



# Prospects for National-Level Programmes and Funds for Sustainable Urban Transport in China

Expert Workshop in Mutianyu, 1-3 November 2012

Summary of Workshop Results



On behalf of

BMZ



Federal Ministry  
for Economic Cooperation  
and Development



Partnership on Sustainable  
Low Carbon Transport



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On behalf of GIZ, EMBARQ and SLoCaT we would like to thank all workshop participants for their engagement and vivid discussions. This report is a product of the knowledge and experiences of the many experts who shared their expertise during 1-3 November. Special thanks go to all those who reviewed and commented the draft version of this report: Bhatt, Amit (EMBARQ India), Cheng Shidong (Institute for Comprehensive Transportation), Fang Wanli (World Bank), He Min (Kunming University of Science and Technology), Li Zhenyu (China Urban Sustainable Transport Research Centre), Liu Zhi (World Bank), Song Su (China Urban Sustainable Transport Research Centre), Stein, Axel (KCW-GmbH), Wang Tao (Carnegie Foundation) and Zeng Heshuang (World Resources Institute China).

The logo for GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) consists of the lowercase letters 'giz' in a bold, red, sans-serif font.The logo for EMBARQ features a stylized yellow and orange square icon to the left of the word 'EMBARQ' in a bold, black, sans-serif font. Below it, the text 'The WRI Center for Sustainable Transport' is written in a smaller, black, sans-serif font.The logo for the Partnership on Sustainable Low Carbon Transport features a blue circular icon containing a white silhouette of a person walking, a bicycle, and a bus. To the right of the icon, the text 'Partnership on Sustainable Low Carbon Transport' is written in a blue, sans-serif font.

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## Project Context

The Sino-German Climate Change Programme aims at supporting climate change mitigation and adaptation efforts in China. The four-year Programme is composed of three components:

1. Capacity building for Chinese officials and experts;
2. Development of mitigation strategies for the transport sector;
3. Development of mitigation strategies for the power sector.

The Programme is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the National Development and Reform Commission (NDRC).

Within the Low Carbon Transport Development component, the Programme supports national institutions in developing a climate protection strategy in the transport sector and to implement measures and incentive structures with a special focus on urban transportation. Assessing current and future GHG emissions lies at the core of designing a coherent and effective climate strategy. The Low Carbon Transport Development component therefore supports the development of tools to quantify and monitor GHG emissions in the Chinese transport sector both at the national and urban level. Implementing partner for the transport component is the China Urban Sustainable Transport Research Centre (CUSTREC) of the Chinese Academy of Transport Science.

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# 1 Background to the workshop

Due to the rapid urbanisation and motorisation in China there is a need for huge investment in creation, operation and maintenance of transport infrastructure as well as transport services. This is a joint challenge for national and local governments. Some big cities in China have already started implementing sustainable transport infrastructure schemes as well as sustainable transport related policies and measures. Also, the larger cities in China are increasingly engaged in researching good practices on sustainable transport financing and policy making. At the same time other (mostly smaller) cities still lack the capacity and financial resources to improve their sustainable transport systems and policies. But especially for small and medium cities that are mostly at early stages of motorization, adopting sustainable transport strategies holds great opportunities to achieve a high quality of life and avoid being trapped in car-oriented urban sprawl.

Under the current institutional set-up in China cities are responsible for the financing of the development, operation and maintenance of transport infrastructure and services. The role of national level government bodies such as the Ministry of Transport (MoT), the Ministry of Housing and Urban Development (MoHURD) and the National Development and Reform Commission (NDRC) is currently mostly limited to promoting research and exchange of good practice as well as encourage and approve cities to implement sustainable transport. In this context, China is facing two questions in financing urban transport:

- What can the national government do to establish a financing framework to ensure a more sustainable development of transportation in Chinese cities?
- What are suitable procedures and criteria for national-level funding of urban transport (construction, maintenance and operation)?

To address these two questions the workshop aimed to gain a better understanding of current institutional and financial arrangements in China for (sustainable) urban transport and learn from international experiences. The key focus was on the development of specific recommendations for the Chinese situation and funding practice, which take into account good international practice.

The workshop took place from 1-3 November 2012 in Mutianyu, one hour north of Beijing. 25 people participated in the workshop, about half of which were international experts with a background in transport finance. The other half were Chinese transport experts (see list of participants in annex). A participatory facilitation methodology was used to fully capture the expertise of all participants. The use of structured brainstorming methods supported the review of existing financing structures and the development of recommendations on national level support and funding for more sustainable urban transport in China.

This workshop report summarizes the challenges ahead as well as the recommendations for reforms developed in the workshop. The report aims to be a think piece for the future of sustainable urban transport finance and the role that the national government (NDRC, MoT

etc.) can play in this. It intends to inspire follow-up conceptual work by organizations with an interest in sustainable urban transport financing in China.

## 2 Challenges of financing sustainable urban transport in China

China has released a comprehensive set of policies and programmes aimed at strengthening urban public transport and non-motorised transport over the last decade. In 2005, China started its Public Transit Priority, which since then has been updated and advanced on a regular basis. In 2008, the new Ministry of Transport took over the responsibility to oversee the operation of urban public transport in order to better channel transport funding into public transport. Before, the Ministry of Housing and Urban-Rural Development (MoHURD) had been in charge of public transport operations as part of urban planning, but only few funding sources under MoHURD could be directed to transport operations. China's 12<sup>th</sup> Five Year Plan (2010–2015) also gives priority to the development of urban public transport and strives for a more sustainable urban transport development. It sets goals for increasing the modal share of public transport, promoting urban rail and bus rapid transit systems, promotes non-motorized transport and calls for an increase of transport system efficiency. A new policy encouraging cycling was released in September 2012.

