Transit Planning in Curitiba and Bogotá.
Roles in Interaction, Risk, and Change

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TRANSIT PLANNING IN CURITIBA AND BOGOTÁ. ROLES IN INTERACTION, RISK, AND CHANGE

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ABSTRACT

What is the role of planners in the planning process for new transit modes? By documenting transit-planning processes in Curitiba and Bogotá from 1955-95 and 1986-2001, respectively, this work demonstrates that in both cities planners had important roles in system design, the inventive adaptation of new technologies to local conditions, the integration of newly proposed systems with existing service and, above all, mediation between political leadership and strong vested interests. Both cities put planners' roles in special context, however. First, the mayors had a firm appreciation of planning services and understood that planners needed to interact with stakeholders and politicians. Second, the mayors were strong leaders who offered planners a benchmark from which to understand the implications of stakeholders' demands. Third, these cases were framed by new technologies such as Bus Rapid Transit, which competed against rail alternatives. Fourth, because of the novelty of BRT planners had difficulty producing credible forecasts. This uncertainty forced planners to interact more with stakeholders and politicians to build credibility. Fifth, BRT offered the advantage of being highly flexible, particularly when compared to rail proposals. This flexibility allowed planners to adjust the plans in response to the feedback produced by the interaction with stakeholders and politicians. Adjusting the plans often forced planners to innovate.

Within this context, planners' main role was to interact with politicians and stakeholders. The interaction was above all a source of feedback for all parties involved. Planners used this feedback, first, to mediate between politicians and stakeholders by reducing power differentials. If either actor were too powerful the planning process could not advance. Second, planners developed incremental adaptations to the original plan in light of the political reality unveiled by the interaction. The gradual adjustments to the original plan lowered risk for all parties. The adaptations and the reduced risk helped assemble coalitions of support. Planning teams with high levels of political capacity were able to interact with politicians and stakeholders. Planning teams also needed a high level of technical capacity to prevent stakeholders from capturing/co-opting the planning team.

Thesis Supervisor: Ralph Gakenheimer
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This work is dedicated to Judy and to the memory of Maye Morrison.

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Part 1

Introduction

What roles do planners play in the planning process? If politicians and stakeholders also participate in the planning process, what effect do planners have on the path of decision and the shape of the plan? While there is an extensive body of literature on what planners do and on the politics of planning, there are few examples that have taken a look at planners' roles from a process perspective. I seek to answer these questions by studying in detail transit planning processes in the cities of Curitiba and Bogotá in the periods 1955-95 and 1986-2001, respectively.

Chapter 1

Introduction

The City of Curitiba is recognized internationally for having successfully implemented a comprehensive urban plan between 1971 and 1983. The plan emphasized bus rapid transit to guide urban development. As a result, the downtown of Curitiba grew along a series or corridors instead of spreading in all directions. Mass transit planning and land use, therefore, reinforced one another. In the early 1990s Curitiba innovated again by introducing "tube" stations and bi-articulated buses in its bus rapid transit system—known as the Integrated Transit Network (RIT[1]). Since then passengers pay upon entering the station and board at the same height as the bus' floor. The stations allow buses to maneuver quickly and hence save time to the riders. RIT moves 1.9 million trips on an average day.[2] The RIT technology system parallels in efficiency a light rail system.

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[1] I use the Portuguese acronym and not ITN the acronym in English that authors like Cervero (1998) use. RIT is the acronym for Rede Integrada de Transporte.
[2] Meakin (2002, p. 23).

The achievements of Curitiba, a medium city, seemed difficult to replicate. Yet between 1998 and the time of this writing, the city of Bogotá managed to adapt the main aspects of the RIT to its local conditions. The result is TransMilenio, a bus rapid transit (BRT) system able to move as many passengers as most metros in the world. With only 41 kilometers of network, TransMilenio's buses transport 790,000 passengers per day. The Washington D.C. subway with a 164-km network[3] moves 650,000 passengers per day.[4] Bogotá also adopted other innovative policies in transportation, such as favoring non-motorized transport and curbing car use.[5/6] As a result, Bogotá has also achieved international recognition.

Both cities are considered therefore showcase examples around the world of how urban and transportation planning can change cities for the better. Despite the praise for being cases where planning led to positive change, little is known about the actual roles that planners played in the planning processes. For example, a common belief is that in Curitiba a planner-turned-politician, Jaime Lerner, used his leadership abilities to get policies adopted "founded on a high level of technical and professional competence in the planning function."[7] Further, Pulichino concluded that Jaime Lerner as mayor of Curitiba took advantage of the Brazilian dictatorship to impose his policy innovations on the city.[8] For the Bogotá case, similarly, analysts argue that Enrique Peñalosa's leadership and a "carrot and stick" formula allowed him as mayor to implement the bus rapid transit system he had envisioned in the mid 1980s.[9] Finally, Wright analyzed the cases of Bogotá and Curitiba, among others, to conclude, "political will is by far the most important ingredient in making BRT work."[10]

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[3] Peñalosa (2003, p. 97-8).
[4] Ridership on the Washington D.C. metro in the month of June 2004 exceeded 700,000 passengers per weekday. The figure of 650,000 is the average for the fiscal year 2003-4. See "June Metrorail Ridership shatters records," http://www.wmata.com/about/MET_NEWS/PressReleaseDetail.cfm?ReleaseID=443, July 2, 2004.
[5] See Ardila and Menckhoff (2002).
[6] It is too early to judge whether Bogotá can also emulate the transportation-land use integration that Curitiba has achieved.
[7] World Bank (2002, p. xxi).
[8] Pulichino (2003, p. 27).
[9] Echeverry, Ibañez, and Meléndez (2004, p. 22-25 and 30-33).
[10] Wright (2002b, p. 3).

These visions of the planning processes in Curitiba and Bogotá certainly capture the role politicians and their leadership played. But they seem to leave little role for planners beyond, probably, supplying technical information.[11] The processes in these two cities, however, were clearly complex, involved many actors and had many controversies. Yet the stories are reduced to "strong leadership," " political will," and "capable planners." What roles did planners play in the planning processes in Curitiba and Bogotá? If politicians and stakeholders participated in the processes, what effect did planners have on the decisions made and on the final shape of the plans?

In this dissertation I look in detail[12] at the planning processes in Curitiba (1955-1995) and Bogotá (1986-2001). By comparing the two cases and focusing on their commonalities,[13] I intend to build a single representation of the roles planners play in the planning process. This dissertation, however, is *not* about explaining why Curitiba and Bogotá are considered successful examples of urban and transportation planning. *Neither* is this research about why the different plans in each city were adopted. In effect, the decision to adopt a plan is just a marker in my analysis and not the object. My research is about documenting and interpreting the roles that planners play in actual planning processes—without ignoring the important actions by politicians and stakeholders.

The planning process and the role of planners

A common role assigned to planners is to provide technical information to decision-makers.[14] Other analysts have concluded that planners' roles include "technician, advisor, intelligence agent, communicator, process feedback assessor, responsible agent, advocate, educator, coordinator, specialist, researcher, and broker."[15] To reach these conclusions, analysts of planners' work have for the most part taken the planner

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[11] See Meyer and Miller (2001) who specifically limit the roles of planners in the planning process to supplying technical and objective information.
[12] Peattie (1995, p. 394) argues that this type of case study can be called "dense" case study.
[13] See Ragin (1994, ch. 4) for a description of the use of qualitative methods to study commonalities in social research.
[14] See Meyer (2000, p. 41); Meyer and Miller (2001, p. 41); and Gakenheimer (1995, p. 460).
[15] Stevens (2001, p. 11).

as the unit of analysis.[16] While these results are valid, this approach is incomplete in at least two ways.

