

**Planning for the Laobaixing<sup>1</sup>: Public Participation in Urban Transport Project,  
Liaoning, China**

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<sup>1</sup> “Laobaixing” is the Chinese for “common people”.

**ABSTRACT**

International experience suggests that in the realm of urban transport, a public participation process can be a valuable complement to the technical planning process in generating good projects with widespread distributional benefits that minimize concentration of adverse impacts. If properly designed, participation processes also offer an opportunity to incorporate the interests of vulnerable groups into the planning process.

This paper presents a recent case study of a World Bank financed urban infrastructure improvement project in Liaoning, China, where the successful development of a meaningful public participation process influenced project design to better address the broad needs of the project beneficiaries. Particularly, the participatory process significantly influenced the project design and raised city leaders' sensitivity to public needs. Through the process the project shifted focus from major road expansion to secondary road improvements. Additionally, the participation processes picked up latent issues to better address needs of non-auto users, women and other urban vulnerable.

The outcomes of the Liaoning participatory project indicate that a mainstreamed participatory process offers the potential to systematically reveal and address critical issues and public needs early in the planning process, which leads to higher value projects to accomplish investment goals.

**Key words:** Public Participation, Project Design, Urban Vulnerable, Infrastructure Development, and Urban Planning

## INTRODUCTION

International experience suggests that in the realm of urban transport, a public participation process can be a valuable complement to the technical planning process in generating good projects with widespread distributional benefits that minimize concentration of adverse impacts (Zhong, et. al, 2003; and UNDP, UNEP, the World Bank, and World Resource Institute, 2003). If properly designed, public participation processes also offer an opportunity to incorporate the interests of vulnerable groups into the planning process.

This paper presents a recent case study of a World Bank (herein, the Bank) financed urban infrastructure improvement project in six medium cities<sup>2</sup> in Liaoning province, China, where the development of a public participation process influenced project design to better address the needs of the public, especially the urban vulnerable. In particular, the technical project identification and appraisal process was complemented by an extensive participatory element to determine the public's key concerns, to prioritize project focus, and to incorporate public inputs into project design. This participatory endeavor, involving multiple phases of open meetings, focus groups, and structural surveys over the course of project development, was also one of the first of the kind in China that was officially endorsed and funded by the city governments.

The Bank has financed about ten transportation infrastructure projects in China over the last ten years. The Bank financed projects were identified jointly by the Bank team and the local governments in line with the mutually agreed upon development objectives. In the Liaoning project, these objectives were to support the revitalization of the project region via a program of infrastructure developments<sup>3</sup>, including, on transportation side, investments in roads, public transport facilities, traffic management, pedestrian and bicycle facilities. The broader objective was to improve the quality of the overall urban transport network, reverse the deterioration of the asset base, improve the "livability" and investment climate, and build capacity for urban transport planning.

During project preparation, the local borrowing agencies prepared the Feasibility Studies (FS), through reputable domestic consulting organizations. The Bank reviewed and provided comments on the FS. At the same time, environmental impact review processes were required under domestic and Bank policies. The Bank performed additional processes to assess the project resettlement plans, and the implementing agencies' financial management and procurement capacities. Upon completion of project identification and preparation, the Bank team appraised work done, and then proceeded with loan negotiation. For the Liaoning project, the Bank financed US\$218 million out of

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<sup>2</sup> The project cities include Panjin, Jinzhou, Fushun, Benxi, Liaoyang, and Dengta, which have population of half to two million, and annual GDP of \$3 – 4billion.

<sup>3</sup> The northeast region, where the project is located, used to be the country's heavy industrial centers. Today the state-own enterprises (SOEs) there are struggling to adapt to the market economy and regain their competitiveness in the nation. As part of a program to revitalize the industrial base in the northeast region, the Government of China has programmed a series of Bank urban infrastructure investment projects in Liaoning. The proposed project is the first of three projects (including also an environment and a heating project) programmed by the province to support its revitalization.

a total investment of US\$523 million<sup>4</sup>. Project implementations were carried out by the borrowing agencies, and supervised by the Bank semiannually.

In identifying and preparing for projects, the analysis processes, run by the Chinese project implementing agencies, have become increasingly sound and robust. However, the project planning processes remain inherently technical. Similar to the US transportation planning practices prior to the 1970 Boston Transportation Planning Review (BTPR), technical concentrated transportation planning studies often call for major expansions of highway or road with minimal attentions to alternative modes (Weiner, 1997). Meantime, as citizens were involved late in project developments, they often could not effectively contribute to the project decision making. Otherwise, citizens' views might've shifted the basic issues on build-vs.-no-build or on the selection of alternatives (USDOT, 1996).

To certain degrees, this piece of US transportation planning history repeats in the current Chinese planning practices, which have led to substantial concentration of resources in road expansions. In addition, the current practices have not been effective in identifying citizen's priorities. Although public consultation is required as part of the environmental impact review process, such consultation normally occurs after investments decisions are made and focuses on impact mitigation, leaving little room for residents to influence decisions on what is built around them<sup>5</sup> (Warner, 1998). As identified in a study on the Bank financed Wuhan Urban Project, China (Zhong et. al, 2003), the vulnerable are often an afterthought in urban infrastructure design. It is in the effort to avoid potential "bad" decisions and improve project design based on better understandings of the citizens' priorities that a public participation process was initiated for the Liaoning project.