### Key actors at national level and their main responsibilities regarding transport

**National Development and Reform Commission:** Approval, authorization, and review of key transportation construction projects, such as metro development

**Ministry of Transport:** Road transport: a) highways; Supervision of commercial freight and passenger transport and infrastructure planning & construction; b) urban roads: Supervision of public transport only (neither responsible for private vehicles nor urban infrastructure) , water borne transport, aviation, postal services, transport policy, public transport operation

**MoHURD:** Road infrastructure, metro other public transport and city planning and construction

**Ministry of Public Security:** Traffic operation and safety

**Ministry of Finance:** Taxation, financial matters

**Ministry of Railways:** Regional rail transport (not much involved in urban transport decisions)

China is implementing a number of programmes to promote sustainable transport:

- Pilot Transit Metropolis Programme of MoT (may account to around 0.5 billion RMB/year, but the exact fund volume and funding policy have not yet been officially decided)<sup>1</sup>
- Comprehensive Passenger Transportation Hub Programme to connect different transport modes (100 Hubs planned during the 12<sup>th</sup> FYP, subsidy to each hub is 30-50 million RMB)<sup>2</sup>

<sup>1</sup> [http://www.moc.gov.cn/zhuzhan/jiaotongxinwen/xinwenredian/201112xinwen/201112/t20111213\\_1165562.html](http://www.moc.gov.cn/zhuzhan/jiaotongxinwen/xinwenredian/201112xinwen/201112/t20111213_1165562.html); accessed 14.01.2013, Chinese source.

<sup>2</sup> [http://www.mot.gov.cn/st2010/guangdong/gd\\_jiaotongxw/jtxw\\_wenzibd/201206/t20120626\\_1260323.html](http://www.mot.gov.cn/st2010/guangdong/gd_jiaotongxw/jtxw_wenzibd/201206/t20120626_1260323.html); accessed 14.01.2013, Chinese source.



- Low Carbon Urban Transport Pilot City Programme of MoT (250 million RMB in 2011, 500 million RMB in 2012, over 700 million RMB in 2013, most of it for 26 pilot cities)<sup>3</sup>
- Promotion of intelligent transport system construction (12 pilot cities during 12<sup>th</sup> FYP)
- Plan to build 200 logistic centres during the 12<sup>th</sup> FYP (30-50 Mio. RMB per centre)<sup>4</sup>
- Old vehicle scrapping programme/ upgrade subsidy
- Transit fuel subsidy (50 billion RMB/year)
- Low carbon city programme under NDRC<sup>5</sup>

Despite this impressive set of programmes, designed to encourage local governments to invest in public and other sustainable transport modes China still faces multiple challenges in the realisation of sustainable urban transport systems. For instance, monitoring and evaluation arrangements are still not ideal to facilitate efficient and effective implementation of the Transit Priority programme.

With respect to the financing of sustainable urban transport, Workshop participants grouped the challenges into four main areas: 1) Institutional barriers, 2) financial barriers, 3) planning and 4) capacity at the local level.

## 2.1 Institutional barriers

Institutional complexity and lack of coordination were identified as core hindrance to effective planning, design, construction and maintenance of sustainable urban transport systems. At the moment different ministries are guiding different aspects of urban transport developments and implementation (see box on key actors above)<sup>6</sup>. These split responsibilities are mirrored at the city level, leaving (most) local transport bureaus with little influence over major elements of a sustainable urban transport system, such as metro construction. Exception to this are those cities which have adopted a structure where the urban transport bureau has stronger coordinative powers as in the case of Shenzhen, where the mandate of the bureau of transport has already been expanded. Furthermore robust mechanisms to permit or encourage private/market provision of public transport services are lacking in China, despite that such services exist without proper regulation as in the case of unlicensed shuttles and taxis.

<sup>3</sup> [http://www.moc.gov.cn/zhuzhan/jiaotongxinwen/xinwenredian/201206xinwen/201206/t20120611\\_1253165.html](http://www.moc.gov.cn/zhuzhan/jiaotongxinwen/xinwenredian/201206xinwen/201206/t20120611_1253165.html);  
[http://www.moc.gov.cn/2006/jiaotongjij/07jiaotjnw/wenjiangg/201103/t20110329\\_923118.html](http://www.moc.gov.cn/2006/jiaotongjij/07jiaotjnw/wenjiangg/201103/t20110329_923118.html);  
[http://www.moc.gov.cn/2006/jiaotongjij/07jiaotjnw/ditanshidian/201108/t20110815\\_1041807.html](http://www.moc.gov.cn/2006/jiaotongjij/07jiaotjnw/ditanshidian/201108/t20110815_1041807.html); accessed 14.01.2013, Chinese source.

<sup>4</sup> <http://wuliu.rioh.cn/zhuanti/infoMain.action?categoryId=0000000020000400000&categoryName=null>; accessed 14.01.2013, Chinese source.

<sup>5</sup> [http://www.moc.gov.cn/2006/jiaotongjij/07jiaotjnw/ditanshidian/201107/t20110718\\_984438.html](http://www.moc.gov.cn/2006/jiaotongjij/07jiaotjnw/ditanshidian/201107/t20110718_984438.html); accessed 14.01.2013, Chinese source.

<sup>6</sup> Participants also identified the current performance assessment system of local officials as a potential lever to improve investments into sustainable transport developments, but one which is currently creating the wrong incentives. At the moment it encourages local officials to allocate fiscal funds to eye-catching - but from a transport planning perspective unfavourable - vanity transport projects (e.g., eight-lane fast tracks) rather than applying sustainable transport principles.

## 2.2 Financial barriers

Currently there is no dedicated national fund to support urban public transport and non-motorized transport development in Chinese cities. Even though there are discussions to include public transport as part of the basic public service system, it still remains unresolved where the funds would come from (the dedicated budget would also have to include operation costs, not just capital investments). At present, fuel consumption and vehicle purchase tax revenues, which are currently the main revenue source in transport are generally earmarked for highway construction, not for public transport<sup>7</sup>.

