Strategic Use of Analytical Information in Transport Planning in China How Is It Different from Western Democracies?

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Abstract:

Theory on strategic use of knowledge in planning process of large infrastructure projects is comparatively well-developed in the fields of public policy and urban/transport planning for Western democracies. But how policy-makers make use of knowledge and what position policy analysts hold in non-Western countries still remains largely unknown territory in the literature. This article aims to make a beginning with the exploration of this topic by studying two urban transport projects in the Chinese city of Dalian. Based on empirical evidence, the article concludes with a number of preliminary but notable differences between Western countries and China in terms of the administrative mechanisms underlying the strategic use of knowledge in policy-making. We found that the Chinese institutional incentives with regard to cadre evaluation and promotion channels largely constitute the motivation of politicians to use knowledge strategically. Additionally, the wider social and administrative cultures in China, including a command-and-control tradition, a higher level of power distance and thus the acceptance of power play among citizens, also breed the ground for strategic use of information as well as manipulation of analytical data.

Key words:

Strategic use of knowledge; Transport planning; Dalian; China; Comparative policy analysis

1. Introduction

Until 2012, Bo Xilai was a top-level Chinese leader seen by many as a potential candidate for the highest posts in his country. However, since his downfall[1], the criticism of his strategic manipulation of knowledge and his disrespect for policy analysts when making decisions on large infrastructure projects has come to the surface (Anderlini, 2012; Wang, 2012; FlorCruz and Shadbolt, 2013). In the case of one of his pet projects, Dalian's Light Rail, to gain

[1] The trigger of Bo Xilai's downfall is the Wang Lijun Incident. It is beyond the scope of this article to discuss the broader context of this major political scandal. In China, not much was reported on this, leaving most of the statements made on the topic having the status of mere rumors. However, international media covered the events to a much wider extent. Readers can consult the following sources for more information:

China Daily: http://europe.chinadaily.com.cn/china/2013-07/25/content_16829580.htm; http://www.chinadaily.com.cn/china/2013-08/26/content_16919231.htm; http://europe.chinadaily.com.cn/china/2013-08/24/content_16918540.htm;

Sina News: http://news.sina.com.cn/z/wanglijun/;

BBC News: http://www.bbc.co.uk/search?q=Bo%20Xilai.

political support and consolidate his power, he pushed policy analysts to strategically manipulate traffic demand data in feasibility reports and used personal connections to gain project approval and construction funds from the central government (Mu, 2013). This behavioral mode, however, initially coincided with Bo as an active, energetic, productive, popular and powerful politician. For a long time, he was widely perceived as an outstanding leader for the cities he was responsible for and he rose high in the Chinese administrative hierarchy.

Bo Xilai's case, of which we will read more below, demonstrates that the strategic manipulation of knowledge and information in policy-making also exists in China. However, it reminds us of better-known reports from countries in Northwestern Europe, for which empirical evidence on this topic is fairly well-known. For instance, Flyvbjerg (1998) reported how politicians in Denmark manipulated rationality to gain power through strategic use of knowledge in the case of bus station in the center of Aalborg. In the Netherlands, the same thing happened in the Amsterdam North-South Metro Line project (Soetenhorst, 2012). It has been argued that Denmark and the Netherlands have remarkably similar administrative cultures and approaches in urban planning and public policy (de Jong and Geerlings, 2005). Elsewhere, de Jong (1999a) has made an international comparison of decision-making on transport infrastructures including Switzerland, Germany, the Netherlands, the UK, France and the USA, showing that in all of them policy analysts are brought in situation where they are required to generate analytical information supporting dominant political players. Especially in administrative environments characterized by high levels of power concentration, such as the French, policy analysts tend to collude with those in power and have a hard time generating independent impact reports.

Knowledge and information is extremely valuable to policy makers (policy officials within the civil service and politicians) when preparing and choosing from policy options, and making transport plans. They use it frequently in analytically ambiguous and opportunistic ways, a phenomenon of which classical theorists in Western planning and policy analysis have been well-aware (Meltsner, 1976; Wildavsky, 1987; Majone, 1992; Fischer and Forester, 1993; Pelissero, 2003; Hird, 2005). Various researchers (e.g. Albaek, 1996; Beyer and Trice, 1982; Amara et al., 2004; Landry et al., 2001; March and Olsen, 1976; Pelz, 1978; Sager and Ravlum, 2005) identified symbolic use of knowledge that means the use of knowledge as a "rational ritual". Knowledge is not used to assist the decision-making process, but to create the image of a serious, responsible and sensibly managed public decision-making process. For instance, policy makers use knowledge to legitimate decisions decided upon before the research was undertaken. Similarly, several scholars (e.g. Albaek, 1996; Flyvbjerg, 1998; Huijs, 2011;Sager, 2002; Soetenhorst, 2012) point out that knowledge is not only used in a symbolic way but that stakeholders also use knowledge strategically as political ammunition

to enhance their own interests and to marginalize the interests of competing stakeholders). Despite the existence of a wide range of scholarly literature discussing the use of knowledge by policy makers in Western democracies, the way policy makers use knowledge in countries with different administrative contexts (political and cultural), especially non-Western ones, have received relatively scant attention. Therefore, in this paper, rather than conducting a cross-national or cross-city analysis, we take the Western-based theory on the relation between knowledge and power as our research foundation, and go one step further to explore this topic and examine the role of policy analysts and policy analysis in the planning of two large infrastructure projects in the Chinese city of Dalian, which is a coastal city of a few million in North-Eastern China and the local government of which is making very significant infrastructure investments, especially in large transport projects (Mu and de Jong, 2012).