## **PARTICIPATION METHODS AND PROCESSES**

### **Design of the Participatory Process**

As illustrated in Figure 2, the participatory process was integrated into the project development cycle, and carried out in three phases: (1) at the project design and feasibility stage, Phase I participation was to identify major transportation issues of public concerns; (2) at post project design and pre-appraisal stage, Phase II participation opened the proposed solutions to issues raised for public comments; and (3) at the project implementation stage, Phase III participation process was designed to involve the public into project monitoring and evaluation, and to assess the satisfaction level of the public on the project. The three phase process is estimated to cost \$400,000 - \$500,000 over a 5 year period. Currently Phase I and II have been completed.

By design, the processes are to be facilitated by an independent consultant. The Liaoning Academy of Social Science (LASS) won the consulting contract to carry out the Phase I and II participation work, which have been completed. As designed, LASS established a Public Participation Facilitation (PPF) team to facilitate the participatory activities. The

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<sup>4</sup> For details of the projects, please see the World Bank website under "Projects & Operation".

<sup>5</sup> As indicated by the an Overseas Development Institute (ODI) 1998 report, EA procedures rarely lead to "interactive" or "self-mobilization" forms.....rely instead on "information disclosure"...in the participation topology, as shown in Figure 1 (Warner, 1998).

PPF team involved LASS staff, designers and project engineers, and university students. The works by the PPF team were supported by the Bank, the Bank consultant, and the local project preparation and implementation agency – Liaoning Urban Construction and Redevelopment Project Office (LUCRPO).

### **Participatory Method**

As illustrated in Table 1, the process involves multiple phases of open meetings (OM), focus group discussions (FGD), individual interviews (II) and questionnaires (Q) to engage the public:

*Open meetings* are designed as the first activity when the PPF team enters the local community. The meetings introduce PPF team to the local communities, and more importantly, bring together the government authority, project team, and local residents to share information about the project and exchange views on the priorities of issues to be addressed. The public opinions collected from open meetings also supplement the findings and results obtained from later stages of the participatory process.

*Focus Group Discussions* are conducted at the end of open meetings. It is the major tool to collect qualitative information on different stakeholders' needs and issues of concerns. To involve a good representation of both the largest population and special interest groups in the cities, recruitment is designed to cover both mode-driven groups and vulnerability-driven groups, with the former including pedestrians, cyclists, drivers/owners of motorbikes, and the latter involving women, seniors, the poor, and disabled groups.

*Individual Interviews* are carried out as needed to collect information from disadvantaged populations, such as the disabled, or people with psychological concerns or other reasons to be interviewed personally.

*Questionnaires* are administered to a sample of residents in the project affected communities of each city to complement and verify the results from focus group discussions and individual interviews. Focus groups participants or interviewees may also respond to the questionnaires. The design of the questionnaire is in line with the questions from focus groups and individual interviews, but in a more close-ended manner.

*Panel approach:* the design of the participatory process applies a panel approach, in which a portion of the same participants (panel) will be involved in all three stages of the participation activities to allow before-and-after comparisons. By design, the panel should include both men and women, representing different mode users and different vulnerability groups.

### **Recruitment Plan**

Recruitment of the participants was carried out in two steps: community selection and subject selection. In the project cities, there are normally four types of residents: (1) those who work for the government or related institute and live in government built houses, (2) those who live in old residential buildings and work for local companies, self-employed

or unemployed, (3) those who live in the newly established commercial districts and are the wealthiest group in the city, and (4) migrant workers, who rent in the old residential buildings. The second type of residents are relatively poor, but they compose the largest proportion of the cities' total populations. The open meetings and other participation activities are targeted to the urban communities, where the projects take place, as well as where the second type of residents, the relative urban poor, are concentrated.

In the targeted communities, residents are selected to form the mode-driven groups and vulnerability-driven groups for focus group discussions or individual interviews. The recruitment is designed to cover broad as well as specialized interests of the public. Gender separated groups are also designed to ensure sufficient female participation. As illustrated in Table 2, for each city, there should be (1) gender separated poor groups, (2) groups of drivers or owners of major mode of vehicles, (3) gender separated bikers or walker groups, (4) the disabled for individual interviews, and (5) focus groups of senior residents or migrants as appropriate to the city context.

The questionnaire subjects are recruited through a three-staged sampling process. The sample sizes are determined as a proportion of the city total population. Sample backups are prepared at 50% of the sample sizes. At the beginning, two to four communities are randomly selected from the project impact areas. Within the selected communities, households are then selected through systematic sampling. From the selected households, subjects are selected following specific orders of gender and age. The gender and age distributions of the sample are determined by the same distributions of the cities' total population.