Overall, central government tax transfers make up about 20-25% of local revenue, which is managed by different local government departments. So far, cities heavily rely on land concessions to generate revenue for local investments, including public transport. This has created an inconsistent system in which public transport developments are financed through an unsustainable source of income which at the same time fosters urban sprawl. Local public sector budgets are frequently topped up by credits from commercial banks that are channelled through special investment vehicles (so-called urban construction investment companies). This set up has led to significant debt accumulation in cities, and as China does not impose property taxes there is no mechanism to capture increased land values resulting from transport improvements.

Public transport operations in most cities are constrained by highly subsidized ticket prices. Cities are faced with great uncertainty how to cover the maintenance costs of the growing public transport infrastructures and services. It is important therefore that new sources of revenue are identified and tapped or that more money is directed away from highway construction to public transport developments.

Participants further identified the following areas for improvement:

- The linkage between funding and performance evaluation, which is missing at present;
- Analysis of alternatives for development of transport infrastructure and services;
- Multi-year budgeting, rather than the current ad-hoc project budgeting practice.

## 2.3 Planning framework

Participants discussed the lack of a strategic planning framework, covering the functional (as opposed to an administrative) urban area, which would strategically direct funding into sustainable transport. Although transport planning is a mandatory element of city master planning in China since 2009, there is little cooperation between different departments and currently no instrument to direct funding from urban development to sustainable transport. Consequently, the need to build a stronger link between transport projects and urban development policies was seen to be a key barrier.

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<sup>7</sup> An exception are the pilot programmes of the Ministry of Transport; they also use vehicle purchase tax incomes.

Furthermore, current transport planning over-emphasizes the physical features of urban transport networks (network density, per capita area of road etc.), lacking a user perspective and a careful assessment of the aggregate impacts on urban mobility and congestion. Under these circumstances, transport impact evaluation becomes a mere formality under the pressure of commercial development. The lack of a strategic planning framework is closely linked with the split of responsibilities in the administrative system for transport. One cannot be resolved without tackling the other.

## 2.4 Capacity at the local level

Last but by no means least participants identified limited capacity at the local level as a barrier to effective realization of sustainable urban transport systems, both in terms of knowledge, especially in less developed and smaller cities, as well as in terms of overall manpower. In almost all cities transport departments lack the resources to measure performance and evaluate cost accounting of transit companies. Furthermore, a strong need exists to improve local data availability and quality to facilitate performance measuring and to develop transparency to hold agencies and officials accountable. Improved data can enable performance-based expenditure of public funds and improve transport planning.

## 3 Experiences in financing sustainable urban transport from other countries

In support of the development of recommendations on sustainable urban transport funding, the international workshop participants presented financing policies at the national level in eight selected countries (United States, Mexico, Colombia, Brazil, India, Germany, France and Great Britain). In the following, highlights of the international practice are summarized along the four categories of challenges.

### 3.1 Institutional Framework

Many of the countries presented have an institutional framework for communication and coordination amongst different levels of government and different administrative territories for transport. Some also facilitate interaction between transportation and urban development agencies, which the workshop participants had earlier agreed on as a prerequisite for the generation of mobility systems integrated to the environment in which they operate.

- *A strong single authority for overseeing all SUT-related issues:* The Ministry for Cities in Brazil is the entity in charge of establishing guidelines for selecting projects to be funded by national urban transportation programs (e.g. “Pro-Transporte” and “PAC”), as well as ranking and proposing credit operations. The Ministry of Cities is also in charge of setting national policies of infrastructure, housing, and public spaces, which have to be coordinated with urban transportation policies and programs.

- *Assessment bodies:* United States, India and Mexico have established different technical assessment bodies nationwide. In the case of USA, this task is performed by an independent government agency of the New Starts and Small Starts programs, which can be supported by external consultants on specific issues, especially in identifying the risks. The complex task of evaluating projects can be reflected in a brief form (fact sheet) delivered to the decision makers of the Federal Transport Administration (FTA), which contains the main quantitative and qualitative aspects of cost-benefit analysis. In India the responsibility of the technical evaluation of the proposals lies with an NGO specialized in transportation that works in conjunction with the Central Public Works Department (CPWD), which is part of the Ministry of Urban Development.

## 3.2 Financial Support

As in the case of China cities in other countries, also often have serious difficulties to finance the implementation and maintenance of public transport systems because of their high demand and complexity. To overcome these problems other countries have adopted new intriguing solutions:

- *Regions (or city clusters) getting funding for public transport.* In Germany, more than 13 billion Euros (about 15 billion USD) of public budgets – mostly provided by the national government – are spent on public transport annually. In large parts, these funds are channelled through the *Länder* (states/provinces) to support investment into and operation of public transport. However, these funds originate from different programmes and their distribution is rarely coordinated. The states further distribute part of the money to regional transport associations, bodies responsible for transport in their territory (city /city cluster /region). Until now, high quality regional railway systems have benefited most from such funds and their transparent allocation, but other important transit projects are also supported (even if more complex and less transparent). Increasingly, transport associations now tender the transport services in order to comply with European law, to increase efficiency and to give market access to private transport operators.
- *Public-private partnerships.* In Mexico financial responsibilities for transport are divided amongst the national government, state and municipal governments and private sector. The latter is in charge of the operation of systems and has to provide –through public-private partnerships- at least 34% of the resources to finance capital costs. This model has been successful in its goal of fostering greater commitment from the local parties. Funds for financing the national governments contribution, which are channelled through the Federal Support Program for Mass Transit (PROTRAM in Spanish) come from toll revenues in federal highways. Private operation of transport systems is also in use in Brazil and India.