First, by taking the planner as the unit of analysis, authors tend to ignore politicians and probably other participants in the process as well. Baum argues that:

> "[Planning] theories offer a magical escape from troubling work conditions by suggesting that planning "really" is not political. Rational planning theories do this by denying politics altogether. Communicative theories that portray the planner as an unemotional cognitive reasoner imply that planners can get by, even prevail, just by thinking and speaking or writing clearly. [...] Still, the ambiguous juxtaposition of the emphasis on the planner's cognitive activities with the description of a tempestuous world of political power requires resolution. If cognitive reasoning is enough for planners to prevail, then perhaps politicians are not "really" a part of planning and do not have to be taken seriously. Such an unrealistic conclusion may serve a magical purpose. By suggesting there are no powerful politicians in the planning world, theorists take revenge on them, mentally eradicating them and telling planners, as well, to give politicians no mind."[17]

Second, by focusing on the planner as the unit of analysis, authors tend to ignore the planning process as such. Or rather, these authors assume implicitly a model of the planning process that follows this "rational" sequence: analyze problem, design alternatives, evaluate, make decision, implement, obtain feedback.[18] Indeed, some notion of "rationality" continues to influence the thought of urban planners, transportation planners, economists, and policy analysts, among others.[19] Willson, for example, says: "Instrumental rationality has been the traditional espoused paradigm of transportation planning."[20] Brooks adds: "Ask a professional planner to describe how he or she carries out the planning process, and the odds are good that you will hear some version of the rational model."[21] The problem is that few of these models of

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[16] Dalton (1989, p. 36); and Fischler (2000, p. 185).
[17] Baum (1996, p. 377).
[18] See Meyer and Miller (2001, ch. 2); Brooks (2002, chs. 10-11); Willson (2001); Dickey et al. (1983, esp. ch. 2); Kane and del Mistro (2003); Gakenheimer (1995); Johnson (1997, ch. 1); Dimitriou (1995, ch. 5); and Pas (1986).
[19] For urban planners see Brooks (2002, ch. 6); Healey (2003); Bayne (1995); Yiftachel (2001); Peattie (2001); Flyvbjerg (1998); for transportation planners see Altshuler (1981); Meyer and Miller (2001, ch. 2); Edwards and Mackett (1996); Gardner (1998); Willson (2001 and 2003); Kane and del Mistro (2003); and Langmyhr (2001); for economists see Grindle (1991); March (1996; ch 1); and Allison and Zelikow (1999, ch. 1); for policy analysts see Heineman et al. (2002, esp. ch. 2); for political science see Altshuler and Luberoff (2003, ch. 3); and Grindle and Thomas (1991, ch. 1).
[20] Willson (2003, p. 354). See also Langmyhr (2001).
[21] Further, Brooks (2002, p. 81) adds: "Ironically, planning schools often display a split personality on this matter—trashing rationality in the planning theory class, while continuing to teach it in all its glory in the methods and studio classes. Much like the creatures in horror movies, rationality is dead—but

the planning process have been tested to determine the extent to which they can describe actual processes. In fact, many authors recognize the models are merely normative.[22] My analysis of the cases below, moreover, suggests that the actual processes did not seem to follow this sequence so ingrained in planning literature.

Indeed, if one compares the normative models of the planning process with the empirically based models of the policy making process one finds strong discrepancies. This result is odd bearing in mind that plan and policy can be considered synonyms.[23] The models of the planning process[24] tend to ignore, among others, the following aspects that the models of the policy process highlight.[25] First is the importance of time. The models of the planning process seem to assume that the normative version of the planning process can start almost at any point in time. The models of the policy process, on the contrary, argue that certain events happen only during specific junctures in time.[26] Second, the models of the planning process ignore the leadership role that planners might have to play in the form of policy entrepreneurs or policy brokers to get their plans adopted.[27] Third, the models of the planning process tend to ignore the role of political aspects such as elections and the need to have coalitions of support.[28]

Therefore, authors who focus on individual planner's actions and ignore the actual planning process overlook the dynamic context in which planners work. The roles that emerge from those analyses do not necessarily fit the demands of an actual planning process. For example, do planners have to play the same roles—advisor, communicator, mediator, etc.—in each stage of the planning process? Or, do

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keeps showing up in public places. Despite its purported flaws, rationality is still the dominant paradigm in planning practice, and therefore continues to deserve careful scrutiny." Urban planners are not alone in following this model of the planning process.

[22] Pas (1986, p. 49); Meyer and Miller (2001, ch. 2); and Meyer (2000, p. 41).

[23] In this research I treat plan and policy as synonyms. I do not distinguish between policy making process and planning process.

[24] For models of the planning process see Meyer and Miller (2001, ch. 2); Brooks (2002, chs. 10-11); Willson (2001); Dickey et al. (1983, esp. ch. 2); Kane and del Mistro (2003); Gakenheimer (1995); Johnson (1997, ch. 1); Dimitriou (1995, ch. 5); and Pas (1986).

[25] For models of the policy process see Kingdon (1995); Sabatier (1999, 1999a, and 1999b); Sabatier and Jenkins-Smith (1999); and Orstrom (1999).

[26] See Kingdon (1995, esp. ch. 8).

[27] See Kingdon (1995, p. 127-131, 179-183 and 204-205); Sabatier and Jenkins-Smith (1999); and Altshuler and Luberoff (2003, esp. p. 224-227).

planners' roles change over time? How do these roles for planners help them take a plan to the decision stage? How do planners' roles affect the final shape of a plan that was adopted? How do planners' roles change when planners want to oppose someone else's plan? Do some planners need to be leaders or project champions to see the plans they crafted adopted? These are questions that are left unanswered because the current tendency "is to generalize about planning as a procedural field of activity, somehow removed from the messy political and economic realities of urban and regional development."[29]

Another set of authors has analyzed the planning process to explore how participants in the process arrived at decisions. The main conclusion is that decisions are political and not technical,[30] as it should be in any democratic and accountable setting. Altshuler, for example, claims that: "...the political system (of the US) as a whole seems to strive for inclusiveness and broad support, rather than theoretical consistency or elegance."[31] For Altshuler the system "seeks politically to blur the tensions and technically to find ingenious new means of reconciling the objectives."[32] Hence, the implicit role of planners in this political system is to find solutions that are politically viable. Further, Feldman and Milch argue that technical arguments seem to play a secondary role, one where they justify rather than shape the political decision process.[33] Some of these authors have found planners' role limited by political naivete[34] or by planners' belief that they need goals to be effective in the planning process. Yet setting goals in a democratic society is difficult if not impossible.[35]

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[28] See Sabatier and Jenkins-Smith (1999); and Altshuler and Luberoff (2003, esp. p. 237-8, 284-6).
[29] Yiftachel and Huxley (2000, p. 908).
[30] See Altshuler (1981); Altshuler and Luberoff (2003); Luberoff and Altshuler (1996); Davis (1985, 1991, 1994a); Gakenheimer (1976 and 1985); Edwards and Mackett (1996); Flyvbjerg (1998); Feldman and Milch (1982); Gifford (1984 and 1994); Logsdon (1986); Richardson and Jensen (2000); Acevedo et al. (1993); Richmond (1991, 1998, and 2001); Taylor (1993, 1995, 2000); Lupo, Concord, and Fowler (1971); Baumbach and Borah (1981); Wachs (1985 and 1995); and Vigar (2002), among others.
[31] Altshuler (1981, p. 11).
[32] Altshuler (1981, p. 13).
[33] Feldman and Milch (1982, p. 70). For a comprehensive view of the politics of forecasting see Flyvbjerg, Holm, and Buhl, (2002).
[34] Altshuler (1965, p. 392).
[35] Altshuler (1965, ch. 5, esp. p. 303); and Lupo, Concord and Fowler (1971, p. 200-2 and 211-212); For planners' remedies to the problem of setting goals see Brooks (2002, p. 145-153); and Innes (1996, p. 462-3), among others.

Finally, this literature also addresses other political issues in the planning process such as the need to form a broad coalition of support,[36] minimize opposition, and reduce the plan's negative impacts.[37]

Planners can certainly extract valuable lessons from this ample body of literature. But planners need not easily connect these conclusions with their expected roles such as advisor, communicator, or mediator. First, if the implicit role for planners is to craft plans that are politically feasible, how do planners achieve this objective? Do politicians determine what is politically feasible and instruct planners to validate those decisions with technical arguments? Or, do planners play a role in figuring what is politically feasible? If so, how do planners discover what is politically feasible? Second, if goals are needed for an effective planning practice, how does actual goal setting take place and how are planners' actions affected by the way goals were set? Third, do planners' actions influence the formation of coalitions and the mitigation of negative impacts? Finally, while this body of literature clearly shows that politics and power relations affect planning,[38] it says little about a possible two-way relationship or interaction[39] that might exist between planners, on the one hand, and politicians and stakeholders, on the other. Actions by planners can trigger a reaction by politicians and stakeholders, which in turn requires planners' actions thus generating a sequence of interaction.

In sum, I argue that there is not sufficient understanding of the roles that planners—or technical practitioners for that matter—play in actual planning processes. The lack of better understanding of the roles of planners in the planning process can have several negative consequences. First, authors lacking a better understanding of their role in the process can call for an apolitical planning practice that limits democratic participation—a rather unproductive strategy in light of the

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[36] Davis' 1985 and 1991 pieces are particularly relevant because her case is a developing country, with a limited democracy. She analyzed the 1965 decision to undertake the Mexico City Subway (Metro).
[37] An illustrative example is Luberoff and Altshuler (1996).
[38] See Forester (1989 and 1999); Hoch (1994); and Benveniste (1989), among others, for how the planning field has accepted this reality.
[39] In this research I distinguish between relation and interaction. According to the Oxford Desk Dictionary and Thesaurus, relation is what one person of thing has to do with another. Interaction, on the other hand, is to reciprocally act on each other.

democratizing trend worldwide.[40/41] I call these authors the "rationalists." Ison, for example, analyzed why congestion pricing could not be adopted in the city of Cambridge (England) and found several lessons for the practice of transportation planning. One of them is that congestion pricing "has to be undertaken on a regional or subregional basis and possibly by central rather than local government as a means of taking it out of the local political arena."[42] Given the impact of congestion pricing on people's lives it is surprising that the solution advocated by Ison be to exclude local actors from the decision.

