18. Implementing a metro project: a political economy perspective from Lima

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18.1 INTRODUCTION

The vaunted revival of railway systems (Banister and Hall, 1993) has reached various contexts, and different forms of rail-based transport systems have become an attractive means of transport aspired by many. In Latin America only a few cities have implemented such systems as yet, often with difficult stories of implementation. The Metro of Lima is the first metro project in Peru, and has a history of decades of problematic planning, construction and controversy. Initial project planning started in the 1970s but completion, of Line 1 only, occurred 40 years later. The current Line 1 opened in 2011 and was extended in 2014; at 35 km in length it is the longest elevated metro in South America.

This chapter seeks to explore the political economy of new transport systems, examining the barriers that transport projects have to overcome to be successfully implemented. Line 2 of the Metro of Lima has subsequently been planned, with construction starting in 2014. The first section was due to be operational in 2020, and the full Line 2 in 2024. The planning of Line 2 is assessed using a political economy framework (Feitelson and Salomon, 2004), which focuses on the analysis of interests of actor groups, suggesting that the adoption of innovations will depend on the coalitions that adopt or oppose the project. The aim of the research is to understand the complexity of the decision-making and implementation process and to better inform planners and stakeholders. Many metro projects are difficult to implement, and by examining the complexity of project development, including the different actors and viewpoints involved, lessons can be derived for future project planning.

The analysis suggests that the political discussion is critical to project planning, not because economic and social barriers are insignificant, but because the political discussion and management of this can be critical to the successful

delivery of the project. Other important factors include the development of the sanctioned discourse and the mediation of interests of affected groups. Traditionally, technical design issues attract most of the attention in transport planning, and social and political issues are overlooked. This research demonstrates that social and political dimensions are critical areas during project implementation, and if not considered, they can stop or delay progress and even cause abandonment. The political economy approach hence contributes to a widened understanding of the myriad of factors involved in project planning. The successful delivery of metro projects is not always straightforward, with issues extending beyond the technical case. However, metro projects can be very important in the development of sustainable mobility systems and human scale cities. Indeed, effective public transport systems are the only way that large numbers of people can be moved to and around city centres. The analysis has also opened up new areas for future empirical research, which are summarized in the conclusion of this chapter.

18.2 CONTEXT AND THEORY

Many recent studies seeking to understand change and innovation in transport use a socio-technical perspective. This helps us to understand the framework within which projects may be developed: socio-technological transitions are not outcomes solely of technical developments; moreover, they require more extensive social changes including norms, regulations, industrial markets, institutions, social habits, and politics (Kline and Pinch, 1996; Geels, 2004; Hekkert et al., 2007; Geels, 2010). The advancement of this type of research challenges our traditional transport planning practices, suggesting that infrastructure needs to be planned within a broader understanding of societal structures. Socio-technical studies categorize these as elements of the regime and landscape (Geels, 2010).

Socio-technical studies, however, overlook issues of agency and politics, and often these are critical in major infrastructure projects. The political economy framework from Feitelson and Salomon (2004) helps to assess the implementation of transport projects relative to key actors and different interests. The mediation of the different viewpoints on a project can be critical to its successful delivery. Metro projects are still new in Peru, the location of the case study, and are highly visible and political projects, often controversial and difficult to deliver. The coalitions for or against the project (even following project approval) influence implementation. The political economy model helps us to understand these combined societal and political factors, alongside the technical case for a project.

A metro system is a major infrastructure project, including much complexity and high cost in planning and delivery (Allport, 2011). This further attracts

high attention from numerous stakeholders (Flyvbjerg et al., 2003; Priemus and Van Wee, 2013). These systems are seen as safe, environmentally friendly, efficient and likely to provide wide benefits to society; yet such outcomes are not obtained by default and often projects can be contested (Hickman et al., 2015). Metro projects are highly visible infrastructures and are often viewed as highly desirable by sections of the public, yet controversial by others; hence there can be much debate. Implementation processes are complicated and projects can take several years to plan and build. The implementation phase comprises a key element of the whole project planning process, even following a positive decision to go ahead. Such large projects typically have numerous stakeholders with different interests and power which all need to be carefully managed (Priemus and Van Wee, 2013; Greiman, 2013). It can be relatively easy to block or delay a metro project, and building supportive coalitions to manage opposition is important (Allport, 2011). Besides, a metro project's implementation occurs over many years, which generates more uncertainty as political priorities might change.