- *Co-financing of projects.* In Colombia, funding for transport infrastructure and services comes in the form of co-funding from the National government and municipalities. The National government co-finances projects with a minimum of 40% and a maximum of 70% of the total costs. There is not a minimum participation required for local governments; however, they must finance the missing share (left after national funding and private participation) through their own resources. Local governments may apply revenues from a municipal gasoline tax to contribute 30% of the total project cost.
- *Definition of criteria for funding.* Funding for transport programs and projects in the United States is defined by a legal framework that ensures efficient operation, accessibility and affordability for all members of society. Funding programs do not discriminate according to city size. The framework allows a degree of flexibility and independence in the use of funds. Local governments can allocate funds according to their needs.
- *Using local revenues.* In many countries, cities earmark revenues from transport demand management measures (e.g. parking, and in a few cases congestion charging) for investment or operation of public transport. A special transport tax (versement transport) was created in France. Companies with more than 9 employees pay 2.6% levy on the payroll; this can be increased by 0.5% if city government runs its own public transport services. It typically represents about 40% of urban public transport budget. In some other countries, the property tax goes partly into transport projects. In Germany, revenues from municipal energy suppliers (where they exist) subsidize public transport (cross-subsidy).

### 3.3 Planning Framework

A key aspect in the identification and development of projects is their relationship with urban development processes and the improvement of the environment in which they operate. Lessons from the international best practice included:

- *Projects need to be part of master plans to be eligible.* In United States projects to receive FTA financial support should be part of a Metropolitan Transportation Plan. This requires the existence of a Metropolitan Planning Organization composed of local and state representatives as well as transport operators. Also in Mexico, it is required that projects are part of a Comprehensive Plan for Sustainable Urban Mobility (PIMUS in Spanish) developed by states and municipalities that apply for funding. These must consider the linkages between public transport networks and urban development plans and strategies
- *Mandatory mobility plans that fulfil certain criteria.* Comprehensive Urban Mobility Plans are mandatory in France. They have to comply with criteria such as safety, reduction of car traffic, development of public transportation and non-motorized transport, management of road networks within functional urban area, management of parking, rationalizing the

movement and delivery of good, facilitation of company mobility plans, unified ticketing of public transport.

- *Linking transport planning to urban development.* In Brazil there is a law to promote urban mobility at the city level, requiring every city with more than 20,000 inhabitants (about 1,600 cities) to develop a mobility master plan within three years, linked to its urban development plans.
- *Coordination between cities.* In Germany, comprehensive transport development plans (including road construction, maintenance and management) are recommended for cities in order to provide a long-term planning framework. In case of public transport development “local transport plans” are compulsory in most *Länder* (provinces/states). Such plans are often conducted for city clusters and coordinated by regional transport associations instead of only one city. Also many *Länder* (states) have a planning procedure in order to identify the most beneficial regional projects and to coordinate activities in the field of transportation.

### 3.4 Capacity Building

The local institutional capacity to address mobility issues is often inadequate. Planning and implementing sustainable mobility is a complex task that requires specialized technical capacities in urban planning and transportation, which often are not available locally. National level programs can support local governments in ensuring enough local technical capacity.

- *Support for studies.* PROTRAM in Mexico, apart from a contribution of up to 50 % to finance technical studies, also provides technical consultants to states and municipalities. This Mexican approach brings together local knowledge with national level technical capabilities. A scheme of this type provides a good incentive to those local governments with little economic and human capital and enables them to embark on long term projects with a high complexity.
- *Training.* National policies in Colombia support local governments through technical assistance and training programs. There is a working group attached to the Vice-Minister of Transport office supporting project’s implementation in the following areas: administrative, financial and accounting; construction and acquisition; social management at resettlements; communications; environmental management; and project tracking.
- *Support for technical assistance.* In India there is a provision for resources to hire expert consultants who work with local governments to identify the best solutions for each city transport and the development of the technical project, which are then subject to assessment prior to decision making whether to finance its implementation.

## 4 Breakout Group discussions on promising approaches to overcome the financing challenge for sustainable urban transport in China

Participants divided in four breakout groups brainstormed on promising approaches to overcome the financing challenge for more sustainable urban transport in China. The breakout groups were encouraged to base their recommendations on the discussions of the previous days. Each of the breakout groups was asked to adopt a motto, which expressed their recommendations best.

### 4.1 Group 1: Local Empowerment - Increasing options for local funding of SUT

The group opted to focus its discussions on local funding opportunities as the bulk of future funding for construction and operation of sustainable transport infrastructure and services will need to come from the local level. Improving the local funding basis it is required to replace revenues from land lease/sales) with more sustainable revenue sources. This can be realized by linking revenue generation and transport demand management in cities. Another key issue is to develop a better understanding and recognition of what the funding is needed for.

The group recommended developing a strategy to improve local funding based on the *ASAP*<sup>8</sup> approach, which was developed as a tool to promote improving sustainable transport:

- *A (ANALYSE)*: Create a better understanding of local revenue and expenditure
- *S (SHIFT)*: Shift existing funding to greener/more sustainable transport systems
- *A (ADD)*: Add more funding to sustainable solutions by enabling local governments to raise money and link it to demand control
- *P (PRIORITISE)*: Look into alternative options for funding and planning decisions and set Key Performance indicators to measure and monitor impacts

The group focused its discussions on the “Add” part of the strategy and focused mostly on suggestions on how to best increase local revenues related to transport.

The group acknowledged the importance of raising private investments in sustainable urban transport through a greater involvement of the private sector in public transport operations. This will require a deregulation of the transit sector and/or Public Private Partnerships to develop and operate public transport systems (good practices exist). Linking the development of public transit to commercial and residential development will most likely result in more interest of the private sector to contribute to funding transport at the local level.