Turochy, in turn, argues in favor of developing stronger technical tools—nothing objectionable up to here—but in order to minimize the impact of politics on the planning process. Specifically, "Such a rational approach would clarify and quantify the merits of proposed projects, provide more information to decision makers in the project programming process, and downplay the impact of political power in project selection and prioritization."[43] Finally, many authors in this group frequently conclude that "strong leadership" and "political will" explain outcomes, without allowing much room for other possible explanatory variables. When analysts resort to "strong leadership" and "political will" to explain outcomes, they only fuel the argument that the solution is to have "apolitical" processes with little participation of other actors beyond the strong leader—and a few "enlightened" planners![44]

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[40] For evidence on the democratic trend in cities in the U.S. see Altshuler and Luberoff (2003). For capital cities in Latin America see Myers and Dietz (2002).

[41] These calls can be framed under the umbrella of a desire to return to a "rational" planning process in the hope that planners will have a higher influence. Feldman and Milch (1982) analyzed the planning process for eight international airports in five developed countries. They found that in most cases the planners and decision-makers tried to follow the rational planning process. In the three airports where the "rational" approach to decision making was followed more closely, there was a sufficiently powerful organization that could curtail participation by many actors. This was what allowed implementation to proceed. However, they argue that these were the cases that can be considered a failure, because the demand forecasts that justified construction did not materialize. In the other five cases, broader participation by other political stakeholders made the application of the rational model of decision making impossible. Interestingly, Feldman and Milch argue that it was the input into the decision making process by these actors that contributed to halting implementation. This, however, prevented these cities from incurring in a similar failure as the cities that did implement the projects.

[42] Ison (1998, p. 145).

[43] Turochy (2001, p. 123). For similar examples see also Chu and Polzin (2000 and 1998); May, Shepherd and Timms (2000); Black (1990); and Johnston et al. (1988), among others.

[44] A second reaction in the transportation-planning field opposes advocating less democracy to achieve a more democratic process. See Willson (2001 and 2003) and Langmyhr (2001). These authors use

Second, if the *actual* roles of planners in the planning process were understood better then the *prescribed* roles by planning theorists would have a larger impact among the community of practitioners. While planning theorists' agenda is professionally worthy, it seems to offer a precarious foundation for the understanding of actual phenomena.[45] As a result, some authors argue that planning theory has had little impact on practitioners because of this gap between the normative statements by planning theorists and what practitioners experience.[46] Further, many of the recommendations by these authors on how to practice planning are not contingent only on planners' willingness to practice planning as recommended. For that reason, these authors also recommend amendments to laws and regulations.[47] These amendments would allow their preferred way of practicing planning to flourish. But these authors do not say what planners should do to get those amendments enacted. Planners are only one actor among many[48] in a complex political and technical process—the planning process.[49] How can planners change the world to practice these normative ideals? Flyvbjerg concludes: "This, in my analysis, is the quandary of normative idealists, including the majority of planning theorists: they know where they would like to go but not how to get there."[50]

Third, practitioners can follow the advice of the "rationalists" and try to carry out apolitical planning processes. This action can lead to the de-legitimization of the planning function. Apolitical planning can de-legitimize the planning function because interested parties can feel that while the plans affect their interests they have no opportunity for voicing their concerns and affecting the plans. Even in highly restricted political environments under authoritarian rulers, this type of planning will lead at a

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ideas emerging from communicative rationality and consensus building to advocate more participation and more democratic planning processes.

[45] Yiftachel (2001, p. 252); see also Flyvbjerg (2001; p. 108-9).

[46] See Brooks (2002, p. 25-8); Sanyal (2002, p. 120); Scott and Fainstein (2003, p. 12); and Yiftachel and Huxley (2000, p. 909).

[47] See Innes and Gruber (2001, p. 25); and Forester (1989, p. 61).

[48] See Sabatier (1999); Sabatier and Jenkins-Smith (1999); Kingdon (1995); and Zahariadis (1995) for examples of how planners are just another actor in the planning process.

[49] For an example see Innes and Gruber (2001, p. 25) who conclude that to further the applicability of collaborative planning three major policy changes are needed. The authors, however, do not explain how to enact any of these changes.

[50] Flyvbjerg (1996, p. 384).

minimum to resentment among the citizenry and eventually to the planning function being considered illegitimate. Most probably a political reaction will develop against this approach.[51] Indeed, as Booth and Richardson say in this regard: "The democratic deficit which has characterized strategic transport planning for many years has not yet been repaired," and they claim this challenges the overall legitimacy of planning.[52]

Fourth, the lack of adequate understanding of the roles of planners in actual processes can lead to "frustrated" planners who do not see the opportunities a planning process offers them for advancing a plan they support. Instead, planners can regard how their plans change as a result of "politics" as something negative that can lead even to withdrawal from the profession.[53] Brooks aptly summarizes this situation by saying: "While the political nature of planning is indeed widely recognized today, many planners continue to display ambivalence on this matter. Acceptance is one thing; acting upon that acceptance is quite another. Too often planners are ill-prepared to act upon the political content of their work; they may lack understanding of the political system (ignorance), or lack knowledge of the techniques needed to function effectively within it (inadequate education), or feel overwhelmed by political forces (despair), or even reject the notion that they—in their particular roles—are subject to the play of political power (denial)."[54]

Despite this lack of understanding of the actual roles that planners play in the planning process, societies do actually manage to get plans and projects adopted. Who could imagine a few years ago that London, a mega city with a democratic government, would impose a charge on cars entering its downtown? This charge was achieved, moreover, in a peaceful way, without the need to abolish basic liberties or reduce political space.[55] The academic field, therefore, seems to be lagging behind

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[51] See Scott (1999) for how rather authoritarian approaches to "rational" plan and policy making have ended up in failed policies and in less legitimate governments. See also Peattie (1987); and Davis (1985 and 1994).
[52] Booth and Richardson (2001, p. 141-142, quote from p. 144).
[53] See Brooks (2002, ch. 1).
[54] Brooks (2002, p. 16).
[55] See Sarah Lyall (2003a and 2003b); and "First days show positive results for congestion charging in London" www.polis-online.org.

the practitioners for it does not seem to fully understand the roles that planners play in the planning process and in the decisions made in it.[56]

We therefore need research that takes the planning process as the unit of analysis and that without ignoring politicians and stakeholders, analyses the roles that planners play in the process. This approach will allow us to understand how planners' professional work contributes to shaping a plan and to get the plan adopted or rejected. I follow this approach in my dissertation.[57] I therefore concur with Flyvbjerg when he argues, "Research should focus on 'what is actually done,' towards *verita effectuale*. In this way, we may gain a better grasp—less idealistic, more grounded—of what planning is and what the strategies and tactics are that may help change it for the better."[58]

A new framework

In the previous section I identified several limitations in the literature. First, planning theory uses as unit of analysis the planner and not the planning process. Second, the models of the planning process are not empirically grounded. Third, the literature on the politics of planning is not specific about the roles played by planners. These bodies of literature seem therefore inadequate for building a framework. I need a new framework of analysis that recognizes conclusions already in the literature such as that politics and power matter in the planning process. Further, I need a framework that involves some notion of process.

A simple model of a city government would assume a city government consists of elected and appointed politicians, and planners (also known as bureaucrats or technocrats).[59] In theory, the city government is interested in enacting policies that satisfy legitimate and collective goals and not just the preferences of particular

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[56] See Wachs (1985); and Gakenheimer (1985).
[57] See Gulyani (2001, p. 16-18) for a similar argument. Gulyani changed her unit of analysis from the firm to the firm and its supply chain.
[58] Flyvbjerg (1996, p. 391-93).
[59] I follow Ellis (1992) in that the state or government is not a coherent organism with clearly defined preferences. Instead, one has look at the preferences of politicians and bureaucrats to understand the government's positions.

individuals such as politicians, planners, or stakeholders.[60] If policies and plans follow the preferences of a particular stakeholder, then most likely the plan will disproportionately benefit that stakeholder at the expense of other actors in society. Likewise, if the plan follows the preferences of particular politicians or planners there is no assurance that once adopted the plan will benefit collective and legitimate goals. For one thing, what is a legitimate goal for politicians or planners need not be a legitimate goal for stakeholders or even society at-large. For another, plans that follow politicians' or planners' goals need not have a relatively fair distribution of costs and benefits. For example, benefits can be concentrated in politicians' favorite stakeholders.

