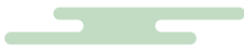




**South-South and Triangular Cooperation in promoting
Sustainable and Low-carbon Transportation in the Metropolitan Region of Santiago**

Green Travel Initiative 2023





United Nations
Office for South-South Cooperation



UN
DP

Empowered lives.
Resilient nations.



Green travel for
a better life.

Green Travel Initiative



Cities play a crucial role in promoting green travel practices, which not only fulfills the aspirations of residents for a livable environment but also contributes to achieving sustainable development goals. To this end, we propose the following green travel initiatives for cities:

1. Prioritize green transportation: Allocate space for pedestrians and cyclists. Invest in public transport, cycling infrastructure, and pedestrian facilities. Set policies to achieve 70% green travel in the short term and 75% in the long term for reduced energy consumption and emissions.

2. Advocate for reducing car usage: Invest resources in sustainable transportation. Encourage 3% of drivers to choose green travel during peak hours. Improve traffic flow and address parking difficulties.

3. Enhance public transportation: Improve quality and diversity. Develop school buses and shuttles. Integrate transportation hubs. Increase charging stations. Optimize network and stations. Establish bus lanes and electronic displays.

4. Strengthen pedestrian and cycling facilities: Address issues related to walking and cycling. Enhance connectivity and smoothness of sidewalks and non-motorized lanes. Clear obstructions and maintain functionality for visually impaired individuals. Optimize crosswalks and signals. Renovate pedestrian streets and develop green neighborhoods. Construct dedicated cycling lanes.

5. Enhance social inclusivity: Improve public transportation accessibility. Increase inclusiveness and reduce car dependence. Upgrade communication tools and infrastructure. Provide low-floor buses for passengers with strollers and wheelchairs. Offer special services for visually impaired individuals and those with limited mobility.

6. Ensure road traffic safety: Adopt advanced technologies and people-oriented transportation concepts. Improve laws, regulations, urban planning, road design, traffic management, and safety education. Foster a culture of compliance with traffic rules. Reduce car usage and promote green transportation to minimize traffic accidents.

We propose that cities embrace the concept of green travel, seize the crucial strategic opportunity for urban development, and make cities more suitable for both business and living environments.



Green Travel Initiative

Green Travel

I participate

I take action

- Choose to live close to public transportation or near your place of work;
- Combine different modes of transportation such as cars, buses (trams), subways, light rail, bicycles, and walking to replace car travel;
- Choose a reasonable transfer method: car + public transportation or bicycle + public transportation to shorten the travel time;
- Arrange your trip in a planned way to shorten the waiting time;
- Find colleagues or neighbors on the same route to work and implement a carpooling program;
- Request flexible working hours or telecommuting from home to stagger peak travel periods.

Social costs of travel:

You pay US \$ 1 for every different mode of travel



Walking
Society pays
for you
US \$ **0.01**



Cycling
Society pays
for you
US \$ **0.08**



**Public
transportation**
Society pays
for you
US \$ **1.5**



Private cars
Society pays
for you
US \$ **9.2**



Keep active and walk with us!

Green Travel Initiative

Promoting the "135" green and low-carbon travel mode.



Walking within
1 kilometer



Cycling within
3 kilometers



Taking public transportation within
5 kilometers

Urban **public transportation** can provide city residents with **affordable**, **safe**, and **environmentally friendly** travel options. It is a transportation mode that helps alleviate traffic congestion and pollution in large cities.

Green Travel : physical & mental health

Benefits of Walking and Cycling



Health Benefits:

- Cycling can extend the average lifespan of cyclists by up to 2 years compared to non-cyclists.
- Walking briskly for 25 minutes a day can increase life expectancy by up to 7 years.

Environmental Benefits:

- Commuters who cycle to work four days a week, covering 8 kilometers per day, can reduce their annual car usage by 3,220 kilometers. This is equivalent to saving 380 liters of gasoline and reducing CO₂ emissions by 750 kilograms.
- Switching five short trips (not exceeding 2 kilometers each) from driving to walking can reduce carbon footprint by 86 kilograms per year.