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<sup>8</sup> Sakamoto, Dalkmann, Palmer (2010) *A Paradigm Shift Towards Sustainable Low-Carbon Transport, Financing the Vision ASAP*, Report, Institute for Transportation & Development Policy. Available online: [http://www.itdp.org/documents/A\\_Paradigm\\_Shift\\_toward\\_Sustainable\\_Transport.pdf](http://www.itdp.org/documents/A_Paradigm_Shift_toward_Sustainable_Transport.pdf)

Measures/sources	Status (Examples)	National Policy	Options
Parking fees	Unregulated Currently changing No good enforcement	Not discussed, no national policy or guidance	Recommend to develop good practice guidance and provide legislative framework to make better use of parking fees as funding source and as transport management tool. Regulation can also be put forward by the cities them-selves without national policy.
License plate auctioning	Shanghai Beijing Guangzhou	No national program,	Need for good analysis of impacts (questioning auctioning mechanism)  Need for national guidance
Road charging	Congestion fee does not exist	Currently no national program	Need for national initiative, legislative framework, pilots
Company tax to support public transport (see French example)	Does not exist	Would need approval from Ministry of Finance	Pilot testing
Land Value Recapture	Some practices in Shenzhen	Need change in legislation	National guidance, successful pilot projects
Ticket fares	Revenue currently very low with different pricing levels	Currently no national discussion on role of subsidies for operation	Need for policy discussion on liberalization/privatization of transport operation and consideration of peak/off-peak price differences

The group recommended that as next steps an analytical framework is developed, which includes amongst others a stakeholder map for pilot cities with associated current and future responsibilities. This can help to analyse the current revenue status and develop future revenue options<sup>9</sup>. The analytical framework and associated revenue options can then be used to have a more detailed dialog at the local and national level, whereby for the latter the emphasis should be on MoT and NDRC.

<sup>9</sup> For revenue options, use can be made of the GIZ sourcebook module 1f on finance instruments, Sakamoto 2010



## 4.2 Group 2: Mainstreamers - Scale up innovative funding options for SUT

In developing its policy recommendations the group was motivated by: (a) urgency for SUT to tackle economic efficiency, social development and environmental issues; (b) insufficient current budget for SUT needs; and (c) complex institutional frameworks. The group decided in its proposals to build on good experiences that already exist in China, with a focus on funding and institutional development. Activities for both the national and the local level were identified, aimed at developing funding streams and institutions to support integrated sustainable urban transport. Similar to the first group, experts emphasized the importance of action on local level.

### *Recommendations for the Local Level:*

Urban development pattern and transportation infrastructure and services are closely interlinked and there is a need to better integrate SUT projects urban development master plans (a more compact, mixed use and connected urban development). An important element of the planning process needs to be defining citywide objectives on key performance indicators, such as mode share (per cent trips walking, biking, using public transport, and using individual motor vehicles), trip distance (average and variation for individuals) and impacts (travel time, emissions, energy consumption, road traffic fatalities). Once defined an adequate mechanism needs to be in place to monitor progress. While individual projects shall be assessed on their own merit, it is very important that the aggregate impact on the overall urban level is monitored as well.

To advance integrated transport solutions, there is a need for institutional reform, with ideally a single authority managing urban transport (including planning, construction, operation, maintenance, enforcement). These activities may be also integrated, or at least coordinated, with land development and re-development, both as a source of funding and a way to foster non-motorised and public transport use.

To foster integrated approaches, it was recommended establishing an integrated transport fund out of different sources of funding (national and local). Allocation of funding from this single transport fund would be tied to the planning process, in a way that the urban transport plan achieves the citywide objectives (modal shares, trip distances, expected externalities). Funding priorities are the development of integrated sustainable transport systems such as high capacity rail transit and BRT (construction & maintenance), last mile connectivity using public buses (construction & maintenance) and non-motorised transport, pedestrian and bicycle facilities (construction & maintenance).. Subsidies for sustainable transport will continue to be needed to foster quality public transport services; they should however be better managed.

### *Recommendations for the National Level*

Local governments need to be authorized to create local sources of revenue such as local congestion and pollution tolls, parking fees, land value incremental fees resulting from integrated land use and transport, vehicle license fees, and others. The growing importance of urban transport justifies national government support to local governments for the development of SUT. National programs currently underway like “Transit Cities” and “Low Carbon Cities”

are very helpful and have shown that they can foster more adequate local policies. Based on this it is important to:

- Dedicate national sources of funding for sustainable urban transport. One idea is to adjust upwards the fuel and or vehicle taxes to fund local transportation and NMT improvements.
- Provide policy and capacity building support.
- Coordinate the activities of the multiple agencies responsible for guiding sustainable urban transport at the national level under a single authority.

As next steps the group recommends a more comprehensive institutional mapping followed by further elaboration of policy recommendations, e.g. increase funding from gas tax, vehicle, tolls, and other sources for SUT. Then, support will need to be built in relevant ministries

### 4.3 Group 3: Reform China Transport with New Fund - using national funding to catalyse sustainable urban transport

This group focused on national level funding to incentivize cities to take further action. Implementing the public transit development priority stated in China's 12<sup>th</sup> Five Year Plan will require reforms in central government transport system funding programs and a strengthening of both local institutional capacity and central government capacity to supervise and monitor progress towards performance goals. The group identified a possible framework for a *National Urban Low Carbon Transport Fund*. The main aim of such a fund is to strengthen local policy and effectiveness of investment rather than financing infrastructure per se.

The group suggested the following key types of initiatives that could be supported by establishing a National Urban Low Carbon Transport Fund:

- Planning, capacity-building, and data monitoring, analysis, and reporting for the metropolitan and city transportation authorities in large population centres and for provincial transportation agencies servicing smaller population centres. Comprehensive Mobility Plans that meet National Planning Requirements can be an important instrument (e.g. obligatory for cities with more than 500,000 inhabitants).
- Establishment and support for Urban and Provincial Mobility Observatories that engage local universities and interagency partnerships for independent data collection and monitoring of transport system condition, and impacts, travel demand and supply, and related analysis, modelling, and reporting, in support of metropolitan and state comprehensive mobility planning and performance monitoring.
- Competitive grants for investment in public transportation and supporting non-motorized transportation infrastructure and services and innovations in transport financing and pricing, drawn from local fiscally constrained CMPs that meet National

Planning Requirements designed to advance 12<sup>th</sup> Five Year Plan goals. Funds to be awarded by MOT to metropolitan and city transportation authorities in large population centres and to provincial transportation agencies for projects in smaller population centres, based on criteria established by MOT, NDRC, and MoHURD related to meeting national goals as well as the degree to which project design will demonstrate or extend best practices, with as well as replication potential and scalability.