Therefore, for government plans to reflect collective goals many stakeholders should participate in the planning process and no participant—planner, politician, or stakeholder—should have excess influence. By collective goals I do not necessarily mean an outcome that is Pareto optimal—i.e. some actors are better off and no one is worse off. Pareto optimality is probably difficult to achieve when it comes to planning and public policy. Instead, I mean two things by plans that satisfy collective and legitimate goals. First, government plans do not reflect the individual preferences of planners, politicians, or stakeholders. Second, the distribution of costs and benefits is not concentrated in a few actors. Instead, costs and benefits are somewhat fairly distributed across society. Put differently, for the plans of a city government to reflect collective and legitimate goals, the government needs a minimal space for action. Within this space, several actors—none with overwhelming influence in the process—

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[60] My argument builds on the idea of state "autonomy." In theory state autonomy refers to the capacity of a state to act somewhat "independently of class pressures, especially the demands of the capitalist class." (Davis, 1994b, p. 46). (See also Skocpol (1985, esp. p. 9); and Ellis (1992, esp. p. 570-1) who offer alternative definitions of autonomy.) When the government achieves a minimum level of autonomy then its plans and policies satisfy legitimate interests—i.e. collective goals (Evan, 1994, p. 45) or citizen demands (Davis, 1994b, p. 46)). However, to achieve this positive outcome, a government cannot be totally autonomous from societal influence. Evan writes in this regard: "Is Zaire's state "autonomous"? If "autonomous" means not having its goals shaped by societal forces, then it is very autonomous. No class or organized civil society constituency can be said to control it. If, on the other hand, "autonomy" implies the ability to formulate collective goals instead of allowing officeholders to pursue their individual interests, then Zaire fails the test." (Evans, 1994, p. 45). Therefore, for government plans to satisfy collective goals, actors beyond politicians and planners in office should participate in the planning process. Autonomy does not refer then to allowing politicians and planners pursue their individual interests (Evans, 1994, p. 45 and 59).

shape the plan. The distribution of costs and benefits is fair and the plan does not reflect any participant's particular preferences.

A city government achieves this minimal space for action by building capable government agencies and by promoting the interaction between planners, politicians, and stakeholders.[61] Capable government agencies have the structure, funding, human resources[62] and knowledge[63] needed to craft plans that are technically sound. Capable agencies also have the knowledge to counterbalance the power of capable stakeholders. Absent this capacity in the government agency, a capable stakeholder can capture the agency and bias the allocation of benefits in its favor.[64] Finally, as I explain in more detail below, a capable agency has the political capacity to interact with politicians and stakeholders. Organizational capacity helps reduce power imbalances and in this sense contributes to building the minimal space for action the government needs.

Having capable government agencies is not enough, however, to ensure that the resulting plans benefit society at large. Evans argues that capable government agencies can craft plans. But they need to embed themselves "in a concrete set of social ties that binds the state to society and provides institutionalized channels for the continual negotiation and renegotiation of goals and policies."[65] I interpret Evans' idea of "embeddedness" as the need to have capable government agencies that *interact* with stakeholders and politicians. By interacting, members of these agencies—i.e. planners—build the channels for negotiating goals and policies. The

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[61] See Evans (1995, p. 12 and 57) for an analogous argument.
[62] See Goggin et al. (1990, ch. 5). For these authors organizational structure refers to the different units and departments that constitute the organization. Human resources refer to the quantity and quality of the people employed to perform the tasks in each unit within the organization. Organizational capacity is also dependent on the funding available to the units and the human resources to perform their tasks.
[63] See Ardila (2002, ch. 2) for a discussion of the role of knowledge in organizational capacity. Knowledge refers to the sets of concepts that the human resource has to master in order to carry out the tasks assigned to the organization.
[64] See Ardila (2002, esp. ch. 2). Amaya (1998) argues that in Bogotá the Secretariat of Traffic and Transportation is organizationally weak. To operate and manage the traffic light system, STT hired a private and capable multinational contractor. The resulting power unbalance led to capture of the public agency by the contractor. The contractor obtained lucrative contracts in a non-competitive manner by ensuring prices higher than normal and selling more equipment than necessary.
[65] Evans (1995, p. 12 and 59).

interaction, therefore, allows agencies to build a minimal space for government action and obtain plans that reflect collective and legitimate goals.

Notice that all three actors—planners, politicians, and stakeholders—can have different objectives. Planners, for example, because of their training can have their own preferences regarding what solutions are better—e.g. rail- over bus-based plans. In turn, stakeholders will tend to protect their interests. Politicians, likewise, can favor certain plans not only because those plans maximize their chances of being reelected but also because the plans reflect their ideology. It is the interaction among actors and the resulting adjustments to the plans that allow the plans to reflect collective goals and not the particular preferences of any of these actors. The interaction therefore allows an equitable mediation of these actors' different goals. For the mediation to be effective, however, typically planners have to reduce power differentials between stakeholders and politicians. If either actor appears too powerful the interaction does not render the expected benefits. Hence, when a government agency is capable, interacts with politicians and stakeholders, and mediates effectively among all actors involved it has better chances of producing change that reflects collective goals.

Finally, organizational capacity and interaction reinforce one another in the objective of creating a minimal space for government action.[66] Absent a capable organization, the interaction will probably lead to capture by interests that stand to benefit from the plan. Similarly, a capable agency that does not interact misses out on the opportunities for obtaining feedback from politicians and relevant stakeholders. The agency will be unable to lower power differentials among actors and adapt the plan according to the results of the interaction. Most likely, a coalition against the plan and the agency will emerge. Worse, the government might lose legitimacy. But if there is a capable planning organization that interacts with politicians and stakeholders then planners can mediate between actors, lower power differentials, and adjust the original plan. Plans then reflect legitimate interests and not just the preferences of any particular actor.

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[66] These ideas comes from Evans (1995, p. 56-58). Evans uses the term embeddedness and I use the term interaction. The two terms are rather similar conceptually speaking.

The second element in the framework introduces the idea of process. I borrow the notion of window of opportunity from Kingdon.[67] Kingdon defines a window of opportunity as "an opportunity for advocates of proposals to push their pet solutions, or to push attention to their special problems."[68] When the window of opportunity opens, actors who favor certain plans can start interacting with other participants in the process in order to call attention to their plans. As the interaction progresses, the plan can enter the political agenda of the city. The political agenda is the list of plans that politicians, stakeholders, and planners are paying attention to. Participants pay attention because plans in the political agenda stand a higher chance of being adopted. If adopted, plans can affect participant's interests. Therefore, the possibility of adoption intensifies the interaction among actors. Put differently, during the window of opportunity there is a chance that the plan will be adopted and this calls participants' attention.

Before the window opened, the chances of adoption do not exist and stakeholders and politicians can consider a waste of resources interacting with the planning team or any other promoter of a plan. The window of opportunity allows the interaction to start. The interaction in turn can put the item on the political agenda. Once in the agenda, the interaction intensifies. As seen, it is the interaction among actors that allows the city government to ultimately enact plans that reflect legitimate interests—provided there is a capable planning team. In short, windows of opportunity matter because they increase the extent of the interaction among actors.

According to Kingdon, windows of opportunity open for political reasons, such as the appointment or election of someone to office. Politicians in office can favor certain types of plans. A crisis can also open a window of opportunity. Plans that can address the problems highlighted by the crisis have a higher chance of being considered. Windows of opportunity, however, have a limited duration. The term in office of the politician comes to an end. Society forgets crises and no longer pays attention to eventual solutions.[69] Once the window of opportunity closes, participants

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[67] See Kingdon (1995, ch. 8).
[68] Kingdon (1995, p. 165).
[69] Kingdon (1995, p. 166-170). I only borrow Kingdon's concept of policy window or window of opportunity. Kingdon's model explains how items get on the agenda. I assume instead a much-

in the process stop paying attention to the plan. The interaction among actors ceases. While windows of opportunity come to an end, the interaction among actors and the resulting space for government action can extend the duration of the window. A government that adopts plans that benefit legitimate interests builds political support that extends the window of opportunity.

In sum, I conceptualize the planning process as consisting of two stages that occur recurrently. The first stage is before the window of opportunity opens and the second is during that window. During the window the changes of society adopting the plan are large. The planning process spans over long periods of time during which windows of opportunity open and close. Windows of opportunity open because of political reasons, such as elections, or because of crises. I therefore do not separate for analytical purposes the "political" process from the "planning" process. Further, the planning process "involves many players and many interests all seeking different outcomes or protecting different turf."[70] When the window of opportunity opens, actors begin to interact. This interaction can put the plan in the political agenda of the city, which in turn intensifies the interaction.

Thanks to the interaction planners can reduce power unbalances between stakeholders and politicians. The interaction also results in feedback to all parties involved. The feedback allows the team to adjust the plans incrementally. The adjustments to the plan resulting from the interaction increase the political feasibility of the plan and lower risk for all parties involved. The interaction and the resulting adjustments contribute to creating a coalition of support for the plan powerful enough to have the plan adopted.[71] At the same time, the plan reflects collective and legitimate goals—and not individual preferences. The interaction and the resulting space for government action, moreover, can extend the duration of the window of opportunity. When the window of opportunity comes to an end the interaction between

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simplified version on how items get on the agenda. Kingdon's formulation is certainly useful but not for my purposes of unveiling the role of planners.

[70] Innes and Gruber (2001, p. 1).