The remainder of this paper is organized as follows. In section 2 the literature discussing symbolic and strategic use of knowledge by policy makers in Western democracies is summarized. In section 3, we will discuss our data sources and methods of data analysis, i.e. the steps we have followed and the decisions we have taken to report the strategic use of information in the following empirical cases**.** Sections 4 and 5 discuss the results of the two case studies from the city of Dalian. In section 6, we confront the empirical results from these sections with what we know from "Western practice" and make a first attempt at characterizing how the Chinese practice of influencing analytical information in planning and policy processes differs from that in Western countries.

2. Symbolic and strategic use of knowledge in transport planning in Western democracies

The literature discussing symbolic and strategic use of knowledge by policy makers from Western democracies can be distinguished in two categories. First, studies that discuss the utilization of knowledge in general (e.g. Nicolaisen, 2012; van Buuren and Edelenbos, 2004; de Jong and Geerlings, 2003; van Eeten, 1999). Secondly, a number of in-depth case studies (e.g. Huijs, 2011: on decision making about the Dutch airport Schiphol; Flyvbjerg, 1998: about the Aalborg bus station; Kain, 1990: about the rail link in Dallas; and Soetenhorst, 2012: about the Amsterdam North-South Metro Line).

2.1 Motivations for symbolic and strategic use of information

Amongst others, the case studies of Flyvbjerg (1998) and Soetenhorst (2012) provide valuable insight into the motivations politicians have to use knowledge in a symbolic or strategic way.

From both case studies an image of politicians that want to make their mark during their term of office emerges, regardless of the costs involved. At the moment they are in power they want to change reality into their own ideals – and preferably as quickly as possible. Often they already have an idea for a concrete solution that should bring reality a step closer to their ideal. In transport planning these are not seldom megalomanic mega-investments. Politicians tend to prefer mega-projects because they make their contribution to the development of a country (or a city) tangible (Healey, 2010). de Vries (1993) explains that especially leaders with narcistic personality structures are prone to approve megaprojects only for the sake of developing their legacy. Verheul (2012) argues that not all politicians who approve megaprojects are necessarily narsists approving the project only for their own glory. However, an alderman from a large Dutch city admitted in an anonymous interview that he had the aspiration to build a legacy during his career.

Flyvbjerg (1998) discusses the bus station built in the center of Aalborg as an example of a sort of "monument" that the popular Aalborg Mayor Marius Andersen (also known as Bus Marius) aspired to build for himself. In his study into the Amsterdam North-South Metro Line, Soetenhorst (2012:149) provides a quote to support his proposition that politicians enjoy having done something important during their term in office: "I would also like to say: do you know what is so nice? That I have the honor of being the alderman who made this possible for Amsterdam."

Very stereotypically, the main objective of people with power is to change reality. In general, the objective is not to scrutinize reality and thereafter to analyze how reality can be influenced in a positive way. The temptation to generate a personal legacy is simply too great. It is appealing simply to enter such a great adventure based on gut feeling. To change reality (there shall be a bus station), power takes the liberty of defining current reality – often without any substantiating support (air pollution is a big problem in our city; buses are cleaner than cars; the city has to become less car-friendly and therefore we need to have a new bus station in the city).

2.2 Symbolic use of knowledge to rationalize the project

An important weapon that those in power employ is the use of rationalizations (feigning, either consciously or unknowingly, that the reasoning is based on rational arguments). Marglin (1967:18), for instance, characterizes the 'American practice' of Cost-Benefit Analysis as little more than "*window dressing for projects whose plans have already been formulated with little or any reference to economic criteria*". Rationalizations are needed to legitimize the decision for other politicians, interest groups and (potential) voters. Stone (1988) concludes that even in cases where the decision-making process is best explained in

terms of the individual actors' efforts to serve their own interests, an appeal must be made, in an attempt to legitimize the content of the decision to the wider public. Albaek (1996) observes that the extent to which the need for rationalizations varies across countries can be explained by differences in the level of conflict in the political-administrative system. He observes that the introduction of the American welfare state was criticized by various powerful elites, whereas the development of the Danish welfare state enjoyed wide political support in all social groups. According to Albaek (1996) this difference explains that much more research and evaluation was necessary to legitimize the welfare state in the United States than in Denmark. Rationalizations often take the form of knowledge that has to show that the decision made is the right one. The sentence: "based on good research, it appears that this is the only right decision", often works well in the political arena. What is even better than strengthening a rationalization with "knowledge", according to Engelen (2011), is using "science" to emphasize the rationalization: "If renowned professors, working at impressive academic institutions, have scientifically proven the usefulness and necessity of a project, the race is won." The research projects that we came across in the cases described by Flyvbjerg (1998) and Soetenhorst (2012) are often not neutral but everything is done to make the studies appear neutral. To be sure, in these cases one never finds a politician telling his civil servants that research to be done should lead to the conclusion that it is a good decision to go ahead with a given project but, according to a number of civil servants who speak out in the Aalborg case study (Flyvbjerg 1998:228), this is what it often boils down to: "Rationalization presented as rationality is a principal strategy in the exercise of power". In the Aalborg case study, the main incentive for producing knowledge was confirming to other stakeholders that the project is indeed worthwhile investing in. Aalborg's Head of Spatial Planning describes the function of the research done for the bus station in Aalborg using the following metaphor: "It's like the story of Little town, where the bell ringer calls up the telephone exchange because he has to set the church clock. So he calls the telephone exchange and asks what time it is, and the telephone operator looks out the window towards the church clock and says, "it's five o'clock." "Good", says the bell ringer, "then my clock is correct."