Effective operation of a National Urban Low Carbon Transport Fund will require supportive regulations to guide comprehensive urban mobility planning and investment and to support innovations in public and non-motorized transport, mobility system management, transport pricing, and financing. The National Urban Transport Fund could be funded by shifting a portion of the national fuel tax and vehicle tax revenues and general revenues administered by the Ministry of Finance to the new fund.

To advance the proposal for the National Urban Transport Fund the group suggested the following action plan and schedule within one year:

1. This sketch proposal should be vetted informally in several stages by informed Chinese officials at NDRC, MOT, CATS, and MoHURD (*Month 1-2*)
2. A more in-depth proposal should be prepared by a core drafting team in light of these comments (*Month 3-4*). This especially needs discussion who would be in charge of managing the fund.
3. This more in-depth proposal should be informally reviewed and refined again in consultation with closely cooperating officials at NDRC, MOT, and MoHURD (*Month 4-5*)
4. Proposal moves forward towards adoption, through required formal legal and regulatory steps, and advice in establishing effective capacity building, administrative, and enforcement mechanisms (*Month 6-12*).

#### **4.4 Group 4: Long March to Structural Reform**

The group considered that a structural reform of the Chinese administrative system for SUT is needed, including its finance system. An essential first step in the reform process needs to be the institutional buy-in from central government agencies. To obtain such buy-in the framing of the discussion on SUT is important. It is important to highlight the benefit of SUT like economic development, better quality of life, enjoyment of urban experience, etc. There is a need to better align administrative structures with the functional urban area so that there will be one agency, which can coordinate transport policy within urban regions. Similarly, at the national level there is a need for a coordinated national urban transport program that can act as a framework for revenue mobilization.

The group acknowledged that the re-orientation and restructuring of existing transport funding practices in China will be a long-term process. However, such a long-term structural reform is needed to overcome the current structural distortion where most money is being given to road development and few provisions are made for funding of public transport. The group argued that in the short term there is a need to allocate more of existing funding to SUT. This will also require tapping into new local sources of funding for public transport. This can include revenues from auctioning vehicle licenses, parking, and land value capture.

Both short and long term improvements in SUT and any funding schemes to accomplish this will require the use of better benchmarking and performance indicators. These are needed to monitor and evaluate national and urban transport systems and to guide funding. The group proposed to develop and set up a reporting mechanism in the form of urban mobility observatories and performance monitoring. There are good examples of such systems in Latin America. Also, in India proposals are being developed to link national funding for SUT to progress being made in the quality of service delivery based on a set of standardized national benchmarks. A performance based funding system can have equity implications with underperforming cities being cut off from national level funding. To address this the group suggests that benchmarking is used to provide additional incentives beyond standard funding. A benchmarking system also needs to take developmental differences within China into account.

Another important element of the restructuring of SUT funding in China needs to be the manner in which cities can issue and manage debt. A recurring theme in the discussions in the group was that the current dependence of cities on revenue from land concessions is entirely unsustainable. Also, there is a perverse effect of these land concessions in terms of urban transport. The more land is being sold, the larger the chances of urban sprawl, lower densities and dependence on car based transport systems. Currently cities make no or very limited use of the benefits generated through SUT such as increased land values along transit corridors. It is of key importance to de-link urban revenue from land concessions. That being said, it is clear that this requires a cautious approach. In the short term it may not be feasible to finance sustainable urban transport with alternative local sources only. In the very short term, no single source will be able to generate revenue comparable to land concessions.

Cities are currently formally not allowed to issue debt in support of urban development, including SUT. To bypass this restriction many cities have set up countless special investment vehicles that can issue debt. Most of these are still linked to the cities and liabilities are being passed on to the cities. The group is of the opinion that it is not likely that the national government will be able to provide sufficient resources for SUT to the cities and neither is it likely that cities will be able to raise sufficient resources from public revenue. That leaves cities only with the choice to issue debt. This can only be done if the national government changes regulations and allows cities to take on debt.

Pilot programs are an important policy tool in the Chinese government systems and are often used to promote the deployment of new technologies, e.g. electric vehicles. They can however

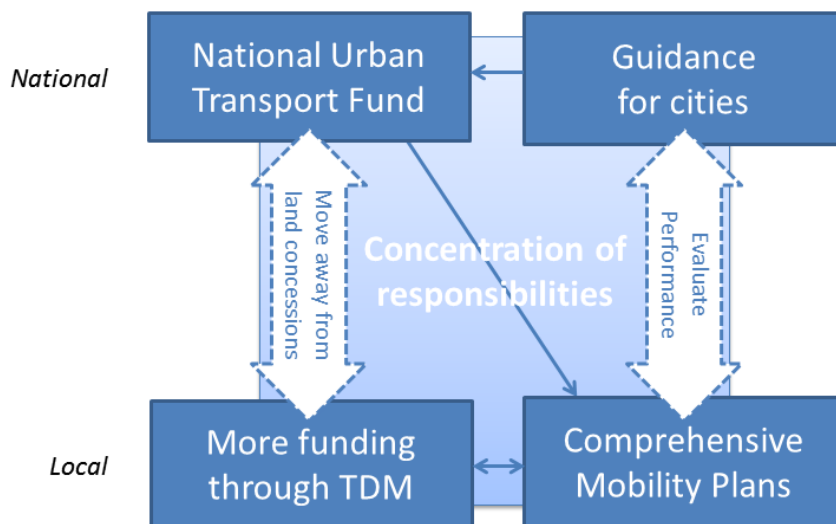
also be used to pilot new institutional mechanisms like for example property taxes which are being piloted amongst others in Shanghai. The group suggests that the national government implements an institutional pilot project in this regard. Part of such a pilot project would be bundling the delivery of different national level pilot programs like Transit Metropolis Programme, the Low Carbon Transport pilot programme, and the Low Carbon Cities programme in a specific city. Such a bundling with local projects can create a stronger critical opportunity for change. The implementation of such a pilot programme would be tied in with the development of a strategic plan. Part of the pilot programme would also be that cities taking part can experiment with local revenue generation from non-traditional sources such as property tax, land value capture, vehicle license auctioning.