### **Phase I and II Public Participation Processes**

Phase I participation was carried out simultaneously with the technical analysis during project design and preparation period between September and November of 2005. The objectives of the process were to determine the public's key concerns, to prioritize problems to be solved under the project and to incorporate public inputs into project design. Phase II public participation was carried out in April 2006. The major objectives of Phase II were to: (a) determine the public's assessment of the extent to which the findings from the Phase I participation were addressed in the project design; (b) provide a baseline for pre-implementation public satisfaction<sup>6</sup> by measuring the public's assessment of the quality of the urban transport systems in the project cities; and (c) identify public concerns related to project implementation<sup>7</sup> and their suggestions on ways the concerns could be addressed.

For both phases of public participation, LASS, as an independent consultant, conducted extensive three-stage efforts: focus groups and individual interviews, open meetings and

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<sup>6</sup> This baseline information will be compared with output from Phase III participation to determine public's satisfaction level on the project.

<sup>7</sup> Under Phase II, the public were encouraged to raise their concerns over project implementation, including those relating to (i) noise and other construction related disruption, (ii) resettlement, resettlement compensation, timing and any other resettlement and rehabilitation issues, (iii) any concerns relating to quality of project implementation; (iv) concerns related to misuse of project funds; and any other priorities.

questionnaires. Special efforts were made to ascertain the needs of vulnerable groups, such as the elderly, migrants, the unemployed, the laid-off and the disabled. “Women only” discussions were conducted to ensure that needs and issues specific to women were properly identified. Findings from Phase I led to special attention during Phase II to involve pedestrians, bicyclists, and bus users. Design institutes and city authorities attended the discussions to provide responses to the issues raised on project design. Table 3 summarizes the activities carried out under Phase I and II participation processes.

### **Phase III Public Participation Process**

As the project move into the implementation stage, the project cities will hire a consultant to follow up on the findings from Phase I and II participation. This phase of participation is designed to be incorporated into project monitoring and evaluation activities. Quantitative surveys will be designed to generate public satisfactory indicators, which can be monitored by the Bank during its semi-annual supervisions of project implementation. In particular, at Phase III, at least two rounds of participation (mid-term and at project end), or ideally annual participation, will be conducted over the course of project implementation.

## **FINDINGS FROM THE PARTICIPATION PROCESSES**

### **Findings from Phase I Participation**

As summarized in Table 4, the first phase of participation collected qualitative inputs from the discussions with vulnerability-driven groups, mode-driven groups, and the disabled individuals on their travel patterns and preferences, the difficulties and barriers they face with the current transportation systems, their unsatisfied transportation needs, and their suggestions on ways and priorities of improving the current transportation conditions. Quantitative inputs were collected through questionnaires to samples of the general city populations on similar issues to supplement and verify the qualitative findings.

Through the focus group discussions and individual interviews, key transportation issues in the project cities were identified as summarized below with quotes from focus group discussions illustrating the problems. The issues identified are consistent with the quantitative findings from questionnaires as demonstrated in Figure 3.

#### Poor pavement and drainage conditions of secondary roads and alleys

*A disable female: “I normally travel by wheelchair; my greatest concerns are the roughness of roads... my wheelchair often got stuck in the road cracks.... Now I feel reluctant to go out alone.”*

*Mr. Lu, 51 yr old: “there’s no drainage system on the road, when it rains hard, the roads become rivers, when it rains mildly, water is pooled everywhere.”*

*Male, 48 yr old, and a driver in the city for years:” it’s been at least 6-7 years since the roads in the city were repaired last time.... Some road really need repair...”*

#### Poor sidewalk conditions and walkability

*Ms. Dong, main mode of travel: walk: “I walk everyday along Gaoshan Road for work. There’s literally no sidewalks there, besides the road pavement is rough, it’s very difficult to walk, especially when it rains...”*

*Ms. Liu, 65: “...because the road condition is so bad, especially no sidewalks, i don’t dare to go out...I think future plan should definitely include sidewalks...”*

#### Lack of MV and NMV separation

*A bicycle user: “... there’re very few bicycle lanes in the city. They are very narrow, without proper management, pedestrians, bicyclist, and motor drivers all use bike lanes. It’s quite dangerous...”*

*Mr. Zhang, 52: “I bike to and from work daily through downtown, where there’s no mv/nmv separation. Pedestrians share narrow and rough roads with all kinds of vehicles.... It’s very dangerous...”*

*Mr. Wang, bike to work, use bus once in a while: “when I bike to work, I concerns very much on my safety, because mv often drive on bike lanes and often with high speeds....”*

#### Poor Traffic Management

*Ms. Peng, 39: “it’s quite often for mv driver to cross intersection with high speed. My kid was one time almost hit by a car. It still worries me....”*

*Mr. Zhang, 47, driver: “I’ve been driving for decades, I can’t fully understand traffic rules and regulations in the city yet.... with such narrow roads and not much traffic lights here, I really don’t know if there could be any relevant traffic regulation....”.*

*A resident who commute by motorcycle: “there’re often no traffic lights. intersections are chaotic, traffics are in every directions...”*