[71] While mayors and other politicians are key in the decision making process, I assume that the ultimate decision to adopt or reject a plan is not entirely in the hands of these decision makers. That is, even if a politician makes the decision to adopt a plan, actions by other actors can reverse or reinforce

actors is minimal. Planners and promoters have "to plan" new solutions awaiting the next window of opportunity, when the cycle begins anew.

Planners, politicians, and stakeholders defined

For analytical purposes, I consider three types of participants in the planning process—planners, politicians, and stakeholders. Planners can craft plans, and so can politicians and even stakeholders. All three actors can perform to a different extent political as well as technical actions. One of the objectives of some of these actors is ultimately to get the plan they favor adopted while for others is to oppose it and/or seek changes. Politicians in office are the actors empowered to make disposing decisions—for example to adopt a policy—in any political system. The city mayor is probably a critical decision-maker, but city councilors, judicial courts, and politicians in other levels of government such as the state of national level also matter. Stakeholders are, among others, operators and users of bus services, interests linked to urban development, neighborhood associations, interested citizens, and any interest group that for whatever reason participated in the process.

By planners I refer primarily to the members of planning teams or offices vested with the responsibility to plan and help the plan navigate towards the adoption point. The cases also reveal the existence of planners that oppose the plans promoted by other actors. In the category planners I include urban and transportation planners, engineers, economists, administrators, lawyers, and any other "technocrat" who happened to be part of the planning team. The plans and projects I analyzed in Curitiba and Bogotá are large and highly complex. Transportation and urban planners were therefore unable to handle all the issues and hence the teams incorporated other professionals.[72]

Finally, the framework indicates that it is important to have planning organizations or teams that interact with stakeholders and politicians. I define a

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this decision. Indeed, the cases suggest that it is difficult to trace the exact moment when a decision was made because it is the outcome of a process and not just of a decision-maker's will.

[72] See Dalton (1989, p. 31-32) who says: "The broadest definition of planning practice would cover all individuals who are identified in some way as planners, both through formal education and recognition, and through the activities in which they are engaged."

capable planning team as one that blends political and technical capacity.[73] Political planners provide the political capacity in the planning team. Political planners tend to like the contact with people and tend to be good at lobbying and negotiating. Political planners are aware of the importance of decisions and of the implementation of plans. Political planners tend to be aware of the importance of time in the planning process. Likewise, they realize the importance of having political support. They are skeptical about the ability of information alone to influence. Political planners tend to value the importance of receiving input from a wide variety of actors.[74] Put differently, political planners are more sensitive to political and interest-based positions as distinct from working on the basis of technical principle alone or an incomplete understanding of the surrounding political environment. Therefore, political planners are more sensitive to the exigencies of responding to interests at play in the planning process. At the same time, political planners may or may not be excellent at solving technical problems.

The capable planning team also has a high level of technical capacity. A high level of technical capacity is needed because transport plans and projects are complex. Further, the interaction with stakeholders and politicians will show certain aspects of the plan that need change or refinement. The planning team has to figure out the changes in light of the political reality unveiled by the interaction. This is a technical task subject to the constraints unveiled by the interaction. Absent a high level of technical capacity the interaction might lead to capture by stakeholders with higher levels of technical capacity. These stakeholders will benefit disproportionately from the plan. Therefore, to achieve plans that benefit collective goals and not just individual preferences it is necessary to have a team that interacts with stakeholders and politicians *and* that has a high level of technical capacity.

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[73] Political capacity is necessary in addition to standard traits of organizational capacity, such as organizational structure, funding, human resources, and knowledge, as mentioned above (see Goggin et al., 1990, ch. 5; and Ardila, 2002, ch. 2). Technical capacity can be interpreted to mean structure, funding, human resources, and knowledge.

[74] I build the category political planners based on Howe (1994, p. 129-137). Howe, however, allocates some of the traits I assigned to political planners to two separate types of planners, process planners and active planners.

The cases: mass transit planning in Curitiba and Bogotá

My dissertation therefore seeks to improve the understanding of the roles planners play in the planning process. I use case study methodology to study actual planning processes. I look in detail at the actions by planners, politicians, and stakeholders.[75] I chose to study transportation planning in the cities of Curitiba[76] and Bogotá D.C.,[77] in the periods 1955-95 and 1986-2001, respectively. Table 1 shows a series of indicators for each city. Both Curitiba and Bogotá have a rich history in transportation planning that has typically involved actions by planners, politicians, and stakeholders. Transportation planning is distinct from other types of planning in that because of the plans' impacts on economic development, land use, and people's lives it is more visible. More stakeholders seek to participate thus making the planning process more observable. The planning processes in each city are therefore somewhat similar. This similarity is convenient for my purposes, because both my within-case and cross-case comparisons focus on commonalities in the planning process—my unit of analysis. My intent is therefore to build a single representation of the roles of planners in the planning process using two cases. My selection of transit planning in Curitiba and Bogotá is grounded in the following reasons:

- **Curitiba and Bogotá have private transit companies:** Like most cities in the developing world,[78] in both Curitiba and Bogotá private investors own the bus companies that provide service to a majority of the population (Table 1). This makes them representative of the situation in the developing world. When private interests own the bus companies affected by the transport plans the public decision-making has to go across institutional lines and become more openly

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[75] See Peattie (1995); and Flyvbjerg (1998 and 2001) for a defense of the "dense," or data rich, case study method. The case study method, moreover, has a long tradition in the urban planning field (Fischler, 2000; and Creswell, 1998) and in general in the social sciences (Creswell, 1998). Second, the case study method is good for answering "how" or "what" research questions (Creswell, 1998), which are the type of questions I answer in my research.

[76] Curitiba is the capital of the state of Paraná in the southeast of Brazil.

[77] Bogotá D.C. is the capital of the Republic of Colombia. The D.C. ending in the city's name stands for Distrito Capital or Capital District, which means that the city is a separate jurisdiction from the surrounding state of Cundinamarca. From this point onwards I omit the D.C. ending in Bogotá's name.

[78] See Vasconcellos (2001, ch. 11); and World Bank (2002, ch. 8).

visible. During the planning of these BRT[79] proposals, therefore, planners and politicians had to interact at a minimum with these actors. Thus it is feasible to explore the actions by planners, politicians, and stakeholders and attempt to understand their roles.[80]

- **The magnitude of the projects:** The BRT proposals ultimately adopted in Curitiba and Bogotá were large enough to affect the shape of public transport and impact mobility and land development. The proposals also impacted neighboring communities and other interest groups at the city level, and even other levels of government who supplied partial funding, turning them into relevant actors in the processes. This characteristic raised the visible profile of the processes and made them more observable. Transit planning in these cities, consequently, was rich in actions involving the three types of actors I am interested in—planners, politicians, and stakeholders.

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[79] Bus rapid transit (BRT) is a technology designed to increase the overall efficiency of bus traffic. BRT has three complementary elements that distinguish it from other measures that also improve bus flow. First, BRT involves the construction of busways or segregated lanes for buses. The busways can be either at-grade or grade-separated. Second, because of its customer orientation, BRT implies comfortable and modern buses, stations that facilitate passenger boarding and alighting, fare collection technology, modal integration, a marketing identity, and overall excellence in customer service (Wright, 2002a, p. 2). Third, to achieve the second element, BRT usually implies an institutional transformation that implies the creation and/or strengthening of the city agency in charge of managing the BRT system. This agency usually contracts out and supervises the operations of the new buses with the private sector. The agency might own and operate the bus fleet itself, but this is a least desirable solution than contracting out (Peñalosa, 2003, p. 86-7). In this dissertation when I refer to busways it will mean only the physical intervention designed for the exclusive use by buses. When I refer to BRT I will mean a system that blends busways *and* the aforementioned elements and an institutional transformation to improve the level of service.

[80] Curitiba and Bogotá, however, do not have the same bus-ownership structure. In Curitiba, thanks to a reform in the mid-1950s, ownership was consolidated into 9 bus companies each owning an important number of buses. In Bogotá there were over 60 bus companies that obtained permissions from the city government to operate bus routes but did *not* own buses. Over 30,000 investors own the buses and pay fees to the bus companies to operate their buses in the companies' routes. Planners, politicians, and stakeholders, therefore, faced a different environment even though private actors owned the bus fleet.

