

Strategy Vision and Policy Recommendations on China's Sustainable Transportation

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Strategic Vision

To establish an integrated transportation system that is safe, convenient, highly efficient, economic, equitable, and environmentally friendly and promotes socio-economic development in China.

This system should be able to meet the demands for mobility in both the passenger and freight sectors while remaining in harmony with nature and society.

The transportation system should follow the social and economic development trajectory of China: meet the demand for transportation to build a balanced and healthy society, continue rapid industrialisation and urbanisation, promote globalisation and facilitate participation in the international economic scene.

The transportation system should consist of a diverse modal mix. It should benefit the society by providing a range of mobility choices to all segments of the population while still reaching the goal of functioning as a safe, reliable, convenient, comfortable, and cost-effective system.

The transportation system should develop in harmony with the natural environment. It should be based on the circular economy principle so as to utilise resources in a constructive, waste-minimising, and recyclable way, and limit polluting emissions and wastes in order to prevent transportation development from seriously damaging the natural ecosystem and the



environment.

Policy Recommendations

To realise the strategic vision, six specific policy measures are recommended:

1. Implementing Administrative System Reform in China through a Two-stage Process

In the first stage, different modes of transportation in China should continue to be managed separately. A centralised, comprehensive transportation administrative organisation—the National Integrated Transportation Coordination Commission (NITCC)—should be established. The NITCC should improve the consistency and coordination in development strategies, development planning, and industrial policies, and

financial management of different transportation modes. NITCC, as suggested here, should be made full preparation to promote China's sustainable transportation development.

In the second stage, when appropriate conditions have been created, an integrated organisation for transportation (a National Transportation Commission or Ministry of Transportation) should be organised in China. This commission or ministry should be responsible for a uniform management of transportation system including railways, highways, waterways, aviation, pipelines, urban transportation, and transportation safety and environmental protection to realise a more efficient integrated transportation system.

2. Utilising Economic Instruments to Promote China's Sustainable Transportation Development

Implement the fuel tax system:

- The fuel tax is an important measure because it reflects the "user-pays" principle, implements macroeconomic control over transportation development, encourages the development of different transportation modes, vehicles, and energy sources and curbs excessive motorisation. It also promotes research on new-type s of vehicles, and ensures adequate funding for the development of sustainable transportation. China has already enacted fuel tax legislation. Now, the pace of implementation should be quickened.
- The total revenues derived from the fuel tax should be used to fund maintenance and macro-control costs.

Establish a "National Transportation Fund" in China. Such a fund is the key to China's sustainable transportation development. Specific implementation planning should be developed by NITCC (or led by National Development and Reform Commission and Ministry of Finance), and be implemented after the approval of China's central government.

- The National Transportation Fund should be funded by revenues from existing transportation taxes, all the revenues from the forthcoming fuel tax, and a share of revenues from the proposed increase in the value added land tax.
- NITCC, as suggested here, should centrally administer and allocate the fund, and oversee its use as well. To ensure transparency and accountability, the NITCC shall publish annually a statement outlining the planned expenditures of the Fund and the reasons for the selection of particular projects. It should also provide an evaluation of the progress of ongoing projects and of the impacts of completed ones.
- The fund should focus on transportation modes and relevant plans promoting sustainable transportation development. It should assign priority to those areas in greatest need of assistance such as urban public transportation, rural road construction and maintenance, development of sustainable transportation technology, transportation for the disadvantaged and safer bicycle and pedestrian ways.

Internalise the external impacts:

- Appropriate subsidies and incentive

policies should be granted to transportation modes that have low external costs, such as railways, waterways, and urban public transportation.



priorities in regards to the development of various transportation modes. Such planning should take into account the

- Un-sustainable transportation imposes very high costs on society (delays, ill health, global warming, injury and death). These externalities should be taken into account in the cost accounting and pricing management of the transportation modes according to the ‘Polluter Pays’ principle. Only when prices reflect true costs will the market mechanism be able to ensure that individuals and businesses make sustainable transportation choices.
- Taxes should be levied on cars according to the costs that they impose upon the environment in regards to energy use, traffic congestion, pollutant discharges, and traffic accidents.

rational utilisation of the “corridor resource” of the transportation system, strengthen the planning and construction of intermodal terminals and hubs, and realise coordinated development between transportation modes.

Formulate new policies for transportation. Policies that are designed to promote the development of sustainable transportation must be based on such concepts as “circular economy” and “green economy”, and incorporate relevant scientific and technical innovations.