#### Lack of street lighting and signage

*Ms Jin, retired worker: “There’re no lights on some streets. Robbery happens frequently there. I wouldn’t dare to walk alone when it’s turning dark.”*

*Ms. Shi, 43, road cleaner: “I bike to and from work; I don’t feel safe biking home when it’s a little late. ....it’s extremely dark in some sections, there’re lights, but they don’t work, I don’t know why...”*

*A young professional: “My work often keeps me late, when I go home, I’m so frightened by the darkness on some roads. Some lights are broken for very long time and nobody fixes them. Though my husband walks me home when he can, there are times I walk home alone and I felt terrified.”*

#### Gender differences in needs associated with safety, security and public transport

The process identified gender differences in the needs related to safety, security, and the concerns over the quality of public transport. Specifically, women, more than men, raised the concerns over (1) the lack of street lights, which constrained women's use of roads at night, (2) poor quality bus services, such as the lack of availability of bus services early in the evening, leaving women no reliable ride home when working late, (3) long wait at bus stops together with poor stop facilities, making many women (often holding children) suffer in rain or wind while waiting for buses to come, and (4) unsafe road crossings, such as unmanaged underpasses where the homeless stay, or overpasses with steep slopes, which make it hard to cross during the icy winters.

#### *Follow-Up on the Findings in Project Design*

The issues identified in Phase I were presented to the local officials to raise decision makers' awareness on the public concerns. As a result of the participatory process and the outreach efforts to commit the local authorities, the final feasibility studies include a section highlighting how the issues raised in the public participation process were addressed in the project design. Table 5 summarizes the major issues raised and addressed under the project.

#### **Findings from Phase II Participation**

At the second round of public participation, the open meetings were organized at a street commune level, where the project implementation authorities and design engineers presented the project design and explained to the public how the design was adapted to incorporate the issues raised in Phase I public participation. These presentations were complemented by detailed descriptions of project design, including maps, drawings and plans. During open meetings and focus group discussion, the public were given ample opportunity to ask questions, raise any concerns or issues not adequately addressed by the design, and raise concerns on project implementation. Findings from the Phase II process are summarized below:

#### Extent to Which Issues Raised at Phase I were Addressed

Most of the participants agreed that the revised designs satisfactorily reflected the concerns raised in the first round of participation. Participants also made suggestions on additional improvements related to drainage and pavement conditions, infrastructure management and maintenance, illegal use of sidewalks, poor bus stop facilities, MV/NMV separation, signal timing optimization, and accessibility for the disabled.

#### Implementation Concerns and Suggestions on Addressing the Concerns

The following concerns were raised related to project implementation. Suggestions to address them were also provided:

- Participants expressed concerns over construction quality and suggested that project quality and the optimization of fund utilization can be improved by greater involvement of the public.
- Construction impacts: noise, air quality, and the disruption caused by construction were viewed as the major concerns. It was suggested that late night construction be avoided, and construction solid waste cleaned in a timely manner.

- Participants raised resettlement concerns related to affordability of new houses, locations of compensated houses, preference of compensation methods, and proper use of compensation funds.

#### Expressed Interests in Public Participation

The public participation process was highly welcomed by the participants. Suggestions were made to continue and better engage the public in decision making of infrastructure design.

#### *Follow-Up on the Findings*

It was agreed by the local project implementation authorities that project design will be adjusted in the following ways to reflect the above findings from the Phase II public participation:

To reflect the public concerns on construction quality and governance issues, it was agreed that:

- The public would be kept properly informed about the project by publicizing project information via a variety of media.
- Various channels will be made available for the public to provide inputs into project development and decision making, e.g., dedicated public opinion phone number, workshops, surveys, newspapers, website, etc.

Participants have identified issues that need to be further addressed related to public transportation and infrastructure improvements, which have not been included in the Project. It is agreed by the local project implementation authorities that these issues will be specifically answered and/or addressed either through this project or by separate projects in the cities, specifically:

- Public transportation issues will be addressed in a network review of the Technical Assistant component of this project,
- The process has identified great needs for some infrastructure improvements that are not funded through this project. The city governments agreed to provide the identified improvements through domestic funds. However, such projects will be the priorities to be financed under this project if an unallocated loan<sup>8</sup> for the project becomes available.

#### **Expected Outcomes from Phase III**

The third round of participation activities will provide public input to help ensure that implementation related concerns raised at Phase II participation are adequately addressed, and that the project investments are designed in a manner that maximizes benefits for users. Phase III is also expected to provide feedback on the impact of specific project components: traffic safety, public transportation, and infrastructure improvement components. Through Phase III, public's general satisfaction with mobility, convenience, cost and safety elements of the city's urban transport system are to be measured and

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<sup>8</sup> Unallocated proportion of a loan occurs when the actual project costs are lower than the estimated costs; in such circumstances, the balance between the planned loan and the disbursed loan hence becomes unallocated.

monitored. This information will also be compared with the baseline public satisfaction information to form project evaluation.