Safety Benefits:

- The health benefits of cycling outweigh the safety risks at a ratio of 20:1. For example, doubling the number of pedestrians in a community can reduce the risk of accidents by 66% while walking.

Green Travel Initiative



Walking
within
1 kilometer



Cycling
within
3 kilometers



Taking public
transportation
within
5 kilometers



For long
distances,
carpooling is
an option.

Green Travel : carbon reduction

CO₂

The transport sector is a major contributor to carbon emissions, with road passenger transport being the largest contributor.

Reducing the energy consumption and carbon intensity of road transport is a significant global challenge. Immediate action can be taken by changing travel models and promoting sustainable lifestyles.

- Reducing reliance on cars should be done while considering its impact on people's daily lives.

- Shared mobility should be encouraged, and cities should prioritize pedestrian-friendly environments that are safe and comfortable.

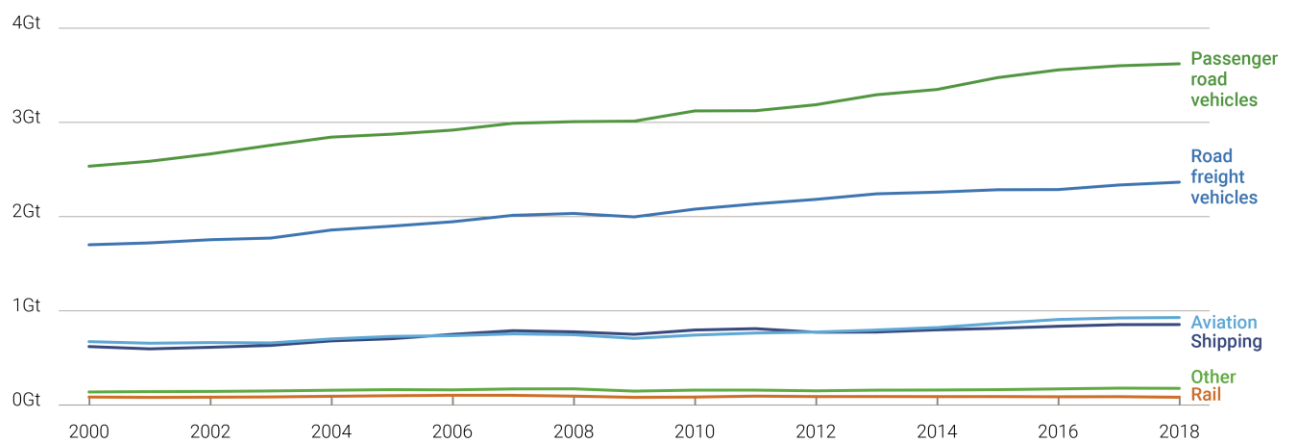
- Communities should aim to meet most of the residents' needs within a 15-minute radius, promoting diverse and economical modes of transportation.

- Public transport should be prioritized, and integration between different modes of public transport should be seamless.

- Transit-Oriented Development (TOD) should be promoted, and transportation facilities, vehicles, and equipment should be environmentally friendly throughout their life cycle.

- There should be better management of transportation needs.

Transport sector CO₂ emissions by mode (2000-2018)



Source: IEA (2021)³⁴

Green Travel : traffic safety

Traffic accidents are a significant cause of death globally, ranking 11th in the global cause of death ranking and the 9th leading contributor to the global burden of disease.

According to WHO, about 1.25 million people die in road traffic accidents every year worldwide, which means that on average, one person dies every 25 seconds.

In addition, 20 million people are injured in traffic accidents every year, and some of them are disabled for life.

Traffic accidents cost most countries about 3% of GDP.

Urban traffic safety must be taken seriously, and safety measures to reduce traffic accidents should be adopted as much as possible to make travel more secure for all.

Promoting green travel and encouraging greater adoption of green modes of transport and their combinations can help reduce the risk of accidents.