Speed up railway development:

- China’s legal and regulatory system in regards to Railways should be improved and the Railway Law should be amended to make clear the relationship between governmental functions and commercial operations, and to provide a legal foundation for further railroad development.
- Promote the reform of the railway investing and financing system and accelerate its marketisation. Multiple investing and financing channels should be adopted to facilitate the construction of high-speed rail lines for inter city passenger transportation, urban rail transit, and heavy transportation corridors for freight.
- The current railway construction fund should be preserved as a stable and

3. Integrate Planning and Optimise Transportation structure

Develop an integrated spatial planning system. Land use and the developed infrastructure have a huge effect on mobility needs. By developing an urban structure which provides all kind of services locally for the inhabitants, less transportation is needed. Furthermore, mobility choices like good access to public transportation are easier to achieve when integrated planning is the norm.

Develop integrated transportation planning which reflects government policies and

sustainable funding source for railway development by levying service fees on passengers and freight.

- Increase the central government investments in railways. The government should have explicit responsibility for providing financial support for construction and operation of the rail lines that are relevant to the national defence, poverty reduction or key land development. The government should allocate more financial support to Western China and to coal transportation.

Support inland waterway transportation:

- The central and local governments should establish special funds for inland waterway transportation to ensure a stable source of funds for its development.
- An appropriate legal and regulatory system should be established as rapidly as possible. For example, the “Law of Navigation Channels” should be amended based on the currently effective “Regulations Concerning Management of Navigation Channels” to provide a legal basis for investments in inland water transportation.
- Coordination between relevant departments should be strengthened and problems relating to water conservation and hydroelectric power generation should be resolved in order to realise more efficient utilisation of water resources.

Promote Transportation Equity

Enhance public awareness of sustainable transportation and strengthen public supervision and participation in transportation planning and decision-making:

- The public should be given appropriate opportunities to provide inputs when legislation concerning sustainable transportation development is under consideration. Opportunities for participation and supervision by the public and social entities, including non-governmental organisations, should be strengthened at all stages of the policy process, including the implementation of laws and regulations.
- Transportation information facilitating public participation in policy making should be widely disseminated. The results of inspections and legal processes should be reported promptly and accurately in order to increase public awareness and participation and thus strengthen the inspection and regulatory process.

Enhance public consciousness of transportation safety and strengthen the accident investigation and accountability system:

- Educational programs on all aspects of sustainable transportation, including safety should be strengthened and expanded. Various educational channels and activities should be utilised to reach students at all levels, thus forming a comprehensive national educational system for sustainable transportation.
- The transportation safety management functions of government authorities at all levels should be consolidated and the accident investigations and accountability system strengthened as well.

Convenient Transportation for Disadvantaged Groups:

- Such groups should be accorded special opportunities and benefits. Labourers from rural areas (with certificates) should enjoy an inexpensive trip home every year, the price of their tickets remaining unchanged. The disabled and the elderly (over 60 years old) should enjoy discount rate bus tickets. Compensation should be provided for people whose livelihood is threatened by land expropriation and removal.

Promote Public Transportation Development and Implement Mobility Management

Integrate transportation and land use development:

- Develop modern urban mobility management concepts and provide guidelines for the design of new cities and the development of existing cities. Synchronized master planning and comprehensive transportation planning should be developed according to integrated land use and transportation policies and plans that incorporate transit orientated development measures (e.g. multiple-mode transportation corridors).
- Urban development should be strategically shifted to avoid overexploitation and densification of urban central areas and to minimise urban sprawl.
- The traffic impact assessment system should be strengthened and the transportation impact compensation mechanism should be formulated and implemented.
- Integrated transportation corridors with interoperability between different transportation modes should be developed to ensure that public

transportation could guide urban and land development (the TOD model). Establish the mechanism that levies land value-add tax to feed back public transportation investment.

- Demands of public transportation and non motor vehicles should be given priority in urban road design and planning to ensure their road resources.
- Establish public hearing system for large-scale urban infrastructure and transportation projects.

Development of public transportation should be given first priority:

- Efforts to improve public transit should be integrated with a larger vision of the future city. Public transportation infrastructure (including dedicated transit lanes, stations, hubs, and information facilities) should be improved in order to create an efficient, integrated service network for public transportation. The share of public transportation should be set as an index to evaluate the achievements of major urban leaders.
- Urban and inter-city rail transit should be promoted. Policies governing licensed operators should be adopted in areas along rail lines, in order to promote the development of rail transportation in mega cities and city clusters.
- Bus Rapid Transit (BRT), deserves careful consideration because it is financially viable, increases speed and safety, and diminishes pollution. Promote BRT wherever it is possible.
- Intelligent technology systems and other technologies should be utilised to improve the efficiency and quality of service of regular bus systems.