## **PUBLIC PARTICIPATION: THE DIFFERENCES MADE**

### Raise the awareness for decision makers

The efforts of two rounds of public participation successfully highlighted to the city leaders problems such as the poor conditions of secondary roads and sidewalks, safety at intersections, the need to separate the stream of non-motorized traffic, and the need to improve public transport service. It helped to address, on a priority basis, the needs of the non-auto population. City authorities have noted that while such participatory planning was not part of the previous planning practice, it provided them with a good model for interacting with the public on transport planning issues.

### Dramatic changes in project design in favor of the public interest

The participatory process resulted in significant changes to the project compared to the initial proposals: the initial proposals focused primarily on facilitating new urban developments and road expansion, whereas the participatory process resulted in the emphasis being shifted to sidewalks, the needs of pedestrians, secondary road improvements, and traffic management, especially the separation of MV and NMV traffic.

### Latent issues were picked up to take care of the urban vulnerable

Through the participatory process, latent issues, such as missing street lights and poor public transport services, were picked up to address the needs of women, or other vulnerable populations. It is implied that public participation can be a good instrument for raising the sensitivities of project design to meet the specialized needs of different populations, especially the urban vulnerable.

### Generated interests in institutionalizing public participation

Residents involved in the processes expressed great interest in being part of the participatory activities. City authorities have noted that while such participatory planning provided them with a good model for interacting with the public on transport planning issues.

## **CONCLUDING DISCUSSION**

The participatory endeavors made under the Liaoning Medium Cities Urban Transportation Improvement project has significantly influenced the project design and raised city leaders' sensitivity to public's needs. Through the process, the project shifted its focus from major road expansion to secondary road improvements to better serve the public interests. Project design also picked up latent issues to better address needs of non-auto users, women and other urban vulnerable. The experience in Liaoning, consistent with international experiences, suggests that mainstreaming public participation in urban infrastructure design and planning, especially from early stage of planning, would (1) reduce the risk of bad ideas in project designs, (2) create a mechanism to "lobby" for the *Laobaixing*, and the urban vulnerable, and (3) generate good projects with widespread distributional benefits that minimize concentration of impacts.

### Reduce the risk of bad ideas

Consistent with the US experiences in the 1970s (Weiner, 1997), the participatory finding of the need to shift project focus from major road expansions to secondary road rehabilitation implies that the technical planning process alone falls short of managing the potential risk of bad investment: failure to materialize (the stated) project benefits. This risk is associated with two types of uncertainties: uncertainties about the infrastructure conditions in the cities, so that investments are not targeted to locations where improvements are most needed; and uncertainties about the project beneficiaries' interests (or obscurity about who are the beneficiaries), so that the original investment proposals were not made to the best interests of majority system users in the project cities – about 90% of the total population, who are non-auto users (the World Bank, 2006).

The current planning practice in Liaoning deals with these uncertainties with assumptions made through the technical planning process. When investments are proposed, the process is not immune to the political drives or pressures to deliver, even if the proposal is found not compatible to the best project benefits. The addition of a participatory process provides a mechanism to involve broad knowledge and opinions to make certain the uncertainties at the early planning stage, to avoid bad assumptions, and minimize the risk of bad investments. This approach, applied in the US under NEPA, ISTEA, TEA 21, has provided advantages to avoid serious mistakes in investing in projects that may fall far short of investment goals (Mehndiratta, et. al, 2000).

### Lobby for the “Laobaixing”

The technical planning process, applied in Liaoning infrastructure design has gotten increasingly sound and robust. However, the current practices focus substantially on car driving and the demand of motorization. Despite the rapid motorization, the majority Chinese urban households are still car-less and likely to remain so for the next 10-15 years (Liu, 2006). In the project cities, an average of 80% to 90% of the total population walk, bike, or taking buses. The Liaoning public participation process brought focus back to the majority non-auto population, the Laobaixing, and provided a mechanism of organizing Laobaixing to voice their interests in the decision makings of infrastructure investments.

### Leads to better Project Design

The outcomes of the Liaoning participatory project indicate that a participatory process, as a complement to a technical process, would inherently raise sensitivity of project design to the needs and issues related to disadvantaged populations. In transportation projects, a mainstreamed participatory process offers the potential to systematically reveal and address the needs of the transport-disadvantaged. In addition, public participation would lead to improved project cost-effectiveness: the small and inexpensive measures suggested by the general public, such as improving secondary roads, motor vehicle /non motor vehicle separation, and fixing street lights, provides greater public satisfaction with much lower costs than the originally proposed urban expansion and ring road developments.

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**Figure 1: Topology of Participation**

### **Typology of Participation**

**Information Disclosure** – people participate by being told what has already been decided or has already happened.

**Public Consultation** – people participate by being consulted. External agencies define problems and information-gathering processes, and so control analysis. Consultation carries no obligation to take account of people's views.