Table 1. Selected statistics for Curitiba and Bogotá

Indicator	Curitiba	Bogotá
Area (sq. km)	432 (a)	492 (b)
Population		
1950	180,575	736,000
1960	365,309	1,722,000
1970	609,026	2,855,000
1980	1,024,975	4,351,000
1990	1,315,035	5,737,000
1999 (2000 for Bogotá)	1,580,505 (c)	6,173,096 (d)
Income	US $ 4000 (median family income in 1990) (e)	US $ 2,942 (average income per person in 2000) (f)
Motorization Rate (cars per 1000 inhabitants in 1994)	267 (g)	87 (i)
Privately-owned bus fleet in 1997, includes all types of buses for public service	1,636 (j)	27,762 (k)
Average density of urbanized area in 1995	49 inhabitants/hectare (l) (121.4 inhabitants/acre)	177 inhabitants/hectare (m) (438.5 inhabitants/acre)

Sources: (a) Nieri (1999, p. 1); (b) Jica-Chodai-Yachiyo (1996, p. 17), the actual area of the entire capital district is 1,731 sq. km., but most of it is located too high in the Andean Range and therefore is not suitable for urbanization; (c) All population data for Curitiba from Santoro (no date, p. 16); (d) All population data for Bogotá from Myers (2002, p. 8-9); (e) Nieri (1999, p. 2); (f) SHD (2000, p. 24); (g) Nieri (1999, p. 3); (i) Fainboim and Rodríguez (1999, p. 117, and calculations by author); (j) Brasileiro (1999, p. 467); (k) Fainboim and Rodríguez (1999, p. 117, and calculations by author); (l) Rabinovitch (1996, p. 242); (m) Jica-Chodai-Yachiyo (1996, p. 12 and 17, and calculations by author).

- **Several transit technologies to chose from:** Both cities had several mass transit technologies—metro, light rail, bus rapid transit—to chose from, and both chose BRT to solve their mass transit needs. Choosing BRT casts both cities as innovators and leaders in the international arena particularly in the developing world.[81] These innovative bus-based solutions compete well with heavy rail (metro) projects in terms of ridership, timesaving to users, and even aesthetic impact—but at a fraction of the cost of a metro line (Table 2). As Wright says: "Cases such as Curitiba, Bogotá, Sao Paulo and Quito show that BRT systems in developing cities can provide an excellent service popular with high and low income users, and be profitable at a low fare. In comparison, rail systems provide a more limited geographical coverage—especially for poorer people relying on road-based transit."[82] This sets a precedent for other cities in the developing world

[81] See Gardner (1998) for the reasons why cities in the developing world usually choose rail over bus rapid transit even if bus rapid transit is better suited to their needs.
[82] Wright (2002a, p. 27). See also Hidalgo (2003c, esp. p. 5-6).

that can find in BRT a more affordable solution for their mass transit needs. The cases chosen are therefore meaningful in the international arena.

Table 2. Comparison of Selected Mass Transit Systems in Latin America

	Curitiba Integrated Transit Network	Bogotá TransMilenio Phase 1	Caracas Metro Line 4	Medellin Metro Lines A and B
Technology	Surface bus rapid transit	Surface bus rapid transit	Underground heavy rail (b)	Elevated heavy rail (h)
Length (Km)	64.6 (a)	41.0 (b)	12.3 (b)	Line A: 23.0 Line B: 6.0 Km (h)
Passengers per day	497,000 (c1) 1,900,000 (c2)	792,000 (d)	350.000 (m)	310.000 (j)
Max. passengers per hour per direction (actual)	15,100 (f)	35.000 (g)	21,600 (b)	N.A.
Civil works cost per km (US$ million/km)	3.4 (c1)	5.1-5.3 (e)	90.25 (b)	108.0 (k)
Average Operating Speed (Km per hour)	18.7 (a)	20+ (stopping) 30+ (express) (b)	50 (b)	37 (l)

Sources: (a) Rebelo (2003, p. 2); (b) World Bank (2002, p. 113); (c1) Ceneviva (1999, p. 9), figure is for 56 km of busways; (c2) Meakin (2002, p. 43), figure for integrated transit network; (d) Hidalgo (2003a, p. 2); (e) Hidalgo (2003a, p. 5); and Wright (2002a, p. 18); (f) Wright (2002a, p. 23); (g) Hidalgo (2003a, p. 1); (h) Acevedo et al. (1993, p. 147); (j) "Se alargó el metro," Revista Cambio, July 27th, 2003; (k) "Se alargó el metro," Revista Cambio, July 27th, 2003. The figure does not include claims still in litigation for approximately US$ 640 million; (l) Acevedo et al. (1993, p. 143); (m) Figueroa and Henry (1989, p. 17).

- **Successful cases are easier to explore:** The collection of information is facilitated because Curitiba and Bogotá are considered examples of "successful" transportation planning.[83] Defining success is of course difficult and controversial. With this in mind, one important reason why academics and practitioners consider Curitiba and Bogotá as "successful" examples is the degree to which these cities managed to adopt innovative projects that can be used as showcase examples around the world.[84] Because the cases are considered successful, actors involved

[83] See World Bank (2002, chapter 8); Wright (2000?, 2002a and 2002b); Meakin (2002) and ITDP (2003). Other cities with examples of successful transportation planning are Sao Paulo and Porto Alegre in Brazil; and Quito in Ecuador (See World Bank (2002); ITDP (2003); and Wright, 2002a). In Asia examples are Hong Kong and Singapore (see Meakin, 2002).

[84] See for the Curitiba case the following pieces that consider it a successful case, albeit for different reasons: Cervero (1998); Gakenheimer (1998); Rabinovitch (1992 and 1996); Rabinovitch and Leitman (1993 and 1996); Frausto (1999); Kroll (1999); Wright (1996); Lambert (1998); Parasram (2001); Ceneviva (1999); Nieri (1999); Kruckemeyer (1999); Fulton (2002); Smith and Hensher (1998); Grava (2003, p. 391-3); and World Bank (2002). For a questioning of the extent of Curitiba's success see

are more willing to discuss with a researcher their actions and views on the processes that took place. If on the other hand, the cases were considered unsuccessful, then actors involved would likely resort to trying to exculpate their role and point out to other actors who could be blamed for the failure.[85]

- **A variety of decisional outcomes:** Curitiba and Bogotá have had planning processes that have led to two types of decisions, one, to adopt, and, two, to reject a given course of action (Table 3). This variation within and across cases enriched the possibilities for the analysis and allowed me to build a single representation of the roles of planners in both types of planning processes.
- **Both cities have the same political context:** Because I analyze processes and the role of planners and other actors in those processes, the political setting becomes a crucial variable to hold constant in other to allow a meaningful cross-case comparison.[86] Curitiba and Bogotá are located in similar political environments—strong executive. Further, most cities in the third world are located in a political environment with strong executives.[87] A strong executive, be it the president at the national level or a mayor at the local, has more formal power than its counterparts in other political systems.[88/89] Executives, therefore, play a more

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Smith and Raemakers (1998). For the Bogotá case see: Ardila and Menckhoff (2002); World Bank (2002); Hidalgo (2001, 2002a, 2002b, 2003a, 2003b, 2003c, and 2003d); Hernandez (2001); Sandoval and Hidalgo (2002); Rodriguez and Targa (2003); Levinson et al. (2003); Fulton (2002); Further, ITDP (2003, p. 4-5) argues that bus rapid transit is spreading to Africa and Asia and that the experiences of Curitiba and Bogotá (as well as Quito) are important in this replicating effort.

[85] Quito (Ecuador) also chose bus rapid transit and is also considered a successful case. However, for logistical and case-specific reasons I did not choose to study this city. Specifically, my budget did not allow me to include Quito. Second, MIT professor Ralph Gakenheimer, who attempted a case study there, told me to that the planning process was nowhere near as complete as in Curitiba and Bogotá, and to be cautious about expecting collaboration from the planners and decision makers in Quito. This reluctance on the part of actors in Quito could come in part from the need at one point in the process to call the Ecuadorian Army to crush protests by bus operators (Peñalosa, 2003, p. 87). Contrary to Curitiba and Bogotá, in Quito the new BRT system is publicly owned and local operators were excluded from its operation (see Arias, no date).

[86] Precisely because my unit of analysis is the planning process, the fact that Curitiba and Bogotá differ significantly in size does not matter. That is, by looking at the process I eliminate city size as a possible independent variable.

[87] Vasconcellos (2001, ch. 7).

[88] O'Donnell (1997a, p. 293-297). O'Donnell (1997a) uses the idea of "delegated" democracy. One characteristics of this type of democracy is the existence of a strong executive. I do not use the idea of delegated democracy because Curitiba was under a dictatorship *at the Federal level* for a significant number of years.

important role in policy initiation.[90] Because of these characteristics, the participation of stakeholders and of civil society in the decision-making process is less frequent than in more representative democracies.[91] Finally, initiatives by civil society and organized interests are less likely to receive consideration than in a representative one.[92] Politics, however, are not eliminated from the planning process. For one, powerful and organized interests find a way of participating and obtaining benefits, thus usually biasing the political process in their favor.[93] For another, politicians in office still have to think about their political future and allow some actors to participate to seek support.[94] Therefore, in a strong executive setting fewer actors participate than in a full democratic setting.[95] While both cities are in this type of political environment, it is important to point out that at the time of the critical events mayors were appointed in Curitiba and elected in Bogotá.[96] This difference, however, does not make the comparison impossible for mayors in Curitiba tended to be open to the participation by stakeholders just as in Bogotá.