Transport planners also tend to focus on the technicalities of a project and overlook the differing views and impacts of different actors in the process. Long-term implementation leads to turbulent timescales with many political periods, changes in priorities, political agendas, social changes and new social discourses (Feitelson and Salomon, 2004; Allport, 2011). These types of factors influence the quality, amount, delivery and efficiency of transport infrastructure; yet, often the literature on decision-making processes does not cover actor views and their mediation in any depth (Straub, 2008). Furthermore, empirical analysis on political economy in developing countries is significantly limited, with no examples in Latin America (Straub, 2011).

18.3 RESEARCH FRAMEWORK AND CASE STUDY

18.3.1 Case Study

The Metro of Lima and Callao is used as the case study, the first metro project in the Peruvian context, consisting of a network of six railway lines, with a total of 158.5 km. Line 1 (34 km) was initially planned in the 1970s, but was only completed in 2014, 40 years after its conception. In the same year (2014), Line 2 (34.5 km plus a section of 7.65 km of Line 4) was granted as an integral concession to a consortium for design, construction, operation and maintenance for 35 years (AATE, 2015).

Line 2 aims to connect the east and west of the city, and was expected to start operation of the first phase in August 2017 (Peru 21, 2014). The ambitious project is all underground, and is expected to provide significant benefits to around 2.5 million people at a cost of US\$5346 million (Ositrán, 2014).

In March 2014, the consortium Nuevo Metro de Lima won the concession amidst criticism, as it was the only bidder for the mega-project. ‘The biggest infrastructure in Peru’s history has to be more competitive, how is it possible that such amount of money is given when there is only one bidder?’ (Peru 21, 2014). Despite the controversies, the signing of the contract was celebrated as a historic success. ‘The critics only show us that the Line 2 is on the right track’ (Cuevas, 2014).

Over the next two years, Line 2 faced significant issues during its implementation. In December 2014, construction started, and issues related to land acquisition, expropriations, interference release and bureaucratic procedures generated delays (Mariluz and Olano, 2016), and a sudden stoppage of the building works for nearly two years. In 2016, a survey showed that only 56 per cent of the population agreed to the continuation of the project (*La Republica*, 2016). Also, in 2017, the concessionaire consortium presented an arbitration request against the country due to delays in land delivery and claimed payment of US\$260 million (Gestión, 2017). Deadlines were not met, and in 2018 the new Minister of Transport stated that: ‘the project was franchised with unreal schedules’, while millions are still waiting for the first phase opening of the Line 2 metro project.

18.3.2 Research Methods

This research is qualitative in approach, using 13 in-depth interviews (see Table 18.1) complemented by secondary data. Interviews were conducted between June and July 2018 with local stakeholders including planners (government), business groups (investment bodies and industry), and non-business groups (policy entrepreneurs, academia and community groups). Secondary sources of data included relevant information from institutional reports, presentations, academic studies, newspaper articles and online documents. The respondents were chosen in a purposive manner to gain expert views on the project alongside different user views; no representativeness of views is claimed.

The political economy framework (Feitelson and Salomon, 2004) is used to analyse actors’ views and uncover competing views. This framework focuses on the analysis of interests of social groups, suggesting that the adoption of projects will depend on ‘the coalitions that adopt or oppose the innovation’ (Feitelson and Salomon, 2004, p. 22). Therefore, the political economy framework views a project’s adoption as combined social and political processes. These are critical for the implementation of long-term, large-scale and highly visible innovations, such as with the Metro of Lima and Callao. A disadvantage is that the analysis is a snapshot of a specific moment in time, meaning that changes over time in the adoption process appear not to be considered (Vervoordeldonk, 2013).