Choose a way to green travel

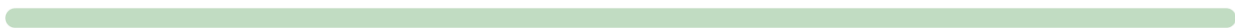
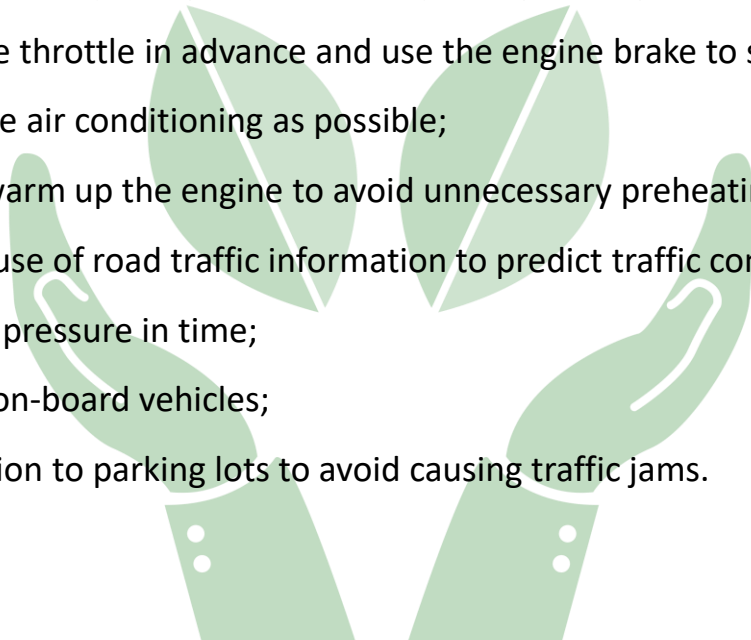
Use cars responsibly

- ✓ Reduce dependence on cars, give cars a vacation, and drive one less day a week;
- ✓ Before entering the city center, park your car in the parking lot and take the rail transit or bus;
- ✓ Find companions in the community and workplace, and implement the carpooling program;
- ✓ Choose to buy a small-displacement, environmentally friendly car;
- ✓ Use hybrids.



Eco-driving tips

- ✓ Tap the throttle to start smoothly and maintain the speed of about 20 km/h for the first 5 seconds;
- ✓ Minimize the number of accelerations and braking, maintain sufficient workshop distance;
- ✓ Stop unnecessary idling and advocate parking stalling;
- ✓ release the throttle in advance and use the engine brake to slow down;
- ✓ Use as little air conditioning as possible;
- ✓ Properly warm up the engine to avoid unnecessary preheating;
- ✓ Make full use of road traffic information to predict traffic conditions;
- ✓ Check tire pressure in time;
- ✓ Minimize on-board vehicles;
- ✓ Pay attention to parking lots to avoid causing traffic jams.



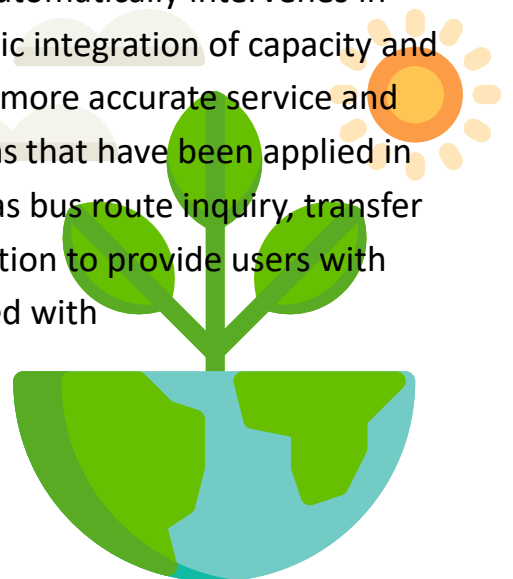
Take actions to promote green travel

Encouraging active travel

Cities that support walking and biking tend to be happy, healthy, civilized, and economically stable. Walking and cycling can help foster a sense of community and solidarity. At the same time, active travel and shared cycling options can help increase social inclusion. Walking and cycling are beneficial to mental and physical health while increasing interaction among residents and enhancing their sense of community. Data from Hangzhou City Brain shows that only 10% of motor vehicles travel on city roads during peak periods and around 7% during flat periods, with traffic jams at their most painful at only 50,000 to 100,000 cars more than during peak periods. If 3% of drivers chose to travel green during peak hours, it would improve access for almost everyone and reduce exhaust emissions.