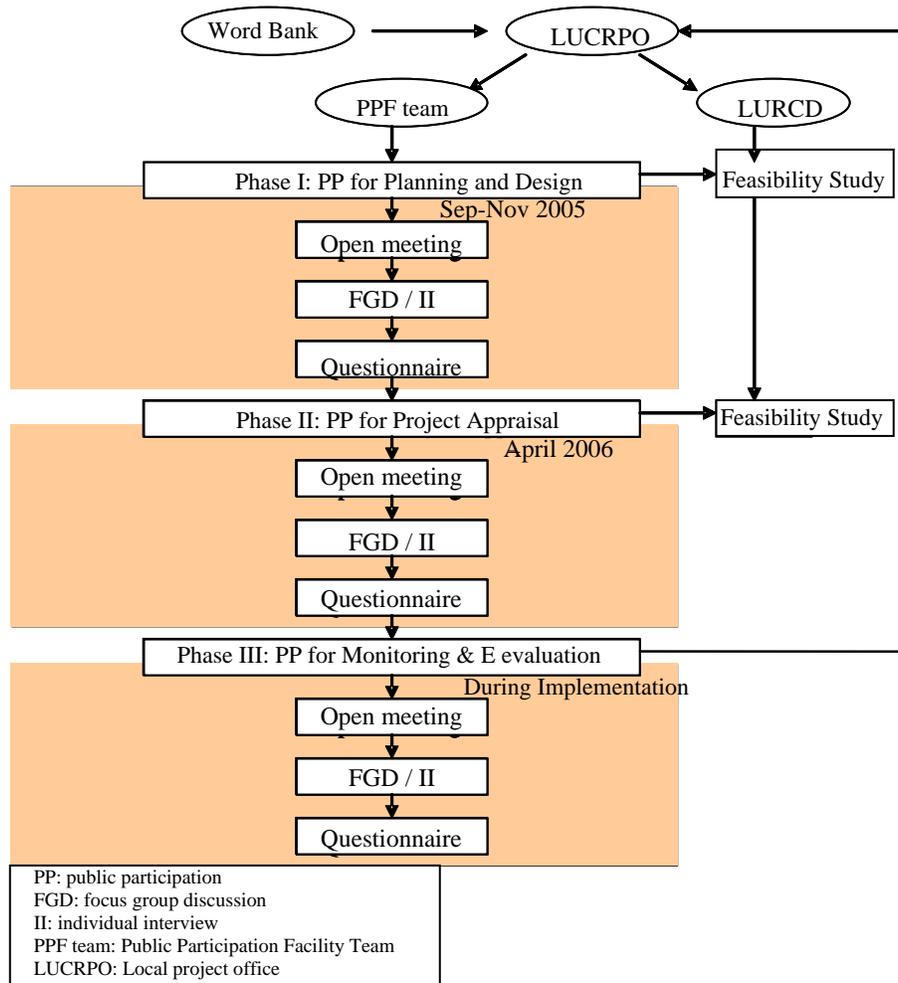
**Functional Participation** – people are encouraged to participate as a means to achieve project goals, especially to reduce costs and comply with procedural requirements.

**Interactive Participation** – people participate in partnership with external agencies, at the early strategic stages of project design and throughout its implementation.

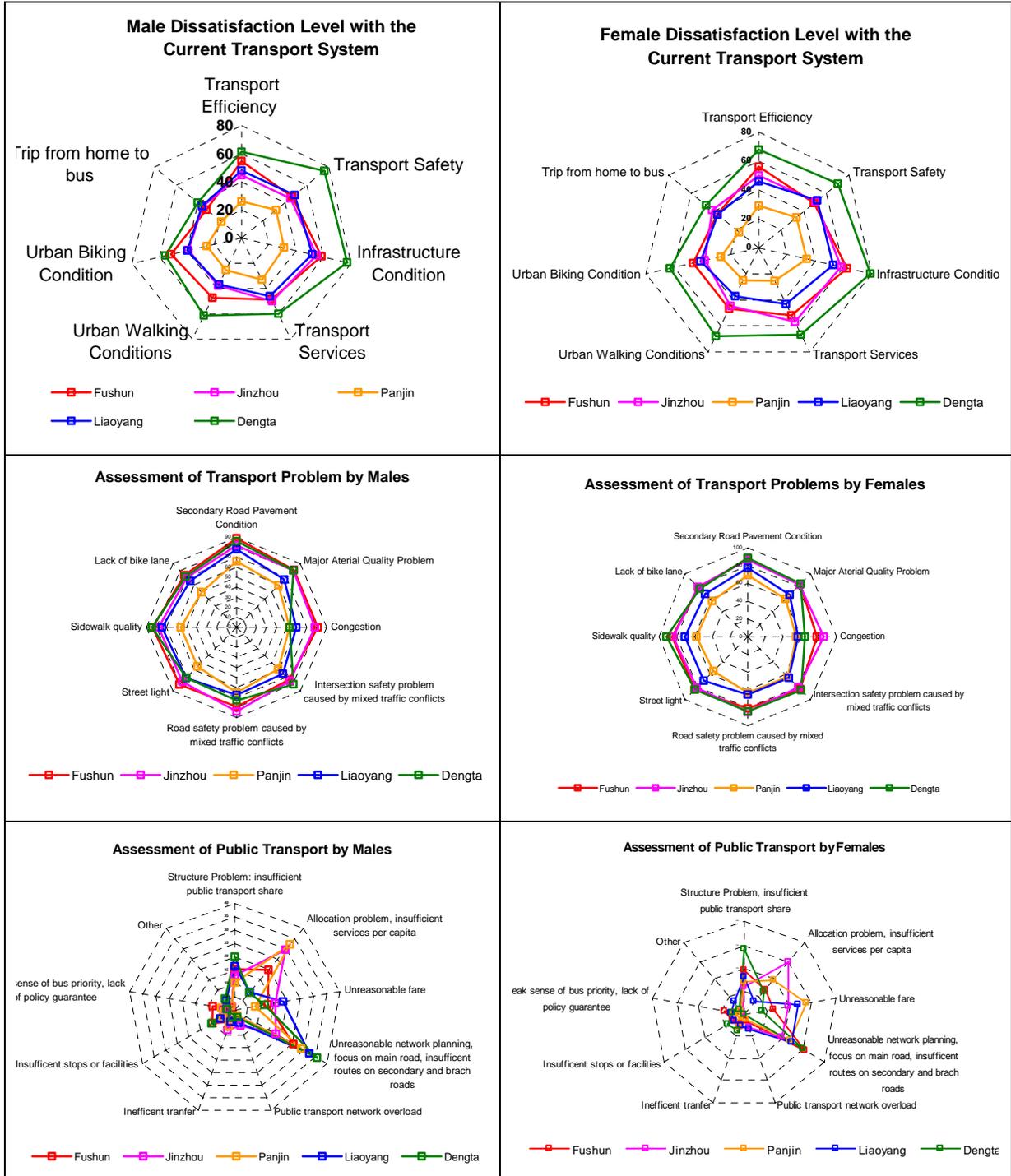
**Self-mobilisation** – people participate by taking initiatives independent of external agencies, particularly if governments, NGOs or private companies provide an enabling framework.