2.3 Strategic use of knowledge to win a political debate

In the Aalborg case, knowledge is used to make one's own points of view appear more rational, but also to make alternative plans proposed by opponents – who also aspire to rationalize their viewpoint – appear irrational. When the Social Democratic Party – which opposes the plan for the bus station – came forward with a counter alternative for the bus station, all of the archives are thrown open to produce a very detailed research report. And this works (p. 166): "*department succeeds in killing action they do not want by producing knowledge about the effects of a plan."* Once detailed research into the effects of the opposition's alternative plan is done, the people in power are able to "objectively" say no to

this alternative plan. Relatively neutral knowledge is used to kill action proposed by competing stakeholders.

Pielke (2007:9) ascertains that science and scientists are increasingly used in politics as political tools. Why scientists? Pielke maintains there is a dash of autonomy and skill hanging over "science" to which non-scientists, in particular, attach a great deal of authority. Whoever has a scientist on his side, places himself above the fray. "OK, you say this and you say that but we have done scientific research and have shown what it is really like." The truth is proven scientifically and "who can argue against truth?"

2.4 Strategies to facilitate symbolic and strategic use

From various studies it appears that policy makers tend to interpret research results in a way that best suits the projects they support. One trick of the trade is even better than the other. Nicolaisen (2012) describes a number of times that the effects of infrastructure projects were estimated using two different models. If the results from the newer model were better, they concluded that these results should be used because the model was state-of-the-art. Should the results come out better in the older model, they concluded that these results should be used because the model was reliable and the new model still showed signs of start-up problems. Huijs (2011) cites examples from reports where, indeed, the conclusions were rewritten, the title was changed or where a number of conclusions were omitted from the report. Flyvbjerg (1998:226) concludes that in the end it is power that determines how the results of a study should be interpreted. It is not a question of which interpretation is the most correct and plausible, but which party can get the most power behind the interpretation they want to see. "Power determines what counts as knowledge. What kind of interpretation attains authority as the dominant interpretation". Bringing in a scientist often means that the political opponent will also let a scientist do some research, according to Pielke (2007). The art is in making out that the other research is "junk science" and that one's own research is "sound science".

Kain (1990) maintains that research results with a poor outcome have a greater chance of being held back from the public than results with a positive outcome. For instance, the finding that a cheaper bus solution would have the same effect as an expensive rail connection (which was the preferred solution) was deliberately held back, since these results might lead to diminishing support for the preferred solution. Flyvbjerg (1998:226) comes to the same conclusion as Kain: "power procures that knowledge which supports its purposes, while it ignores or suppresses that knowledge which does not serve it". Huijs and Annema (2009) cite the Iserman report as the most important example of a report that was purposefully kept away from the public for a long time and from which it became apparent that it was possible to measure noise in the Schiphol Airport case.

Why does it happen only in rare occasions that rationalizations are debunked and the strategic use of information is uncovered? The literature (e.g. Nicolaisen, 2012; Huijs and Annema, 2009; Soetenhorst, 2012) establishes that this is caused by a lack of incentive for various actors who can potentially debunk rationalizations. Flyvbjerg (1998) notes that so much power can lie behind a rationalization that critique and clarification may become futile. This may lead to negative sanctions on actors who reveal rationality as rationalization. From the literature it can be concluded that consultants have weak incentives to debunk rationalizations since they aspire to avoid open confrontations with their clients. In Nicolaisen (2012) several consultants articulate that they indeed do not want to get involved in difficult debates with their client. Nicolaisen (2012) also verified whether politicians believe that consultants operate with caution by asking 148 politicians whether they agreed with the proposition that 'forecasters are under pressure to produce forecasts that agree with their clients' or superiors' vision' and found that more politicians agree than disagree with this proposition. Moreover, van Wee and Molin (2012) asked 28 researchers whether they agreed with the proposition that 'clients often want the seal of independence of the research institute, but nevertheless try to influence the results to their advantage' and found that 25 partly or fully agreed with this proposition. Albaek (1996) claims that the structure of the market for evaluation research in itself makes such behaviour understandable and even rational. Private consultants enter into an exchange relationship with their clients and the latter pays the former for an 'objective' and 'neutral' legitimation of its views.

Civil servants are a second group of actors who can be reluctant towards uncovering rationalizations although they might have the means to debunk rationalizations. In the Aalborg case (Flyvbjerg, 1998), the Amsterdam case (Soetenhorst, 2012) and in the study of Nicolaisen (2012) civil servants critized the rationalizations of politicians internally. However, the civil servants interviewed by Nicolaisen (2012) confined themselves to making fun internally and in the other two cases the critical civil servants were sidelined. But sometimes things go wrong. In 2000 Don Sweeney – economist of the US Army Corps of Engineers – provided journalist Michael Grunwald with a pile of documents, which proved systematic manipulation of Cost-Benefit Analyses leading to a conviction and a successful whistleblower complaint by Sweeney (e.g. Grunwald, 2000). Hence, the strategic use of information through the manipulation of information in Western Democracies is not without risks. When policy makers and civil servants who are aware of the manipulation decide to go public this can lead to loss of face, forced resignation and even condemnation of politicians. Hence, in Western Democracies incentives are institutionalized which refrain politicians from manipulating information.