As a next step the group suggests to focus on the possibilities for cities to issue and manage debt and on developing an institutional pilot project.

## 5 Moving Ahead

The discussions in the workshop both in the plenary as well as in the breakout groups indicate that funding of sustainable urban transport in China needs to be addressed in a comprehensive manner. Improving the actual funding will need to go hand in hand with institutional reforms at both the national and the local level. Similarly there is a need to change the manner in which planning of sustainable urban transport is carried out and how it is linked to overall urban development planning. Figure 1 illustrates how the different elements that were discussed by workshop participants must interlink to move ahead on the development of sustainable urban transport.

**Figure 1: Building blocks of sustainable urban transport financing in China**



Based on the working groups and the discussions, three key recommendations were identified:

1. A combination of national-local sustainable funding mechanisms is needed: It is necessary to **move away from a focus on capital investment to sustainable financial support** mechanisms. Workshop participants suggest creating a **Chinese National Urban Low Carbon Transport Fund**, with permanent funding, for example using a fraction of the fuel tax now dedicated to road infrastructure only. Transport funds on provincial and on local level could complement such a funding system. These transport funds would not only be used for infrastructure development, but also for planning, design and evaluation, as well as to provide support to public transport operations, currently severely underfunded. In addition, cities shall get authorization and be encouraged to generate local revenue for sustainable transport with approaches like **property taxes, joint transit oriented development** (e.g. high density-mixed use real estate around transit stations, like Hong Kong) and **transport demand management strategies** (e.g. Shanghai's licence plate auctioning compensates subsidies for public transit). **Current land concession mechanisms** favouring the development of low density, big blocks in the periphery of cities may not provide a continuous funding base for cities and may lock them in an unsustainable development pattern. To ensure that funding flows for sustainable urban transport are stable and predictable, urban transport expenses will eventually have to be entered into *long-term* budgetary plans in cities.
2. A comprehensive approach to integrated planning needs to be supported: At the moment, national and provincial policy guidance on sustainable urban transport is divided over many different documents and instructions. Workshop participants discussed consolidating and focusing them **into a national urban transport policy**. This could then inform the suggested National Urban Low Carbon Transport Fund so that competitive grants could be made available from the national fund for innovative public transport projects and non-motorised transport developments provided they meet certain national planning requirements. Such a comprehensive framework can serve as the basis for a national benchmarking system for urban transport performance. In addition, national or provincial funding could also be made available for **developing comprehensive mobility plans**, building capacity and monitoring performance. The current Transit Metropolis Programme has started introducing performance-based indicators to encourage cities to improve the share of sustainable transport modes and reduce harmful impacts, like the number of fatalities and injuries from road traffic. These experiences can be built upon to link funding with performance not only for capital investments, but also for capacity building, planning, operation and other activities and make integrated planning a requirement to access funds.
3. Coordination of institutions within and between cities needs to be improved: Comprehensive mobility plans can serve as a tool to coordinate transport planning.

Coordination can be further facilitated by setting up **regional transport authorities or associations** (that act between local and provincial level) with the capacity to plan, develop, and oversee all components of the transport system (e.g. for a city cluster), but also to link transport to urban development planning. Moreover, such regional bodies could be one way to further **unify all responsibilities related to urban transport**. Generally, it was discussed to further centralise responsibilities under the Ministry of Transport at the national level and the Bureaus of Transport at the city level in order to overcome the challenge of incoherence in planning, construction, infrastructure maintenance and public transport operation. Such an institutional reform could also help to stimulate public-private partnerships and improve local debt management.

The participants in the workshop were well aware that improving funding for sustainable urban transport in China will not be accomplished overnight. It is important however to make a start and continue to learn from best international practice. In order to start and test such reforms to urban transport funding, it was recommended utilising the pilot programme concept. Pilot programmes are a well-established concept in Chinese public administration to pilot new policy approaches. Several of the ideas developed in the workshop could be field-tested through a comprehensive pilot programme on institutional reform and local revenue generation.

The workshop indicated that there is no shortage of ideas for China and it was encouraging to see the convergence of opinions among the proposals outlined in this report. Implementing the recommendations of the workshop will require a combination of mainstreaming and reform. In that sense each of the breakout groups provided a part of the solution to the puzzle of better urban transport funding in China.

## Annex 1: Workshop Agenda

### **Prospects for National-Level Programmes and Funds for Sustainable Urban Transport in China**

*Expert Workshop*

The Brickyard Lodge in Mutianyu  
at the Great Wall (ca. 80km from Beijing)

November 1-3 2012

#### **Rationale**

In the context of the urbanisation and motorisation in China there is a need for huge investment in creation, operation and maintenance of transport infrastructure as well transport services. This is a joint challenge for the national and local governments.

Some big cities in China have already started implementing sustainable transport infrastructure schemes as well as policies and measures. Also, the larger cities in China are increasingly engaged in researching good practices on sustainable transport financing and policy making. At the same time other (mostly smaller) cities still lack the capacity and financial resources to cope with motorization and urbanization in terms of a pathway focused on sustainable development.

Under the current institutional set-up in China cities are responsible for the financing of the development and operation of transport infrastructure and services. At the same time, national level institutions such as the Ministry of Transportation (MoT), the Ministry of Housing and Urban Development (MoHURD) and the National Development and Reform Commission (NDRC) are promoting research and exchange of good practice and “instruct” cities to prioritize public transport. But so far only cities have mechanisms to finance the development of sustainable transport systems.