Managing mobility effectively to avoid congestion through balancing travel demand and supply:

- There can be no doubt that steps should be taken to encourage people to use public transit and/or non-motor vehicles to the greatest possible extent. Car use should be a choice not a necessity. This means managing mobility in such a way as to reduce demand for unnecessary travel and providing viable alternatives to car use.
- Car users should pay the true cost of using the car in crowded urban environments either through parking charges, congestion charges or other forms of road pricing.
- The time structure of traffic should be regulated and controlled and flexible work times should be used to stagger peak hours.
- With advanced traffic management methods and intelligent transportation system technology, updated transportation information can easily be provided so that citizens who have to travel by car can choose the most appropriate routes to take before and during their travel so that they can reach their destination in the shortest possible time and not contribute to congestion.
- The Chinese government should centrally coordinate the space data enquiry regulation and transportation information service demands to provide real time and reliable transportation information.

Setting up a special account for urban transportation:

- The account would be composed of the revenues from different taxes and fees including, for example, revenues from

urban land lease, transportation impact compensation fees, consumption taxes, and fixed asset taxes, vehicle purchase taxes (e.g. from a 2-5% surcharge for large volume limousines), congestion charges, parking fees, and fines imposed on traffic regulation offenders.

- To ensure transparency and accountability, annual reports should be published to identify the measures that have been funded and the impacts of previously funded measures.

Implement Resource Conservation and Promote Environmental Friendly Transportation

Improve transportation environmental protection systems and strengthen governmental monitoring and supervision capability:

- Implement Strategic Environmental Assessment (SEA) for policies, plans and programs to recognise environmental effects early in the decision-making process and therefore contribute to a cost efficient and highly benefited sustainable transportation system.
- Establish implementation guidelines for environmental impact assessment of integrated transportation planning. Require environmental impact assessment during formulating national and regional integrated transportation planning.
- Strengthen the environmental protection responsibilities of transportation management departments at all levels and establish the accountability system.
- Strengthen public participation and promote the development of non-government environmental organisations. Formulate

environmental damage compensation laws and optimise the environmental dispute resolution regulations. Develop systems to disseminate environmental information and formalise public hearing on environmental issues.

Slow growth in transportation energy use, especially oil consumption:

- Optimise motor vehicle fuel consumption standards. Establish fuel oil consumption standards for all new-type motor vehicles by 2008 and enforce the Limits of Fuel Consumption of Passenger Cars. Fuel consumption of new motor vehicles should be reduced by 40-50% per hundred kilometres by 2015.
- Develop policies for the research, popularisation, and utilisation of clean alternative energies. Clean alternative fuels should be first used in such vehicles as buses and governmental vehicles.
- Optimise technical approaches for the development of advanced vehicles techniques and formulate relevant policies to focus on the introduction, research and industrialisation of the hybrid synergy drive.

Land occupancy conservation:

- Develop technical standards with a strong scientific basis for transportation facilities. Based on the principle of full cost and environmental protection, flexible technical standards for the construction and maintenance of transportation infrastructure should be established with a consideration of regional differences. Shorten the period of standard revision and ensure a practical, timely and authoritative technical standard.

- Implement stricter utilisation, compensation, and restoration systems for natural resources conservation. Amend the transportation land compensation system and carry out onsite or off-site excess compensation for nature reserves, wetlands, forests and grasslands. Limitation for temporary land use should be used to the land occupation index of transportation construction projects.

Air pollution control to improve urban air quality:

- Adopt and implement vehicle emission standards GB3 and GB4 including PM 10 as soon as possible to help the Chinese enterprises reach the technical level of vehicle emission control in developed countries.
- Establish and carry out strict fuel quality standards to facilitate the implementation of emission standards for new motor vehicles. In particular, promote the supply of gasoline and diesel oil with sulphur contents below 150ppm and 350ppm respectively in the whole country in 2007, and with sulphur contents below 50ppm from 2010, and then oils with super-low sulphur contents that are below 10ppm.
- Realise the coordination and cooperation between transportation development and air quality improvement according to the local conditions. Implementation plans for reaching the pollutant emission standard in each city should be formulated through the joint efforts of different departments and the deadline to reach the standard should be set to meet the overall demands of urban air quality.

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