A key limitation in all the reports and findings presented above is that these all hail from Western democracies. Does it work the same way for policy makers and policy analysts in

other countries? Before answering this question, we should realize that institutional structures do influence the way in which analytical information and knowledge is utilized in decision-making processes (de Jong, 1999b). Institutional rules co-determine resource allocations among actors and therefore influence what competencies, power and instruments actors wield. Therefore, institutional rules, along with administrative systems of different political and cultural traditions, have important consequences for the use of knowledge and information in urban planning and decision-making. As de Jong (1999a) demonstrates, in monocentric institutional structures where one or only a small number of actors are able to set the agenda and other players lack effective veto powers, no steps are taken to regulate the flow of information and no limits are placed on information impactedness. In multicentric institutional structures with stronger checks and balances, players are inclined to adopt a freer attitude towards exchange of information and the information flow is freer. Therefore, it is possible that different institutional incentives exist in China for politically dealing with analytical information than in Western countries.

Keeping this institutional influence on strategic use of knowledge back in our mind, the sections below will make a first attempt at finding out these differential institutional incentives. In sections 3 and 4, we will report on two urban transport mega-projects in Dalian. The first is the third light rail transit line (LRT-3), and the other the first bus rapid transit line (BRT-1). We chose these two projects because both played a key role in the leading officials' desire for outstanding political performance. The manipulation of data and feasibility studies in the preparation and forecasting stage and the stagnant feature of operation and maintenance have once led people to question them as "political achievement projects".

3. Data and Method

Collecting data on strategic use of knowledge is generally sensitive, but especially so in a country with a much shorter tradition of open communication between government and university researchers (Zheng et al., 2010). In the following section we present two cases of urban transport planning projects in Dalian that contain evidence of strategic use of analytical information by politicians and illustrate the relationship of expertise to power. We relied on a combination of in-depth interviews and information obtained from internally published reports, academic articles, media news reports and government documents on power, knowledge, policy and politics in urban planning and infrastructure decision-making. This source of data and combination of research methods greatly helped in enriching our interpretation of the interviewee's narratives and allowed us as researchers to obtain a better understanding of how and under which circumstances analytical studies are used in public

decision-making and, equally importantly, how politics influences the conduct of policy analysis.

We have invested years in obtaining and intensifying contacts with local officials and experts and were able, through these personal and professional networks, to conduct interviews with policy-makers and policy analysts in Beijing, in Shenyang and in Dalian city, with different positions and responsibilities in urban planning, transport planning and management. In 2012, through personal links we made contact with Prof. Lin, Dean of the Research Institute of Science and Technology at Dalian Maritime University. Lin introduced us to Prof. Yang who is Dean of the Transport Planning and Design Institute at Dalian Maritime University; the latter hosted us from June to July, 2012, to carry out interviews with his fellows (who are the real analysts and planners for Dalian urban transport), especially Mr. Yu, currently Professor in transport planning and engineering. During that visit, we discussed their interactions with local politicians, worked with them while they were planning and observed their daily analyzing routines, procedures and methods.

In addition, we made the acquaintance of a senior manager from the China Hualu Group who has links with to Prof. Lu at the Transportation Research Center at Tsinghua University. Since 2012 we have paid several visits to them, who are also involved in drafting transport plans for Dalian. Furthermore, Prof. Lu introduced us to his Ph.D. student, Dr. Peng, who works in the Ministry of Transport and Mr. Ma from the Ministry of Construction, to obtain information as to the nation's policies and regulations regarding urban transport infrastructure projects. In the same period, we paid visits to Shenyang where administrative organs of Liaoning province are located. In Shenyang, we interviewed with Commissioner Peng and Director Yang from the Shenyang Development and Reform Commission, and Ms. Zhang from the Shenyang Transportation Bureau.

The interviews ranged in length between 60 and 100 minutes and were conducted in the interviewees' offices and through online chatting. Later, in the data processing and analysis phases, supplementary data were obtained through phone calls. During the interviews, the general questions we asked touch on the following subjects: (1) Are policy analysts and policy analysis useful to policy-makers and city leaders? (2) What types are useful and under what circumstances? (3) What institutions shape the nature of policy analysis, and the relations between experts and politicians? (4) How can the relationship between knowledge and power be described? Although some of the answers given by the respondents cannot fully capture the complexity of the above questions, the information and stories we obtained from the interviewees are quite valuable and inspiring. Nonetheless, we should emphasize here that in the end the stories presented in sections 4 and 5 are our own creation, based on the sources mentioned above.

4. Dalian's LRT-3

4.1 The political context for LRT-3

The LRT-3 is the first rapid rail transit system in Dalian. The political decision-making process of this project, from its conception, ridership forecast, feasibility study, financing, central approval and finally to its operation, is the result of strategic use of knowledge, wielding power and using personal connections by the city mayor, also general secretary, Bo Xilai. Bo was a colourful and prominent Chinese politician. His political career seemed safe because he is one of the princelings, but he was dismissed from all government posts and the Communist party in 2012 due to the Wang Lijun Incident (Anderlini, 2012). The leadership style of Bo Xilai is believed to have been "propagandistic", "ruthless" and "arrogant" by many of his subordinates and city officials, academics, journalists and other professionals. The New York Times once wrote that: "although Bo was possessed of prodigious charisma and deep intelligence and had also mastered the image-messaging and strategic use of public money, these qualities were offset by an insatiable ambition and studied indifference to the wrecked lives that littered his path to power". His undisputed talents helped him to climb to the Politburo of the political hierarchy, but his ruthlessness eventually generated too many enemies causing his downfall.