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[89] For examples of how the Colombian president is disproportionately powerful vis-à-vis the national congress see Ahumada (1998).
[90] O'Donnell (1997a, p. 295-6).
[91] See O'Donnell (1997a); Stepan (1978); and Apuleyo et al. (1998).
[92] This does not mean, however, that most proposals by civil society in a representative democracy manage to get to the political agenda (see Kingdon (1995)).
[93] O'Donnell (1997b, p. 318-323). Hence in delegated democracies urban transport policy is usually biased in favor of the car—the mode used by the small middle class—even though the majority travels by bus (Vasconcellos, 2001, p. 77-78).
[94] O'Donnell (1997b, p. 318-323). Clientelism is also a common result. See Graham and Jacobi (2002, p. 310-316) for examples of clientelism in Brazil. See Dávila (1996) and Leal and Dávila (1995) for examples of clientelistic practices in Colombia).
[95] Notice that this characteristic facilitates the research because there are fewer participants to interview and document their actions.
[96] The military regime suspended elections for mayor in Curitiba and all state capitals in 1966. The regime allowed elections again in 1985 (Willis, Garman, and Haggard, 1998, p. 11-12; and Graham and Jacobi, 2002, p.304). A constitutional amendment instituted elections for mayor in Colombia as of 1988 (Gilbert and Dávila, 2002, p. 34).

Table 3. Planning processes in Curitiba and Bogotá

Curitiba			Bogotá		
Year (Approx.)	**Transportation Project/policy**	**Adopted Yes or No**	**Year (Approx.)**	**Transportation Project/policy**	**Adopted Yes or No**
1965-66	Urban Master Plan	Yes	1986-92	Metro line 1	No
1971-72	Pedestrianizing downtown Curitiba	Yes	1988-90	Caracas Av. busway, Phase I	Yes
1967-72	Land Use integrated to mass transit	Yes	1990-93	Caracas Av. busway, Phase II	Yes
1971-74	North-South Axis BRT	Yes	1993-95	Metrobus BRT	No
1977	Boqueirão BRT	Yes	1994-98	Transportation Master Plan	No
1975-82	Light Rail Line	No	1994-2001	Metro line 1	No
1979	Integrated Transit Network (RIT)	Yes	1998-2001	TransMilenio, Phase 1, BRT	Yes
1982	East West Axis BRT	Yes	2001-03	Circuitos, busway	No
1985-87	Change of fare policy	Yes	2001-03	TransMilenio, Phase 2, BRT	Yes
1985-87	Public Fleet	No			
1989-90	Direct Bus Service and tube stations, BRT	Yes			
1989-94	Light Rail Line	No			
1994-96	Upgrade to the RIT	Yes			

Source: Fieldwork

The fieldwork

I conducted several months of fieldwork in each city (Table 4) using two main research techniques: First, I reviewed documents, technical studies, newspapers, and other written material to illuminate the underlying process, the events that took place, and the politicians, stakeholders, and planners that participated. I then carried out a content analysis of these materials. This information also provided a basis for interviews, which served to clarify issues. Second, I conducted semi-structured interviews of planners, politicians, and stakeholders who participated in the planning process. In both cities I interviewed the main politicians, Mayor Jaime Lerner of Curitiba, and Mayor Enrique Peñalosa of Bogotá, as well as planners and other relevant stakeholders, such as the owners of the bus companies. In total I interviewed

close to 40 people in each city. Following ethical guidelines established by COUHES[97] I abided to the level of anonimity my source requested. Several sources requested complete anonimity and their name does not appear anywhere in the text. Most sources, however, consented to being cited in the text with name.

To organize the events in each case I created a timeline of actions by actor—planners, politicians, and stakeholders. This way of organizing the data allowed me to capture the interaction among actors and how the interaction affected the process. With this information I wrote a first draft of each case. I the asked some of my key sources to read the case and comment. Carlos Ceneviva, Ken Kruckemeyer, and Paul Procee read the Curitiba case, and Daniel Rodriguez read an early version. Enrique Peñalosa, Dario Hidalgo, Jorge Acevedo, and Pilar Rodriguez read the Bogotá case study. I incorporated their comments in the next version of the cases. Dario Hidalgo kindly read a second version of the Bogotá case.

Table 4. Fieldtrips to Curitiba and Bogotá

City	Visits
Curitiba	April and May, 2002 May and June, 2003 February 2004
Bogotá	June and November, 2001 February, June, and November, 2002 October, 2003

Outline of the dissertation

This dissertation is organized in four parts. Part 1 is the Introduction. I develop the Curitiba and Bogotá case studies in Parts 2 and 3, respectively. I write from the point of view of a dispassionate academic observer. Throughout each case I have inserted analytical sections entitled "The roles of planners." In those sections I analyze the previous set of events trying to understand the roles of planners. I devote Part 4 to the conclusions. I try to build a single representation of the roles of planners in the planning process emerging from the comparison of the cases. In the conclusions I bring together the common themes that emerged from the analysis contained in the sections "The roles of planners."

[97] I secured clearance from MIT's Committee on Humans as Experimental Subjects (COUHES) to conduct field work and interview people in Curitiba and Bogotá.

Part 2

Transit Planning in Curitiba

There is a significant body of literature in English on Curitiba that documents mostly the *outcomes* of the planning and implementation processes followed in the city.[98] Most authors provide a short description of the main elements of the Integrated Transit Network (RIT)[99] or other policies, discuss their performance and occasionally they give the dates when the facilities opened to the public. The question of what really happened in Curitiba remains therefore unanswered. Some say it was the result of an authoritarian mayor appointed by a military government. Others say it was the achievement of a charismatic individual. Finally, others say it was the product of a political environment that trusted professional judgment. Let's see what role planners played in the planning processes in Curitiba and how much they had to do with the final outcomes in Curitiba. I cover the period 1955-95.

Chapter 2

The Situation up to 1965

Most accounts of Curitiba's story take 1965, the year the famous comprehensive urban plan was written, as a pivotal point, but mention few events before this date, with the exception of the 1943 comprehensive planning exercise.[100] Yet, there are many events that occurred before 1965—particularly regarding public transit—that are

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[98] For readers interested in more detailed descriptions of the outcomes of Curitiba's planning efforts see Cervero (1998); Rabinovitch (1992 and 1996); Rabinovitch and Leitman (1993 and 1996); Frausto (1999); Kroll (1999); Wright (1996); Lambert (1998); Parasram (2003); and World Bank (2002). For a questioning of the extent of Curitiba's success see Smith and Raemakers (1998); and Samek (1996).

[99] In Portuguese *Rede Integrada de Transporte*. I use acronyms in Portuguese.

[100] This is the Agache plan and I mention it in more detail below.

important for understanding the behavior of actors later on in the account. That is, the events prior to 1965 shaped a policy environment that to a considerable extent determined what policies or plans would be feasible. If these events are ignored it is difficult to understand, among others, why the bus operators became such an important political actor. The events show a period when the government of Curitiba is relatively weak because it in the process of strengthening its institutional capacity. Because of this, the planning function is represented usually by commissions appointed by the mayor, who frequently is retired from the military.

The demise of tramways and the emergence of buses

The evolution of public transit in Curitiba in the first half of the twentieth century can be considered typical of many cities in the developing and developed world. Bogotá, where my other case study is located,[101] certainly followed a path that resembles Curitiba's. By the turn of the twentieth century Curitiba had horse drawn tramways and by 1912 the concessionaire of the tramways, the South Brazilian Railways Ltd., had electrified the main lines.[102] The operation was not highly profitable and by 1928 the South Brazilian returned the concession to the city.[103] The city and state governments then created the Paraná Power and Light Company (CFLP[104]) to operate the tramways and provide bus service—the latter starting in 1928.[105] In 1936, the city authorized private entrepreneurs to operate bus services even in lines that competed directly with CFLP tramways and buses. This impacted the finances of CFLP and the city's reluctance to authorize a fare increase further aggravated the financial situation.[106] In 1941 the city government opened a competitive bid for the private provision of bus service and several bus companies were created, all of them small. By 1942 there were 15 family-owned bus companies, licensed by the city government to operate individual routes.[107]

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[101] For a similar account for Bogotá's tramway demise see Jaramillo and Parias (1995).
[102] Perón et al. (1975, p. 11-14); and Urban (1987, p. 35).
[103] Urban (1987, p. 35-37).
[104] In Portuguese *Companhia Força e Luz do Paraná.*
[105] Perón et al. (1975, p. 16); and Urban (1987, p. 35-37).
[106] Perón et al. (1975, p. 16).
[107] Santoro (no date, p. 13-14).