Table 18.1 *List of respondents*

Interviewees	Institution/social group
Respondent 1	GyM Ferrovías – Línea 1 operator / business group
Respondent 2	Sociedad Concesionaria Línea 2 – concessionaire company Line 2 / business group
Respondent 3	Banco de Desarrollo de América Latina (CAF) / investment bank
Respondent 4	Banco Interamericano de Desarrollo (BID) / investment bank
Respondent 5	PROINVERSION (supervision institution of the Metro of Lima) / Government
Respondent 6	Planning division at AATE (institution in charge of the planning, implementation and operation of the Metro of Lima) / government
Respondent 7	Operations division at AATE
Respondent 8	High-income resident
Respondent 9	Cyclist
Respondent 10	Taxi driver / low-income
Respondent 11	Universidad Nacional Federico Villareal / academia
Respondent 12	Pontificia Universidad Católica del Perú / academia
Respondent 13	Universidad del Pacifico / policy entrepreneur

The adapted framework includes a number of elements. There are, firstly, the technical requirements of the project, which includes issues such as project design, engineering and urban design. Alongside these is also the economic and financial case, including funding arrangements. There are a range of actor views that need to be mediated, concerning perceived problems and opportunities, effectiveness and distribution of benefits and costs for the project. These lead to social barriers and political barriers to the adoption of the project. The sanctioned discourse is the views that become dominant on the project, and these have to be mainly positive for the project to go ahead successfully. Hence, the delivery of a project is viewed as much more than the technical case: there is also an extensive mediation and management of actor views. The interviews are used to discuss the different elements within the framework, to uncover the differing views on each part.

18.4 UNCOVERING CONTEXTUAL ISSUES

18.4.1 Mistrust in Politicians

Politicians are critical to the delivery of projects, helping to shape opinion and lead particular perceptions on projects. Yet, according to most interviewees, politicians are sometimes mistrusted as not having a real interest in serving society; instead, they have their own interests and blame others to push their own agendas. ‘Each political period criticises the previous one, which

generates a pernicious circle' (Respondent 6, interview). And, if a highly visible project is not performing well, politicians who want to gain notoriety could criticize the project to attack the government (Respondents 13 and 4, interview).

It seems that the recent political and institutional crisis in Latin America and in Peru has increased such negative perceptions. 'Under the current situation there are several reasons why citizens have greater distrust about what politicians do' (Respondent 9, interview). Indeed, the Odebrecht scandal has affected most Latin American countries, including Peru, showing up the biggest corruption network in history in Latin America (BBC Mundo, 2018). Corruption investigations in Peru have also increased considerably in recent years and most recent presidents were found to be involved. Over 90 per cent of the population distrust half of the politicians, a number that grew between 2014 and 2017 (Peru 21, 2018), which is a very high proportion.

18.4.2 Contested Views are Affected by Misinformation

Planners highlight that the population support the metro due to its benefits (Respondent 7, interview); yet, it appears that a large part of the community ignore the project and are not putting forward their views. 'Campaigns about the project have been poor; benefits have not been transmitted. People do not know that a subway is being built' (Respondent 11, interview).

In theory, any project should include a communication strategy alongside its development process; nonetheless, in practice, communication is not valued as a critical aspect, and it may be only partly or minimally implemented. The annual reports on the project discuss the informative events and social programmes conducted with municipalities in the area of influence (AATE, 2015). However, limiting the information only to such small areas around the infrastructure certainly does not give wide communication and ensure widespread support, as a large population is ignored.

'How is it solved economically? We do not know the economic means how it is paid' (Respondent 10, interview). The public was not informed about the economic aspects of the metro, which is promoting misinformation (Respondents 5 and 6, interview). Certainly, the society needs to know how their taxes are used and how the infrastructure built around their neighbourhoods is paid; yet, it appears that such information was not provided, which creates high misinformation and uncertainty around the implementation of Line 2.