4.2 Three rounds of traffic demand forecasting[2]

The LRT-3 was one of the large transport infrastructure projects during Bo's tenure in Dalian, and it played an important role in the enhancement of Bo's political record and fame in city governance. Early in the late 1980s when Bo was the secretary of Dalian's Economic and Technology Development Zone, he had in his mind the construction of a rapid transit line with high passenger capacity linking the Zone to the central city. However, until the latter 1990s when he became the mayor and the secretary of Dalian and thus held the supreme decision-making power, Bo initiated his plan to build light rail. At that time, although he did not gain much support from other government officials who believed a low traffic demand on this line, Bo still insisted on the project and routinely commissioned the Transport Research Center at Tsinghua University to undertake a traffic demand forecasting exercise. The

[2] This information on the detailed process of traffic demand forecasting on the LRT-3 project in Dalian cannot be found in any published material, while the author obtained this information through face-to-face interviews as well as internet instant messaging with the experts from the Transport Research Center at Tsinghua University and the engineers from the Transport Planning Institute at Dalian Maritime University.

objective of the forecast was to verify the rationality of this project that he wanted to put on the policy agenda.

Since the experts from the Transport Research Center did not intend to discuss whether the decision was right or wrong and wanted to be neutral, the forecasting result was disappointing because it showed an extremely low traffic demand which did not justify any investment in this project. Otherwise, like many other transport projects with huge demand overestimation, station platforms would be too long only for very short trains; rolling stock would be idly parked in the garage; large terminals would be a waste of concrete; and the project company would end up with financial trouble. Even so, after Bo read the report, he pointed out that the forecasts were inaccurate because the forecast-makers used the time of decision (i.e. the year of 1997) as the base year for forecasting, and this was wrong and should be replaced by the year of operation as the base year (around 2003 and 2004). For this reason, the Transport Research Center made a second round.

Using the opening year as the base year of forecasting definitely adjusted the traffic demand upwards because from 1997 to 2003 not only the urban population but also urban traffic demand would rise. However, the forecasts were still lower than the required standard set by the central government for urban light-rail project approval. Bo rejected the report again, and gave further instructions on how to revise the report. He suggested that this light rail line does not end at the Economic and Technology Development Zone, but extends further to Dalian's Golden Pebble Beach which won the certificate as national-level holiday resort and which would attract a large amount of tourists not only from Dalian but also from other Chinese cities. Thus, the demand forecasts that only focused on the internal traffic generated by the Dalian citizens, was inaccurate. The experts should also include the demand induced by tourists coming to Dalian, transferring to the light-rail from the railway station, and then on to the Beach. Following this suggestion, the planners made a third round where the project finally reached the required ridership levels.

Insert table 1 about here

One month later a 70-page report prepared by the Transport Research Center was delivered to the mayor. A week later the government announced the start of this project. Negotiations were waged within Dalian's highest political bodies. The discussions included the mayor and a variety of leaders from different government departments such as the transport bureau and the urban planning bureau. When we interviewed the experts who had conducted the forecasts at Tsinghua University, we were told that the first- and second- round forecast reports had been destructed since they were rejected, so detailed data on the predicted ridership could not be provided. But fortunately, from an informal channel, we obtained the traffic demand

prediction of the third round forecasting (table 1) (Transport Research Center at Tsinghua University and Dalian RRT Construction Headquarter, 2010). As table 1 shows, compared to the ridership requirement by central government for light-rail project approval (i.e. 10,000 passengers per hour for light rail projects), the third-round forecasting result, 10,371 passengers per hour, did meet the requirement. In addition, there would be a rapid growth in ridership in the following years, and the ridership and modal split of the light-rail also show a very promising future for the projects' viability. With the final estimates, the project entered into the next step, feasibility study.

4.3 Feasibility study and central approval[3]

The feasibility study is the basis for the demonstration of the technical, economic and environmental validity of urban rail projects, and thus the application for central approval, to obtain the environmental permit, to justify the occupation of land resources and to borrow money from banks. In China, there are a few organizations (state-owned research institutes and private engineering consulting firms) qualified to conduct feasibility studies for urban rail projects. One of them is the Third Railway Survey and Design Institute Group Corporation (TRSDI) under the direct control of China's Ministry of Railways. Here we introduce TRSDI not only because it made the feasibility study for Dalian's LRT-3, but also because it concurrently carries out another important responsibility: the delegated power to approve rail-based projects on behalf of the central government. In other words, TRSDI has a dual-role: the professional role of compiling feasibility studies for rail-based transport projects, and simultaneously it has the power to approve these studies generated. All municipal governments are well aware of this, and therefore almost all urban rail projects seek TRSDI's support for their feasibility studies. Dalian also used this trick. As a result, TRSDI has become a near-monopolist for carrying out feasibility studies for local governments that attempt to build rapid rail transit. For this reason, TRSDI has been overloaded with contracts to compile reports, making the review process very slow and sluggish. According to our respondents, TRSDI does not really carry out detailed, project-specific studies. Rather, they usually use a template of a feasibility study report and change the corresponding information input for different projects.