*Source:* Adapted from Pretty (1995)

**Figure 2: Public Participation Process**



**Figure 3: Findings from Questionnaires through Phase I Participation**



**Table 1: Participatory Method**

Groups / individual	Number of people for each city	Public participation methods				
		OM	FGD	II	Q	P
V group 1	10	✓	✓		✓	✓
V group 2	10	✓	✓		✓	✓
V group 3	15	✓	✓		✓	✓
M group 1	10	✓	✓		✓	✓
M group 2	10	✓	✓		✓	✓
M group 3	15	✓	✓		✓	✓
Disabled people / Key informants	5--10			✓	✓	
Individuals	1200				✓	

V group: Vulnerability – driven group, such as poor, and senior, and etc.

M group: Mode-driven group, such as walker/ bus user, driver/ owner of three wheeled vehicles

OM: Open Meetings, FGD: focus group discussions, II: Individual Interviews, Q: Questionnaires, P: Panel Approach

**Table 2: Focus Group Recruitment**

Sorting	Focus groups	Gender	Number of participants	Note
Mode-driven group	Walkers / bus users	M / F	10-10	Choose either one
	Bicycle users	M / F	10-10	
	Bus drivers	mixed	15	Choose either one
	Three-wheeled vehicle drivers	mixed	15	
Vulnerability-driven groups	Poor people	M / F	10-10	Must
	Disabled	mixed	5-10	Individual interview
	Migrants	mixed	15	As appropriate
	Seniors	mixed	15	As appropriate

**Table 3: Summary of Phase I and II Public Participation Process**

<b>Phase I Participation Process</b>				
<b>City</b>	<b>Open Meeting (persons)</b>	<b>Focus Group (groups/persons)</b>	<b>Individual Interviews (persons)</b>	<b>Questionnaires (number)</b>
Liaoyang	30	12/86	11	503
Jinzhou	30	12/89	12	711
Fushun	27	12/93	11	696
Panjin	28	12/85	11	497
Dengta	30	8/60	10	151
Benxi	26	12/90	10	700
<b>Phase II Participation Process</b>				
<b>City</b>	<b>Open Meeting (persons)</b>	<b>Focus Group (groups/ persons)</b>	<b>Individual Interviews (persons)</b>	<b>Questionnaires (number)</b>
Liaoyang	90	12/120	10	400
Jinzhou	90	12/120	10	500
Fushun	90	15/120	10	500
Panjin	100	12/120	10	403
Dengta	30	6/60	10	150
Benxi	90	12/120	10	500