18.4.3 The Current Institutional System Limits the Development of the Metro

Poor coordination and different visions from the numerous institutions involved in the development of the metro appears to affect its progress enormously. ‘The conflict in Line 2 is generated by the diverse opinions of the institutions involved’ (Respondent 5, interview). ‘Institutions have different visions; they do not communicate and coordinate for a common objective’ (Respondent 7, interview).

Transport in Lima is currently managed by several institutions at various levels (Alegre, 2016), and the complexity of Line 2 required the involvement of many, in addition to the consortium company in charge of the concession. Each institution has limited competences, different priorities and visions, which creates large challenges for coordination towards the achievement of a common goal.

Also, the constant change of state officials affects technical capacity: ‘Technical expertise, knowledge and experience of professionals who worked on Line 1 have been lost’ (Respondent 7, interview). Certainly, periods in national political office last only five years, and periods in regional office just four years. Thus, state professionals are usually moved according to changes in politics (Bensa, 2017), generating a loss of technical capacity over time.

18.5 POLITICAL ECONOMY ANALYSIS

18.5.1 Political Barriers

Contrary to the vast political support that rail projects usually have (Hall, 1980; Allport, 2011), the Metro of Lima faces weak political backing. Rail projects are highly visible investments and often highly attractive to politicians as they try to obtain maximal exposure while they are in power (Feitelson and Salomon, 2004). Yet, this is not the case of the Metro of Lima; therefore, it is important to investigate what factors are causing such a lack of political support.

Figure 18.1 shows the relationships between factors. The dashed line shows the factors that are contributing to the weak political support and consequently creating a strong political barrier to the development of the metro. The economic and social dimensions, as well as active agents, the sanctioned discourse and decision-making processes, present critical obstacles adding to the political difficulties.

Source: Adapted from Feitelson and Salomon (2004).

Figure 18.1 Factors contributing to the political barriers

18.5.2 The Economic Controversy

Polarized perspectives are a common feature among actors, primarily due to concern about the implementation of high-cost infrastructure in a country with financial constraints, which is likely to benefit only a part of the population. 'These are expensive projects in a context of budgetary constraints, because you have to choose between a costly project in a city that produces almost 40 per cent of the national GDP [gross domestic product], or some other projects that are more 'social' but with less impact on the global economy' (Respondent 3, interview). 'This level of investment in Line 2, and without generating more benefits in the city than only along one route, we are missing opportunities' (Respondent 11, interview).

Clearly, the transformational impacts that a metro project can generate are not universally perceived. Transport investments are not only a link between an origin and destination, but also they can create economic development, diminish carbon emissions and reduce social exclusion (Banister and Thurstain-Goodwin, 2011; Hickman et al., 2015). Indeed, Line 1 generated some of these impacts; however, these were limited and not informed extensively to the public; thus, the impacts of the metro are perceived to be only the number of trips carried relative to the cost. Yet, Line 1 only carries 4.1 per cent of the total trips across the city (Lima Cómo Vamos, 2018), a small number compared to the economic investment. This indeed appears to be illogical. In practice, such mistaken perception affects public opinion concerning Line 2, as an absurd project with minimal future benefits. Allport (2011) indicates that a metro project should generate considerable benefits to a significant number of people to be politically feasible; thus, considering its current situation and social perception, Line 2 is not politically feasible.

18.5.3 Social Perceptions and Affected Groups

Despite the high number of people who rate the metro as providing a 'good' service (Lima Cómo Vamos, 2018), it has very uneven impacts for some relative to others. 'Line 1 does not provide me with benefits, I usually go from east to west' (Respondent 9, interview). For instance, in 2017, Line 1 was used only by 33.5 per cent of the population (Lima Cómo Vamos, 2018); thus there is indeed a significant group not using the project.