Having contracted with TRSDI for the feasibility study of the LRT-3, Bo felt secure about the project's final approval. However, it would still take a long time until Dalian could officially obtain approval, and Bo could not wait any longer because he was very eager to realize the

[3] This information on the processes of feasibility study and central approval for the LRT-3 project in Dalian has never been published. Here the evidence in this sub-section was collected by the first author through doing interviews with the engineers at Dalian Maritime University.

project during his tenure and make his performance record stronger. Therefore, he put a lot effort in pushing this project forward. First, he talked to the branches of China's major state-owned banks in Dalian and due to his personal influence the banks were willing to provide loans only on the condition of a letter of guarantee from the Dalian municipal government. Successfully secured the project funds, he then established a project company, JINMA, responsible for the construction and the operation of this line. In late 2002 when the project was almost completed, Dalian had not yet received the project approval. The project company was anxious because without approval the project could not begin its operations. JINMA's manager reported this plight to Bo and suggested him to contact TRSDI. At that moment (early 2003), fortunately, Bo was promoted to Beijing as the Minister of Commerce and worked in the proximity of the Minister of Railways who wielded enormous influence on TRSDI's decision-making. After an intervention of that Minister, decision-making on LRT-3 was activated again and TRSDI speeded up the approval process. In March 2003, Dalian received its approval documents from central government, and in May 2003, the line was open to traffic.

4.4 LRT-3's growing ridership and eventual success explained

In the early days of its operation, the project has experienced extremely low traffic demand and thus the project was criticized as a political achievement project. JINMA, running at a loss, reported this issue to the Dalian government and they jointly tried to find a solution. Finally, consensus was achieved: on the JINMA side, it was acceptable to increase the departure interval from 5 minutes to 10 minutes, and on the government side, in addition to an increase in the operation subsidies, land development along the LRT-3 was given priority on Dalian's policy agenda and listed under the most recent urban construction plans.

In the wake of land development around the station catchment areas, both people and jobs have been gradually moved to the areas along the light-rail. And this line has become the major travel mode for people who live or work in the place between the holiday resort and the central city. Consequently, it has seen a rapid increase in transit ridership, from some 5 million passengers per year in 2004 to about 47 million in 2011, with an annual growth rate of almost 20% (Peninsula Morning News, 2011). Facing such an increase in ridership, JINMA reinstalled the 5-minute departure interval in 2007. In addition, all the stations on this line were enlarged and renovated to offer more waiting space and advanced platform amenities. This expansion was completed by the end of 2012. Therefore, although the LRT-3 project was initially considered a political achievement project and experienced a low ridership, its rapid increase in passenger volumes in subsequent years and the overall high service quality (absence of accidents, punctuality, and flexibility in frequency-adjustment) demonstrate its eventual success.

What constitutes LRT-3's success? We can see that the role of Chinese experts is rather weak, leading to significant inaccuracies in the ridership estimates. Their weakness is institutionally embedded. After the founding of the People's Republic of China, the country established several official research institutes and centers within government agencies. Therefore, for decades the research institutes have served as analytical bodies with strong affiliations to government departments and they were completely dependent on government funding. The primary mission of the researchers was to support the party and the government's policy process through propaganda and providing theoretical back-up for politically legitimized policy directions. This permanent dependent role has led Chinese experts gradually to lose their professional ethics and skills. Hence, nowadays even when allowed to provide neutral analyses, they are hardly capable to do so any more. When having to produce analytical reports, their basic attitude is to wait for political guidance. Under these circumstances, the quality of political instruction becomes crucially important. Secondly, we saw that even though the project has prestige-building characteristics, it can in fact even end up being successful if leaders find ways to make it viable by pulling in decisions and resources form adjacent policy areas to boost the viability and strength of their own projects. To raise the external support, a leader's personal connections (i.e. guanxi) also play an important role. As the case demonstrates, the personalized relationships and connections between individual leaders, whereby mutual favors and duties are exchanged with the aim of obtaining long-term benefits, are used to facilitate the project's favorable assessment and approval.

5. Dalian's BRT-1

5.1 The political context for BRT-1

As Bo Xilai was promoted to Beijing due to his outstanding urban governance capacity, Mr. Xia Deren succeeded Bo as mayor of Dalian in 2003 and later in 2009 he was also appointed to the (highest) position of secretary of the city. Unlike Bo who was born in a political family and had personal connections with various leaders of different government departments, Xia used to be a scholar in economics, and thus was less focused on prestige projects, beautification and sustainable development than his predecessor.