Improving Public Transportation

Public transportation is an integral part of the living environment, providing economic access to jobs, services, education and recreation, and promoting social integration and participation. C40 Cities recommends that cities take a networked approach to affordable, accessible public transportation systems, develop or review plans for public transportation facilities, adopt integrated fare policies and achieve unified operations. Hangzhou has developed a public transportation cloud dispatching system that automatically intervenes in schedules and departure times, enabling organic integration of capacity and demand, resulting in more efficient command, more accurate service and leaner staff. Public transportation APP platforms that have been applied in several cities integrate one-stop services such as bus route inquiry, transfer scheme inquiry, code payment and map navigation to provide users with accurate guidance on riding schemes. Translated with www.DeepL.com/Translator (free version)



Take actions to promote green travel

Reduce noise and air pollution

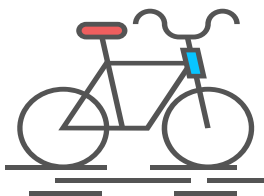
According to the WHO, "Excessive noise can seriously affect human health and interfere with daily activities at school, work, home and leisure time. Noise may interfere with sleep, cause cardiovascular and psychophysiological effects, reduce work performance, and cause irritability and changes in social behavior."

Urban and transport planning and design should consider the shift towards noise and air pollution prevention, such as providing policies and spaces to support green modes of transportation such as walking and cycling, and using commercial buildings as noise barriers. Speed limit strategies implemented by urban traffic management, limiting or prohibiting highly polluting traffic are good solutions.

Hangzhou has added "regional indicators" and "Zhejiang A regional number plates", and differentiated management from the scope of restrictions, restricted periods and restricted rules for different types of number plates.

Improve the safety of cyclists and pedestrians

The probability of death of an adult pedestrian is less than 20% if hit by a car traveling at a speed of less than 50 km/h, but almost 60% if it is hit by a car traveling at 80 km/h. Therefore, while ensuring the right of way, the management of urban speed limit areas and the adoption of traffic tranquility measures should be strengthened, which is an important way to improve the traffic safety of cyclists and pedestrians.



Take actions to promote green travel

Develop sustainable transport planning

Sustainable transport planning is generally a long-term integrated transport plan for the central urban area of a city, which analyzes the mobility challenges facing the city as a whole to set clear long-term goals, while adjusting the transport development model to reduce harmful externalities to residents and the environment. Sustainable transport development prioritizes human needs and their quality of life, as well as increased attention to safety and social equity.

In recent years, Chinese cities have also made useful explorations in promoting the sustainable development of transportation systems. The Beijing Urban Master Plan (2016-2035) calls for improving the quality of travel, realizing green, smart and safe travel, clearly providing convenient and reliable public transportation, and building pedestrian- and bicycle-friendly urban areas. The Shanghai Urban Master Plan (2017-2035) proposes to build a multi-level and multi-type urban comprehensive transportation system, form a good pedestrian and bicycle transportation network and street space quality, and create an inclusive and fair travel environment.



Green Travel & Sustainable Development

Carrying out green travel actions is of positive practical significance to alleviate urban traffic congestion, improve the green development of urban transportation infrastructure, and enhance residents' awareness of green travel concepts. Cities can adopt multiple types of measures to encourage citizens to travel green and to ensure the safety of these transportation modes.

Transportation Planning Transformation

Transportation planning should be centered on people, creating new thinking and new mechanisms.

By making the right to travel for everyone a planning goal, we will not only take into account the various modes of transportation related to travel, but also incorporate social issues such as social equity into the goal system.

The planning of various travel-related issues, including pedestrian and non-motorized transportation, parking, transportation interchange, freight logistics, and traffic information systems, is integrated.

