incentives, such as a tax deduction or a rebate.

“*Employer-sponsored incentives have been more successful in achieving a modal shift from private to public transport.*”

A tax deduction against personal tax can be granted as an incentive to use public transport. However, this would not be an efficient incentive to encourage a modal shift from car use to public transport in respect of home to work travel since it would apply to all users, including the ones that are already using public transport. Also, the deduction would only be available at the end of the tax year and therefore there is no immediate incentive to shift to the use of public transport. Moreover, a tax deduction would benefit employees on a higher tax bracket more

than those on a lower tax bracket. To overcome this inequity, a tax rebate against personal income tax could be considered. However, a rebate will also suffer the same inefficiencies as a tax deduction. Thus, some level of FBT exemption when the employer pays for all or part of the public transport fares is more likely to encourage employees who are currently driving to work to shift to the use of public transport. The instant reduction in the cost of public transport fares would increase the demand for public transport. A study conducted on Melbourne's transport demand reported that a 20% decrease in price would increase the demand for public transport by 42%.<sup>50</sup>

Due to budgetary reasons, a total exemption from FBT for public transport fares may not be feasible; in which case, the government could apply the FBT rate for salary packaged motor vehicles and reduce the FBT on employer-provided public transport fares from 46.5% to 20%. The government could also put a cap on the maximum public transport benefit that an employer can provide to each employee. The budget implications would then depend on the number of employers that initiate and offer their employees the public transport programs and the rate at which the employees accept the offer.<sup>51</sup> United States Government legislation permits employers to pay up to a maximum of US\$130 per month for employees to commute via transit/vanpool as a tax-free fringe benefit. If the employer had paid that amount as salary, the employer would have incurred a payroll tax liability and the employee would have had to pay both federal and state income taxes. This amounts to an effective increase in after-tax income of US\$1,260 per annum. In addition, if an employee in the US has to park at a train station to catch public transport, the employee can also receive a qualified parking benefit of up to US\$250 per month.<sup>52</sup>

The Australian Government can learn from the US experience which spans more than 30 years in designing and implementing the taxation policy to provide an FBT exemption when employers subsidise public transport fares. The US experience shows that employers may be reluctant to embrace the FBT exemption if it is an administrative burden on the employer.<sup>53</sup> In 1984, a tax benefit was introduced in the US to permit employers to grant an employer subsidy to a maximum of

\$15 per month per employee for public transport passes. The employers had arrangements with public transport agencies whereby the employers purchased the monthly passes and sold them to their employees at a discount. However, this arrangement was administratively complex for employers as they became selling agents for transport companies. Moreover, employers had to cater for the varied travel circumstances of their employees. In 1987, the voucher plan was implemented and was more successful for smaller employers than transport passes. The voucher plan had administrative advantages for employers as the employer could give a voucher to its employees, who could then redeem them when purchasing public transport fares. Unlike the monthly transport passes that required a mode shift to regular public transport use, the voucher plan encouraged occasional use of public transport, thereby slowly converting non-users of public transport to occasional users.

Larger US companies devised “online/at home” transit programs, whereby an online program permitted employees to specify their travel needs and a third party administrator would provide the employer with a “payroll file” tailored to the employer’s needs. Third party administrators are becoming popular in the US as new online employer programs are emerging that meet the needs of larger employers operating in multi-locations.<sup>54</sup>

### The tax design criteria for a cycle to work scheme

There is a growing demand for support from the Australian Government for cycle to work schemes.<sup>55</sup> Up to 80% of the respondents of a survey conducted by the Heart Foundation and Cycling Promotion Fund supported the implementation of a government financial incentive to get more people to ride to work.<sup>56</sup> Many countries, such as the United Kingdom, France, the Netherlands, Denmark, Germany and Belgium, provide financial incentives to encourage cycling to work and these incentives broadly fall into three categories: a direct subsidy paid to the employee based on a set amount per kilometre; an indirect subsidy whereby the employer receives a refund to support an employee’s cost of cycling to work; or a tax deduction for the purchase of a bicycle.<sup>57</sup>

Obtaining a direct subsidy as a financial incentive to motivate workers to ride

to work was preferred by 70% of the respondents of the Heart Foundation Survey.<sup>58</sup> However, research indicates that a direct subsidy may be more effective if it is combined with the removal of free or cheap parking.<sup>59</sup> This was also demonstrated in an experiment carried out by the French Government from June to November 2014 where about 8,200 employees of 18 voluntary organisations were paid a €25 per kilometre cycling allowance for cycling to work. The results were not very promising as only 419 people agreed to ride to work at the end of the trial.<sup>60</sup>