5.2 Initial estimation and policy advice on the attraction of BRT

In 2004, Xia's early period in office, Dalian's five-year urban transport plan was about to expire and required revision. Routinely, Xia appointed the policy analysts of the Transport Research Institute at Dalian Maritime University to carry out a new round of urban transport studies and to propose new planning options. Originally, Xia did not expect much conceptual

innovation on the management of urban transport, while what he thought was largely to follow the transport plan from Bo's times. However, during a seminar in 2005, the analysts brought forward the Bus Rapid Transit (BRT) concept and presented a lot of foreign experience (Yang and Zhao, 2006). After hearing that BRT adoption in China had only taken place in Beijing and Hangzhou at that time, and that the financial burden of BRTs was much lower than that of MRTs (metro) and LRTs and did not require central approval, Xia showed great interest and approved the plan on the spot. Detailed estimates were not required in this case. He would also not have to mobilize bank loans as Bo did for light rail, and BRT was a relatively new and creative concept in China, and Dalian's adoption of it would be a flagship in the shift to sustainable transport development in China and the first BRT facility in Northeastern China. This leading position in using innovative and sustainable concept in managing urban transport would add to his political track record, benefit his reputation and enhance the likelihood to get future promotion. And indeed, in 2009 Xia also obtained the position of secretary of Dalian and from then on he was clearly the first-in-command.[4]

5.3 The entire BRT plan in Dalian and its realization

As soon as Xia approved BRT as the central scheme in the new urban transport plan of Dalian, the experts began to design the BRT routes with techniques derived from traffic engineering and forecasting. The entire BRT plan is shown in figure 1 (Dalian Bureau of Transport, 2006). There were two phases in the completion of Dalian's BRT system: one short-term development phase in 2006-2010 with routes having a length of around 60 km; and another long-term phase in 2010-2020 with planned BRT routes of some additional 100 km. As can be seen in figure 1, the short-term plan mainly covers the southern urbanized areas of Dalian and resolves the congestion problem on the major trunk roads, while the long-term plan was designed to guide the city's further sprawl to the north and connects the urban regions with the rural areas. The investment requirement for the entire plan is presented in table 2. And this amount represents only about 5% of the money required to build metro-lines of equal length.

Insert figure 1 about here

Insert table 2 about here

In spite of high early promises, Dalian has since the introduction of the BRT concept, implemented only one line. The performance is disappointing, as we will see. But why were

[4] This information on the process of the generation of the BRT concept in Dalian and the on-the-spot styled decision-making on the adoption of this concept is obtained from doing interviews with the engineers at Dalian Maritime University.

the remaining four lines not put into practice? The reasons are diverse, some officially reported, some no more than rumors. First, regarding the BRT-2 and BRT-3 projects, their routes show overlap with those of the trams. Initially, the Dalian government attempted to stop the trams while converting the road surface to BRTs, which was strongly opposed by the tram operator, arguing that the tram is a Dalian tradition since the Japanese occupation, and although it is not speedy, it has exclusive right-of-way and a relatively large passenger capacity. As a result, the second and third BRT lines have not been carried out. As for the BRT-4, it was designed to run on the Gorky Rd. and the Zhongshan Rd., both of which are almost in the central city and single-direction roads with limited road space. Considering the impossibility of obtaining extra land to widen these roads, the government intended to convert 50% of the auto lanes into BRT lanes. And this intention was blocked by protests from car users claiming that the two roads were already heavily congested and such a conversion would cause even more traffic jam. The Dalian government decided to drop the plan. With regard to BRT-5, originally it seemed easier to implement than the lines 2, 3 and 4: there was no protest from existing operators or car users. However, the road along this route is very narrow and to build BRT it had to be expanded by acquiring land from roadside house owners. The budget for the land acquisition was in place, but the residents preferred to stay rather than be financially compensated. The implementation of the BRT-5 was thus also put on hold. Apart from above mentioned officially publicized reasons, it is also informally argued that the people who advocated the BRT scheme have shown weak political will in defensing the BRT scheme. With the first BRT line built and operated in 2008, Dalian became the third BRT city in China after Beijing and Hangzhou, and Xia had already acquired his fame. The political motivation to push through the next few lines had shrunk considerably.[5]

5.4 BRT's marginalization explained

With all the other BRT lines wiped off the agenda and the transport-network connections not properly delivered, the in itself successfully built BRT-1 project performed poorly. First, the target of the BRT plan was to increase public transport modal split by at least 8% within the first two years of operation. However, because the BRT-1's coverage was quite limited, the actual modal split did not see much increase, and the growth targets became meaningless. In addition, the government's resolve to invest in BRT weakened further in late 2009 in the wake of Dalian's metros 1 and 2 being approved by the central government and subsequently constructed. Therefore, the Dalian government scrapped the "8%" growth target of the BRT modal split, and it pinned its hope on the metros.

[5] This information on the reasons for the failure of the BRT projects in Dalian is collected from doing interviews with the engineers at Dalian Maritime University, the planners from Dalian Urban Planning Institute, and the policy-makers from Liaoning Department of Construction and the Dalian Bureau of Transport.

Moreover, many conditions for successful operation of BRTs were sacrificed in the case of Dalian's BRT-1, leading to much lower service quality. In order to emulate the performance and amenity characteristics of a modern rail-based transit system but at a fraction of the cost, according to Yao, Chen et al. (2007) it at least requires *Special Running Ways*, *Special Stations* and *Intelligent Transport Systems*. For more advanced requirements, it also includes *Higher-Quality Vehicles* and *Higher-Quality Service Patterns*. None of these conditions were fulfilled. Several serious traffic accidents occurred between BRT buses and private cars in Dalian, leading more than 20 BRT buses to incur damage. Furthermore, the road surface conditions for BRT are poor due to a lack of maintenance of the crackers, sink and breakages. Concerning the BRT stations in Dalian, their conditions are not propitious either: some BRT stations have been cancelled, while some have been converted into regular bus stops. We can safely conclude that the prospect of BRT is bleak in Dalian. Its image has been severely damaged, and it is unlikely to regain the trust of residents.