Reasonable allocation of available road space to meet the needs of multiple modes of transportation.

Develop public transportation and low-pollution, energy-efficient modes of transportation.

Create green neighborhoods

Build pedestrian and bicycle model streets to ensure priority right-of-way and safety for pedestrians and non-motorized vehicles.

Build and improve secondary crossing facilities such as pedestrian stopping areas and safety islands to ensure pedestrian traffic safety.

Build child-friendly streets, design and renovate streets from the perspective of children, and care for children's travel. Optimize the road safety environment and provide safe access for children.



Green Travel & Sustainable Development

Public transportation service enhancement plan

Use new Internet technology and market forces to open up the configuration of bus priority network, relying on transportation hubs, key corridors, tourist attractions and other layout of customized public steam lines.

Layout public bicycles around rail transit stations, bus hubs and other passenger flow distribution points to extend the radius of public transportation services.

Increase the proportion of bus-only lanes to ensure priority for bus traffic rights-of-way. Optimize the traffic organization around bus stations, separate the interference of non-motorized vehicles with the traffic in and out of the stations, and improve the efficiency of buses in and out of the stations.

Promote information technology products such as electronic stop signs and APPs to provide the public with accurate and reliable information services such as real-time bus locations and estimated arrival times.

Reduce the reliance on individual motorized travel modes

Adopt incentive measures to guide private cars to switch to public transportation. Develop a regional differentiated parking management strategy to strictly control parking supply in central urban areas; appropriately increase parking supply in peripheral urban areas. Implement electronic road parking fees and increase the cost of illegal parking. Open Bus Rapid Transit (BRT) lines to improve the quality of public transportation services.



Green Travel & Sustainable Development

Comprehensive barrier-free facility construction

The planning concept attaches importance to barrier-free transportation design and includes it as an important element of urban construction.

The interior of subway stations provide complete facilities, including ramps, wheelchair lifts, lifts, etc., and the floors are paved with blind alleys and displays with hearing guidance systems, etc.

For bus transportation, low-floor vehicles or vehicles with lowered body functions are used, and wide doors are provided so that wheelchair users can get on and off independently through connecting panels on the buses.

In residential areas, continuous barrier-free access is provided on roads connecting public transportation stations to major public buildings and commercial areas.

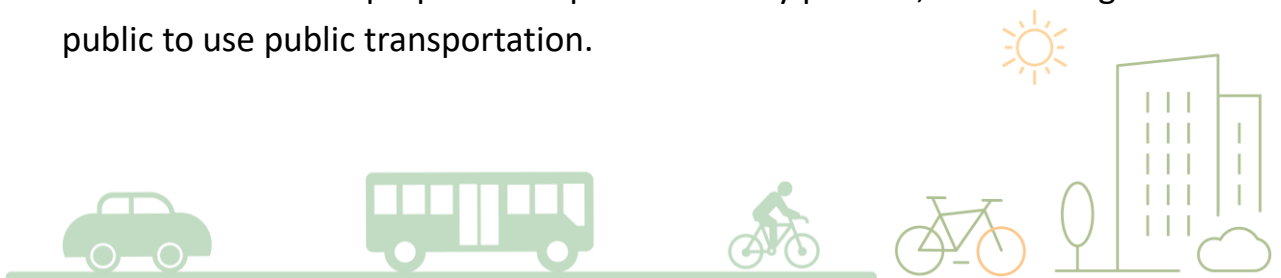
The design and paving of blind paths must ensure continuity and focus on clear directionality.

Awaken the sense of responsibility of citizens and enterprises

Carry out green travel publicity, expand the coverage and influence of publicity, and increase public awareness and acceptance of green travel methods.

Encourage enterprises to provide commuting public transportation services for employees or organize carpooling commuting for employees.

Public transportation companies offer special sales of bus cards and tickets, such as "discount top-ups" and "special monthly passes", to encourage the public to use public transportation.



Green travel



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Empowered lives.
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Green Transportation & Health