**Table 4: Types of Issues Examined under Public Participation**

<b>Focus Group Discussions</b>
<i>Vulnerability Driven Groups</i>
<ul style="list-style-type: none"> <li>○ Mode choice and other major travel patterns (routine trips, special trips, and preferences)</li> <li>○ Impacts of the project (knowledge of the project, and the relevance of the project to subjects' mobility)</li> <li>○ Major transportation problems or barriers (road condition, walking and biking condition, safety, crossing conditions, costs of travel, regulation and enforcement, and exposure to weather)</li> <li>○ Unmet transportation needs</li> <li>○ Suggestions on improving the current transportation systems (wish list)</li> <li>○ Other</li> </ul>
<i>Mode Driven Groups</i>
<ul style="list-style-type: none"> <li>○ Mode choice and other major characteristics of travel</li> <li>○ Major difficulties in travel</li> <li>○ How past changes in the city impact subjects' trip making</li> <li>○ Satisfaction level on the current transportation problems (safety, efficiency, comfortability, health, crossings, regulations and enforcement, and travel costs)</li> <li>○ Suggestions on improving the current transportation systems</li> <li>○ Other</li> </ul>
<b>Individual Interviews (with the disable)</b>
<ul style="list-style-type: none"> <li>○ Subjects' background</li> <li>○ Major travel characteristics and patterns</li> <li>○ Major barriers to travel</li> <li>○ Unmet needs</li> <li>○ Expectations on improving the systems</li> </ul>
<b>Questionnaires</b>
<ul style="list-style-type: none"> <li>○ Subjects' background information</li> <li>○ Major travel characteristics and patterns</li> <li>○ Level of satisfaction with current transportation systems (general condition of the system, road system, traffic congestion issues, intersections and crossings, public transportation systems, and etc.)</li> <li>○ Priority for problems to be addressed on the current transportation systems</li> <li>○ Other issues uncovered</li> </ul>

**Table 5: Addressing the Concerns Raised by the Public in Project Design**

Issues/Requests Raised by the Public	Benxi	Dengta	Fushun	Jinzhou	Liaoyang	Panjin
<b>Road Infrastructure (RI)</b>						
Improve drainage condition in some roads or the city network	R/A	R/A	R/A	R/A	R/A	R/A
Improve quality of alley and secondary roads: pavement, traffic lights or street lighting		R/A	R/A	R/A	R/A	R/A
Improve quality of problematic arterials: pavement, traffic lights, or street lighting	R/A	R/A	R/A	R/A	R/A	
Improve damaged street lights		R/A		R/A		
Add new street lights		R/A			R/A	
Improve tunnel lighting			R/A			
Enhance disability access (barrier-free path)	R/A	R/A			R/A	R/A
Improve public facilities: bus stations, phone booth, trash bins, public restroom, etc.,	R/A	R/-			R/A	R/A
Improve greening and beautify the street pedestrian crossing		R/-				R/-
		R/A				
Road widening at some locations				R/-	R/A	
Relieve traffic pressure on some roads with new alternative roads/bridge constructions					R/A	
<b>Road Safety (RS)</b>						
Regulate speeding issues at some intersections					R/A	
Reduce traffic accidents in problematic locations				R/A	R/A	
Improve the separation of MV/NMV traffic, walkability, and pedestrian safety	R/A	R/A	R/A	R/A	R/A	R/A
Improve traffic flow and congestion conditions on problematic locations			R/A	R/A	R/A	R/A
Regulate the routing of freight traffic			R/-			R/A
Ban the illegal use of roads by peddlers and vehicle parking						R/-
Manage the illegal use of sidewalks					R/-	
Manage bus parking to free bus parking from other road facilities	R/A				R/A	
Over or underground pedestrian passes at heavy traffic intersections			R/-		R/A	R/-
Manage bicycle parking and solve bicycle stealing problem		R/A	R/-			
Manage overloading problem			R/-			
Lack of sign post at intersections		R/A				
Strengthen traffic Management at chaos sections		R/A				R/-
Strengthen coordinated management of main roads, secondary roads, and alleys			R/A	R/A		
Better monitor traffic violations and maintain traffic safety					R/A	
Manage parking	R/-	R/-				
Lack of road monitoring system		R/-				
Manage tricycle traffic		R/-				
Lack of guardrail in rail crossings and segments				R/A		
Add separate bike path on main and secondary roads					R/-	
Strengthen the promotion of traffic rule to the residents	R/-	R/A				
<b>Public Transportation (PT)</b>						
Increase bus numbers (capacity) and services in certain areas	R/A		R/A	R/-	R/-	R/-
Increase bus stops and improve bus stop signages	R/A			R/A	R/A	
Extend some bus routes	R/A	R/A				
Improve smoothness of bus transfer	R/A					
Improve the management of bus facility (e.g., advertisement at bus stops)			R/A			
Improve public transport management efficiency						R/-
Improve bus routing		R/A	R/A			
Reduce bus fares, especially lower fares for seniors and the disabled	R/A				R/-	R/-
Lack of bus priority lanes in some routes	R/A		R/-		R/A	
Improve bus access to the disabled and seniors (e.g, dedicated seats, disability facility)	R/A	R/-	R/A		R/-	R/-
<b>Road Maintenance (RM)</b>						
Improve road maintenance	R/A				R/A	
<b>Other</b>						
Reduce vehicle emission and noise pollution	R/-					
Difficult traffic condition during road construction		R/A				
Reduce taxi price				R/-		

Note:

R/A: Raised and addressed.

R/-. Raised, but was not considered or could not be addressed under the project.