What constitutes BRT-1's failure? Unlike LRT-3 the proposal for which was brought forward by a powerful and colorful politician, Dalian's BRT plan was first initiated by transport experts after thoroughly analyzing foreign experience and lessons. Therefore, we can say that the experts in this case played a remarkably active and positive role. However, the efforts taken on the political side were far more modest. When the construction of the BRT lanes touched upon many interest groups, Xia failed to advocate the benefits of BRT and struggle for the survival of his pet project. The disparity between the entire BRT plan and the actual realization reflects his weaker position and ambition. This points clearly to the importance of determined leadership and strong political will to let initial intentions be followed by political action in conformity with or even further boosting these initial intentions. If political competition is an important driver for the initiation of public transport projects in China, then gaining political championships crucial to the acceptance and realization of these projects, especially when land acquisition is involved.

6. Discussion

In sections 4 and 5, we have described two cases of infrastructure mega-projects in the city of Dalian and the role of analytical information in the decision-making process. Although it is obviously impossible to make strong theoretical claims on the basis of two cases from one city, we have seen rather unambiguous evidence that confirms our suspicion that symbolic and strategic use of knowledge and information also occurs in planning and decision-making on large transport infrastructure projects in China. It appears that in Western Democracies, politicians want to leave their personal mark during their term of office and change reality. That said, the power-holders in Dalian exhibit an even stronger desire to immortalize

themselves. This phenomenon can be explained through the institutional incentives we noted in section 2. The strategic use of knowledge in the Chinese cases is likely to be the result of the fierce competition for a limited number of key positions in the Chinese administrative hierarchy. Since these promotion decisions are made by political leaders within the Communist Party at the central government level in Beijing, advancing in their careers requires local politicians to respect and follow the assessment criteria formulated at that level. A cadre evaluation system from the top-down promoting GDP growth, environmental sustainability (to a lesser extent) and social stability (avoiding riots and revolts among the socio-economically underprivileged) (Lee, 1992; Li and Zhou, 2005) works in a very different way than one where keeping the stability of a multi-party coalition government and getting re-elected matters most to the political lifeline of a politician, as in Western Democracies. Accommodating the wishes of local stakeholders matters in both types of environments, but the relative weight of this is lower in Dalian than in the Western cases reported in the literature. Knowledge is not generally used to convince stakeholders and citizens, but to show to high rank officials that tasks and targets are completed (for instance, an LRT needs 10,000 passengers), although this may change when large-scale revolts appear in the street.

We also saw that even projects for which analytical support was initially quite clearly lacking and which had a great many prestige-building characteristics, can end up being successful if leaders find ways to mobilize many resources from adjacent policy areas and coordinate all their subsequent policy choices in such a way that the initial prestige projects get boosted further and further. In Dalian, a strong leader such as Bo Xilai was able to actually change reality and to make a project successful against all odds and without having to compromise. His power and determination can simply prove the analysts wrong in the long term. In Western democracies, it is hard to conceive that a politician has such a vast concentration of power and change so many things in the urban environment. Here the subject leadership style enters the fray. In any administrative system, but even more so in authoritarian ones, a leader keeping strict control over the policy-making process is likely to strategically utilize analytical information. And this pattern conforms to the institutional incentives we presented in sections 1 and 2. A monocentric institutional structure is likely to restrict the information flow even more. Therefore, strong leadership styles indeed matter to analyzing strategic use of knowledge in public decision-making, but we will leave in-depth study of this topic to future research.

The acceptance of power-play among citizens in urban decision processes in China is high, and sometimes charismatic politics brooking no resistance is even deeply admired. Chinese citizens expect that power is distributed unequally across society and this is why it is often not that necessary to use knowledge to rationalize projects. People simply accept that politicians make (sometimes seemingly irrational) decisions, without backing these up with evidence.

Another intriguing feature appearing in the BRT case in Dalian is that local leaders benefit tremendously when they are the first to initiate a new and promising concept not yet or only little recognized by their peers. This would add much weight to their political track-record and to their future promotion opportunities. This phenomenon is probably also boosted by the typical Chinese practice, facilitated by their central government, to award the position of demonstration or model cities to pioneers which can experiment and from which other cities can learn and draw lessons.

To sum up, public officials in China are driven to use public money and resources to initiate policies and projects that may lack scientific proof but are beneficial for their personal prestige and career advancement. This also appeared in our two cases. This makes it less necessary for them to rationalize their decisions using scientific knowledge. But even when regulation and standards from Beijing require this, analysts seem compelled to give in to political pressure and have few ethical and professional qualms about that. They may even have two versions of a study report: one secret following their professional ethic, and one official in line with the political wishes of their superiors. In other occasions, they may have destroyed original but inconvenient study reports, or claim they have. The necessity to convince political opponents (no coalition governments), citizens (no elections) and other stakeholders (not a lot of power) is significantly lower than in Europe and America, and the amount of power concentration considerably higher. On the other hand, it is important to rationalize one's achievements to higher ranking political leaders and generate the figures to make that possible. The use of knowledge and information in administrative decision-making in Dalian is in some essentially human aspects very similar and in other more institutional regards very different from that in Western countries. We hope to have opened an intriguing new research agenda.

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Table Captions

Table 1 Traffic demand forecasting of the LRT-3

Table 2 Short-term BRT investment requirement in Dalian

Figure Caption

Figure 1 The short-term and long-term plan for BRT in Dalian