Five-Year-Plans provide mostly overall strategic guidance (e.g. identify GHG reduction objectives). More detailed direction is provided through specific documents, e.g. the strategy for the development of low carbon transport systems of MoT (published in March 2011) which provides further guidance on how to move towards a more sustainable transport system. MoT recently identified about 30 low carbon transport cities that may apply for support of specific projects. However, the availability of guidance on the eligibility for support is still limited and the incentive to invest is not very strong. It also does not address the operation and maintenance but mainly focuses on investments for projects.

China is facing two important questions in financing urban transport:

- What can and should the national government do to establish conditions allowing a sustainable development of transportation in Chinese cities?
- How can an institutional system that both promotes a more sustainable development of urban transport systems and which at the same time is economically sustainable be developed, i.e. what are suitable procedures and criteria for national-level funding of urban transport (construction, maintenance and operation)?



<b>Objectives</b>	The workshop on <i>prospects for national-level programmes and funds for sustainable urban transport in China</i> aims to gain a better understanding of current institutional and financial arrangements in China for (sustainable) urban transport and learn from international experiences. The key focus is the development of specific recommendations for the Chinese situation and funding practice, which take into account good international practice. The results will be presented to the Chinese government in early 2013.
<b>Participants</b>	The group will consist of max. 20 experts, about 10 international experts with a background transport finance and 10 Chinese innovative thinkers.  For further details, see the tentative participant list below.
<b>Methodology</b>	<p>A participatory facilitation methodology will be utilized to fully capture the expertise of the participants. This means that no formal presentations will be delivered but that instead structured brainstorming methods will be used to review existing and identify future options for national level support and funding for more sustainable urban transport in China.</p> <p>The workshop will discuss different institutional, legal, and financial frameworks for the practice of national level support or urban transport systems and decide on several options for China. The discussion will focus on how national policies can change and/or influence the institutional set-up of such financing mechanisms.</p> <p>During the workshop the practice of national support and financing municipal initiatives in a variety of countries (both developed countries and emerging economies) will be shared and these will be an important input in the identification of new possible Chinese financing arrangements.</p> <p>The results of the workshop will be outlined in a paper that will summarize the challenges ahead and the recommendations for reforms developed in the workshop. This paper will be a thought piece for the future of sustainable finance targeting the national government (NDRC, MoT etc.). It will be presented in a workshop in early 2013. At the same time such a paper can also inspire follow-up conceptual work by international organizations with an interest in sustainable urban transport financing.</p>

# Agenda

## Thursday 1 November

- 6:30 – 8:00 pm: Welcome dinner with opening remarks by Mr Adam Mutwil, Transport Counsellor at the German Embassy
- 8:30 – 10:00 pm: Lecture “Urban Development in China: implications for sustainable transport” by Dr. Jiang Yulin, Director of the China Urban Sustainable Transport Research Centre (CUSTREC)

## Friday 2 November

- 8:30 – 8:45 am: Formal opening
- 8:45 – 9:00 am: Introduction to the workshop (scope and methodology)
- 9:00 – 10:00 am: Self-introduction of participants and their expectations
- 10:00 – 12:00 am: Developing a joint understanding of financing challenges of urban transport in China and adequacy of current approaches
- 12:00 -1.30 pm: Lunch
- 1:30 – 4:00 pm: Good practices on funding sustainable urban transport from Brazil, Colombia, Germany, India, United Kingdom and United States
- 4:00 – 4:45 pm: Group discussion to set criteria to review future sustainable urban transport funding approaches in China
- 4:45 – 5:30 pm: Set up of breakout groups and task assignment
- 7:00 – 9:00 pm: Social activity: Dumpling making & eating

## Saturday 3 November

- 8:30 – 8:45 am: Summary of previous days and instructions to breakout groups
- 8:45 – 11:30 am: Breakout sessions
- 11:30 – 12:15 pm: Presentation breakout groups
- 11:15 – 12:30 pm: Group Photo
- 12:30 -1:30 pm: Lunch
- 1:30 – 3:30 pm: Discussion outputs breakout groups and follow-up to the workshop
- 3:30 – 4:30 pm: Workshop evaluation
- 4.30 pm: Formal Closure of workshop

## Sunday 4 November

Optional visit to Great Wall

## Annex 2: List of Participants

No.	Name 姓名	Organization 组织机构
1	Adam Mutwil	German Embassy in China
2	Amit Bhatt	Embarq India
3	Axel Stein	KCW Berlin
4	Chen Ying (陈颖)	GIZ China Office
5	Cheng Shidong (程世东)	Institute for Comprehensive Transportation at NDRC
6	Christian Hochfeld	GIZ China Office
7	Cornie Huizenga	Partnership for Sustainable Low Carbon Transport
8	Daniel Bongardt	GIZ China Office
9	Dario Hidalgo	Embarq Colombia
10	Ellen Rong (戎静)	Interpreter
11	Fang Wangli	World Bank Beijing Office
12	He Dongquan (何东全)	Energy Foundation China
13	He Min (何民)	Kunming University
14	Holger Dalkmann	Embarq Washington
15	Jiang Yulin (江玉林)	China Urban Sustainable Transport Research Center
16	Jin Jingdong (金敬东)	Transport Planning and Research Institute of MoT
17	Li Zhenyu (李振宇)	China Urban Sustainable Transport Research Center
18	Liu Zhi (刘志)	World Bank Beijing Office
19	Maximilian Thess	GIZ China Office
20	Michael Replogle	ITDP Washington
21	Su Song	China Urban Sustainable Transport Research Center
22	Philipp Crist	International Transport Forum
23	Rodrigo Diaz	Embarq Mexico
24	Sun Shengyang (孙胜阳)	GIZ China Office
25	Urda Eichhorst	GIZ China Office
26	Wang Tao (王韬)	Carnegie Endowment Beijing
27	Wang Zhen (王震)	Qingdao DRC
28	Xue Lulu (薛露露)	WRI China Office
29	Zeng Heshuang (曾荷霜)	WRI China Office
30	Zhang Haitao (张海涛)	WRI China Office
31	Zhao Quanhou (赵全厚)	Research Institute of Fiscal Science





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