Many European countries provide an indirect subsidy to encourage cycling to work. In Belgium, employers can pay a tax-free allowance of €0.21 per kilometre of cycling up to a maximum of 15 kilometres per day and the employer receives a tax refund for the amount paid.<sup>61</sup> The Belgian scheme has been successful as there was an increase of 48% in the number of beneficiaries from this scheme, from 140,636 in 2006 to 270,728 in 2010, and the respective cost of the incentives was €21,683,357 in 2006 compared with €43,407,528 in 2010.<sup>61</sup> Employers in the Netherlands can also pay a tax-free mileage allowance to their employees of €0.15 per kilometre per day of cycling to work. Similarly, the UK Government allows employers to pay 20 pence per mile tax-free to employees who use their own bicycles for qualifying journeys.<sup>62</sup> An indirect subsidy can only be effective if an employee has access to a bicycle. The Heart Foundation survey revealed that one in eleven respondents did not ride to work due to not having access to a bicycle.<sup>63</sup> The UK Government has recognised this by introducing the cycle to work scheme in the *1999 Finance Act* (UK).

The *1999 Finance Act* provides an annual tax exemption when employers loan bicycles and cycling safety equipment to employees, where the ownership of the bicycle remains with the employer and the employee mainly uses it for qualifying journeys, being journeys from home to work or between one workplace and another. Employees can salary sacrifice this benefit and receive the benefit in kind free of tax and national insurance contribution. From the employer’s point of view, the cost of the bicycles and cycling safety equipment is treated as capital expenditure qualifying for either a 100% annual investment allowance or a

writing-down allowance. At the end of the loan period, the employee may be able to purchase the bicycle at market value from the employer.

The cycle to work scheme is the second most popular salary sacrifice employee benefit in the UK.<sup>64</sup> A behavioural impact analysis carried out on the Cycle to Work Alliance in the UK in February 2011 revealed that 87% of the respondents noticed a health benefit from cycling to work and 84% of users believed the scheme was an important and easy way to keep fit.<sup>65</sup> Ireland has also introduced an exemption from income tax when an employer provides a bicycle or bicycle safety equipment to its employee to use for qualifying work-related journeys.<sup>66</sup>

Unlike the European policies, cycling plays only a minor role in Australia in reducing car use. The Australian Government should not only provide tax breaks to encourage cycling to and from work, but also implement policies that make cycling safe and convenient with properly lit cycle paths and bicycle storage facilities near public transport hubs. Due to the lack of Australian Government policies encouraging bicycle travel to and from work, the bicycle usage rate is very low when compared with international standards, despite the fact that bicycle ownership in Australia is among the highest in the world.<sup>67</sup>

If the Australian Government introduces any mature scheme of subsidies and tax breaks to encourage the use of bicycles for home to work travel, it has been reported that this would cost about \$15m over five years in forgone revenue.<sup>57</sup> When considering the introduction of the cycle to work scheme, the Australian Government needs to take into consideration the cost of lack of exercise, which has been reported as costing the economy about \$13.8b each year.<sup>68</sup>

### Conclusion

Taking into consideration the cost to Australian society that comes with the increased use of motor vehicles as the main mode of transportation, it is time for the Australian Government to take heed of the recommendations from the *Moving Australia 2030* report that include development and investment in strategies, such as walking, cycling and public transport infrastructure, and the development of a scheme similar to FBT for work-related public transport trips.<sup>69</sup>

The call to improve public transport infrastructure is also evident in the 2014 Productivity Commission report into public infrastructure which states that efficient public infrastructure plays a key role in a competitive and productive economy.<sup>70</sup>

The Australian Government has a moral obligation to protect its citizens against adverse consequences arising from the use motor vehicles. In a recent case in the Netherlands, the Hague District Court made a groundbreaking decision that the Dutch state has a legal obligation to protect its citizens and reduce GHG emissions.<sup>71</sup> Although there is no such legal compulsion in Australia, it is time for the Australian Government to take the lead and show policy direction through the provision of tax incentives that encourage a shift to alternative modes of transportation, especially the use of public transport and bicycles. In designing these tax incentives, the government should take into consideration the administrative costs of setting up schemes as well as behavioural impact analyses from other countries that have implemented such schemes.

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