Besides, Line 1 currently shows a decrease in its performance, which impacts upon public opinion about its effectiveness. 'People say, ok, I will use the metro; however, at what expense? I have to travel squeezed and stand in long queues' (Respondent 11, interview).

Line 1 has reached its capacity limit and carries an additional 33.5 per cent of trips that might be alleviated by the enhancement project being carried out

(AATE, 2015); yet the system does not have complementary modes for the last mile, nor physical or fare integration with other modes (Respondent 11, interview). This affects people's perception of effectiveness.

Moreover, some groups could be adversely affected by construction works, and thus block implementation if their views are not heard. 'Those who organize the population and start marching against the transportation systems are the ones that operate the buses' (Respondent 6, interview). Bus riders who might be affected are not a small group; for example, the number of people who depend on the conventional bus system is around 650 000 (Mendiola et al., 2014). However, this potential risk is not seriously addressed, nor have clear mitigation plans been put in practice so far, which clearly indicates that these factors are overlooked.

18.5.4 Sanctioned Discourse and Other Factors

The sanctioned discourse is critical to the implementation of the metro: if there is a general positive view on the project then it is likely to be supported by politicians and decision-makers. The sanctioned discourse can be seen as the result of the interaction of interests that build a consensus on an issue, that is, concerning what is acceptable and what is not (Jägerskog, 2003). The sanctioned discourse needs to be a positive discourse, providing support to the project, otherwise implementation becomes problematic (Jägerskog, 2003; Feitelson and Salomon, 2004). Politicians decide which projects or policies to promote, or not, according to the sanctioned discourse and concurrence with their views and aspirations (Allan, 2001). The media often characterize mega-projects, including Line 2, as costly, delayed, blocked or even abandoned infrastructure (Paz, 2018). Moreover, many projects are currently investigated by the Controller General's office (RPP, 2018) due to their high cost and delays: 'News about Line 2 was more about how costly the project is and delays in its construction' (Respondent 9, interview); 'The media generates negative opinions in the population; it can destroy the image of any project' (Respondent 6, interview).

Some information propagated in the media is not well evidenced, but due to its power and coverage it can change people's perceptions greatly, or cause misinformation. The Metro of Lima, as a highly visible project in an urban area, attracts much attention from stakeholders. Therefore, it has become a key topic in the media and political debates. Unfortunately, with numerous difficulties in implementation, it is clearly not as appealing now as it was initially. 'The Line 2 is not attractive anymore, the politician who says I'll support the project and I'll finish it, nobody will believe that' (Respondent 11, interview). Therefore, there is some rationale behind politicians currently not actively supporting the Metro of Lima. It has negative perceptions and high visibility; thus, supporting

a problematic project is unlikely to be an option that politicians choose unless they can see longer-term benefits that may be realized.

The analysis shows that institutional and technical barriers significantly affect the development of the metro. Achieving the wider benefits of a mega-project largely depends on an integral vision and a cross-sector intervention (Banister and Berechman, 2000), which is difficult to achieve if institutions are divided and efforts for coordination are not efficient (Respondent 11, interview). As a result, the institutional barrier could be a missing element in the vicious circle, where institutional constraints and limited technical capacity lead to narrow objectives, low-performance innovations, poor balance between demonstrated costs and benefits (hence economic controversy), negative social perceptions, actor opposition, lack of political support and, finally, a highly modified or abandoned project. A greater understanding of the wider impacts of public transport investment, beyond performance against narrow economic efficiency goals, can help to demonstrate the benefits of investment. This stronger evidence base can be used to gain support by politicians and wider interest groups, hence the mediation of actor groups can be managed more effectively.

18.6 CONCLUSION

The implementation of major infrastructure projects is complex, particularly in a context such as Lima where there is a long history of insufficient technical resources in city authorities, poor project planning, low funding levels, corruption and mistrust in politicians. This research aimed to explore the decision-making process and identify barriers in the implementation of the Metro of Lima. The analysis has shown barriers in five different aspects: political, economic, social, technical and institutional. It has demonstrated, with empirical evidence, that the political barrier is the primary challenge and the most complex obstacle to overcome, mainly due to the lack of political support for the project. This, in itself, is a result of a range of factors, including poor project planning over decades. Highly visible projects require strong technical evidence-gathering, a case made for the wide benefits of investment, which can help to generate support, including with different actor groups and politicians.

Several societal factors are generating a significant political barrier to the implementation of the metro. Among those, economic concerns are one of the biggest threats, as the metro is perceived as an absurd project that requires massive funds with minimal benefits. Negative social perceptions are increasing as only a minority of the population has experienced the service so far; the majority are not using the project. The sanctioned discourse has become negative and does not promote the project due to the continuous adverse news

in the media. This includes corruption investigations around mega-projects in the country. As a result, these elements are adding to the political barrier and blocking project implementation.

We can reflect on changes to the process, which may enable better implementation of the metro. First, enhancing communication and engagement strategies might turn negative perceptions into positive perceptions and shape the sanctioned discourse into a positive driver for the project. Also, institutional and technical strengthening can lead to more robust projects and the demonstration of more benefits across all dimensions (economic, social and environmental). Indeed, institutional reinforcement is not a straightforward task, but action now might enable a greater positive impact of the metro in society. As an exploratory analysis, it was beyond the scope to propose solutions for the obstacles found; but we hope that this analysis contributes to an area where research is scant, particularly in the Latin American context (Straub, 2011).

There is a need for more multidisciplinary work within planning offices. Planners of different backgrounds can lead to more robust projects in all aspects, including engineering, urban planning, urban design, social and environmental impacts. This type of evidence-building and project development is critical to effective project planning. Planners also should be more open to hear people's feedback, and communicate to the society in a more comprehensive and transparent way; building support for a project is often difficult, but more effective communication and participatory processes can help to provide support for the critical moments where the politicians may waver and even withdraw their backing. People are indeed more likely to support a project that they know and have been involved in throughout the project planning process. Supportive coalitions can assure that projects are implemented. Such coalitions have to be carefully built, as many threats might appear along long-term implementation timelines, as in the case of the Metro of Lima. Besides, we should change how we conceive long-term projects. They are live projects and should be able to change and adapt to the context as they progress. As they require many years to plan, to implement and also to operate, they have to be flexible along their lifecycle.

The political economy framework helps us to understand how the different factors and interests interact and affect political feasibility. Such factors are usually considered as secondary elements, or even overlooked. However, this analysis has shown the importance of managing different actor views in the process, and has opened up new avenues for future research. A political economy analysis can be included in practice as part of the initial project planning process; it can help to understand the different views in the process and to frame the participatory process. This can be revisited through the project appraisal process, to ensure that a positive sanctioned discourse is maintained. An understanding of different actor views, alongside technical planning, will

help to identify current and potential future risks. Its usefulness goes beyond the identification of factors that cause barriers; it also enables us to find pathways concerning how to mitigate particular risks. In this sense, it would be interesting to conduct empirical analysis on how the political economy framework can help to find mitigating elements to overcome barriers, that is, how the different actors perceive solutions. Besides, this analysis was qualitatively focused and restricted to a particular point in time. Future research can use quantitative data and focus on different time points in the process.

In the end, transport projects need to be developed so that they support public policy objectives. The Metro of Lima should help to deliver sustainable travel behaviours, in environmental, social and economic terms. But it needs to be more effectively planned and delivered through the project planning and implementation processes. A metro project can support many objectives in human scale planning; it will allow more people to be delivered by environmentally positive means of travel to different parts of the city; it can support a vibrant city centre with high levels of pedestrianization and high-quality public space. Yet, metro projects, such as the case in Lima, are difficult to implement. A more thorough development of evidence and participatory processes, and management of different interest groups, can greatly assist – and lead to more effective public transport planning in Latin American cities.

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