The additional bus service seemed to have catered to a latent demand. In 1940 total ridership was 11,113,432 trips per year, all in the hands of CFLP's tramways and buses. By 1942, total demand had risen to 19,641,232, a 76.7% increase, but only 76.0% was served by CFLP—a hefty 4.7 million trips in the hands of the independent bus companies.[108] Despite the increased supply, which benefited many users, the overall level of service remained low. The lack of supervision and clear rules resulted in a low-quality bus service. Paradoxically, bus services were almost twice as expensive as the tramways. Tereza Urban summarizes the situation for the bus sector: "There were no rules for the public transit sector in this period: there were no rights or duties. The city government did not require anything in exchange for the concessions [of the bus routes]. Because of this, in parallel to CFLP's fleet, tens of autonomous bus and car operators emerged."[109]

Despite the low quality of the service offered, bus service continued to gain market share, because of its relative flexibility and convenience when compared to a rigid system such as the tramways.[110] The scarcity of oil during World War II provided a temporary but not significant relief to CFLP from bus competition.[111] With the end of the war, the trend was reinforced and by 1946 the situation was so dramatic that CFLP offered to donate all its equipment and facilities to the city, but the city rejected the proposal.[112] Instead, the city opened a competitive bid to concession the tram and bus services operated by CFLP. The different proponents questioned the bidding process and a political fight in the City Council ensued. Only in May of 1950 the city signed a new concession contract with the Curitiban Company of Public Transportation (CCTC[113]), owned by Aurelio Fressato.[114] Fressato was one of the original concessionaires of bus routes assigned in 1941 and had gradually acquired other companies and become the largest operator. Fressato paid only 1 *cruzeiro*[115] for

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[108] Santoro (no date, p. 13); and calculations by author.
[109] Urban (1987, p. 38, translation by author). While Urban refers to tens of companies, according to Santoro there were only 10 (Santoro, no date, p. 10).
[110] Urban (1987, p. 39).
[111] Perón et al. (1975, p. 18-19).
[112] Perón et al. (1975, p. 16-19).
[113] In Portuguese *Companhia Curitibana de Transportes Coletivos.*
[114] Perón et al. (1975, p. 19); and Brasileiro (1999, p. 471).
[115] This amount was symbolic and whatever the current amount in real terms, it was very low.

all of CFLP's facilities and rolling stock. In 1951 CCTC restarted tramway services and purchased 40 new buses. In that year, the city authorized CCTC to increase its fares, but this generated "popular revolts."[116]

CCTC was short lived. In 1951 informal operators—owned and operated by the driver—entered the market. By 1952 CCTC closed all tramway operations, unable to compete with the constantly increasing supply of bus services,[117] offered both by formal companies and by informal operators. The closure of the tramways generated protests by some users,[118] but other actors, interestingly, considered the tramways an impediment to the city's expansion and progress.[119] By 1954 there were over 150 buses,[120] each owned and operated by the driver, in addition to the lines operated by the approximately 10 small bus companies.[121] Some of these companies existed since 1936 and were owned by people such as Santo Franceschi and Humberto Bertoldi, whose descendents still own bus companies in Curitiba.[122] The level of service was low, however, because the supply was disorganized, schedules were not followed, and the quality of the equipment was poor.[123] In short, the sector was highly informal,[124] despite the existence of some family-owned companies. Reform was needed, more so given the fact that Curitiba's population was beginning to grow rapidly, from 140,656 inhabitants in 1940, to 180,575 in 1950, and 365,309 in 1960[125] (a 7.03% average yearly rate of growth between 1950 and 1960).

The election of Ney Braga and the consolidation of the bus companies

Democracy and elections returned to Brazil in 1945 with the fall of the Getulio Vargas' fifteen-year dictatorship and the promulgation of a new Constitution in 1946. This democratic period, however, was short lived—until the military coup of 1964. Elections

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[116] Perón et al. (1975, p. 19).
[117] Perón et al. (1975, p. 19); and Urban (1987, p. 38).
[118] Urban (1987, p. 39).
[119] Brasileiro (1999, p. 471).
[120] Urban (1987, p. 39); Brasileiro (1999, p. 471); and Mazza (1990, p. 51).
[121] Urban (1987, p. 39).
[122] As inferred from fieldwork and date by Santoro (no date, p. 15); and Perón et al. (1975, p. 16).
[123] Urban (1987, p. 39); de Oliveira (2000, p. 137); Brasileiro (1999, p. 471).
[124] De Oliveira (2000, p. 137).
[125] Santoro (no date, p. 16).

for president took place in 1945 and in fact Vargas returned to office as elected president in 1950.[126] Elections for state governor took place under the new constitution during 1946.[127] Elections for mayor, at least in Curitiba, took place in 1954[128]—only months after Vargas' suicide while in office.[129] Ney Braga was elected the city's first mayor for the period 1954-58.[130] Until then, the governor of Paraná appointed the mayors of Curitiba.[131]

Braga was a major in the Brazilian army when in 1952 the Governor of Paraná Bento Munhoz da Rocha Neto appointed him Chief of Police of the city of Curitiba. Braga did a good job as police chief and several city councilors met with him to convince him to run for mayor as the first elections loomed. To run, Braga joined the Partido Social Progressista (Social Progressive Party) of Adhemar de Barros,[132] who incidentally used the slogan "steals but gets things done."[133] Braga won the elections in 1954 after a campaign where he apparently walked most of Curitiba and talked to many people in their houses.[134] As Mayor of Curitiba, Braga created the Department of Urban Planning, and brought to work in this department names such as Dúlcia Auríquio, Francisca Rischbieter, Saul Raiz, and Luiz Armando Garcez,[135] among others, who would become in the 1960s and 70's important actors in the city's planning and politics. Braga used the method of appointing a commission to study a particular problem and propose solutions that would be coupled with the plans of the Department of Urban Planning. According to Braga "...in all the plans the population was heard. It was not a very ample participation, but the city was much smaller and we talked with the main leaders, the city councilors consulted their electors."[136] By the

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[126] Bueno (2002, chs. 31 and 32); Lopez (1980, p. 102); and Fausto (2001, chs. 4 and 5).
[127] Lopez (1980, p. 106).
[128] Braga (1997, p. 17); and Menezes (2001, p. 70).
[129] Braga (1997, p. 24).
[130] Braga (1990, p. 1); Brasileiro (1999, p. 471), and Mazza (1990, p. 51).
[131] Requião (1997, p. 250).
[132] Braga (1997, p. 18-22).
[133] Bueno (2002, p. 345, translation by author). Despite Barros' motto, I found no reference to corruption during Braga's tenure as Mayor and later on as Governor.
[134] Braga (1997, p. 21).
[135] Braga (1990, p. 3).
[136] Braga (1990, p. 9, translation by author).

end of his tenure, the Brazilian Institute for Municipal Administration (IBAM) recognized Braga's administration as the best in the country.[137]

Given the poor shape of public transportation in Curitiba, the memory of a 36-hour lock out by operators to request a fare increase a couple of years before,[138] and large pressure by the population requesting change,[139] Braga appointed a commission to study the public transportation problem and propose solutions.[140] Braga appointed the commission on December 17th, 1954.[141] The decree that appointed the commission justified the need to address the problem by stating that "the lack of satisfaction, on the one hand, of the operators of the public transportation service, who request a revision of the fare and demand a legal regime that grants them more security in their relations with the concessioning power, and on the other, the users, who complain about the deficiency, scarcity and poor material shape of the means employed in those services [the buses]."[142] In addition, the commission was charted with the responsibility of finding a fare structure that would not punish the poor, who back then had to pay more because they lived farther away.[143] Colonel Alípio Ayres de Carvalho, a transportation and logistics engineer in the Brazilian Army, headed the commission, which had eight other members, including engineers Bernardo Fedalto and Osvaldo Kus, and legal counsel Edgar Tavora.[144]

The commission went to several Brazilian cities and noticed that the bus fleets, frequently privately-owned, and were in poor shape due to over use and lack of maintenance, just as in Curitiba. In effect, Curitiba would be one of the first cities in Brazil to address these issues, which will be copied by other cities soon after.[145] The commission analyzed the legal framework for the transportation sector, the way the bus operations were carried out, and the fare-setting methodology.[146] Based on the recommendations issued by the commission, it is possible to argue that the overall

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[137] Braga (1990, p. 10, translation by author).
[138] Perón et al. (1975, p. 21).
[139] De Oliveira (2000, p. 137).
[140] Mazza (1990, p. 53); Braga (1990, p. 6); and Perón et al. (1975, p. 21).
[141] Mazza (1990, p. 53).
[142] Decree 763 of December 17th of 1954 as indicated by Mazza (1990, p. 53).
[143] Mazza (1990, p. 53).
[144] Mazza (1990, p. 53); Perón et al. (1975, p. 21); and Braga (1990, p. 6).
[145] Brasileiro (1999, p. 471).

situation was the result of at least the following factors. First, an unstable legal regime that increased the risk to investors and promoted under spending in maintenance. Second, entry into the market was rather easy—almost any one with a small bus could operate an informal route—which resulted in excessive competition. Third, a weak government that lacked the capacity to supervise the operators and enforce its regulations—which were limited anyway. In a context where competition is excessive and the government cannot enforce minimum standards, the incentive is for operators to cut maintenance and service—all of which lower the quality of the service—to maintain their expected profitability.[147] Finally, there were problems with the fare-setting policy, which resulted in conflicts, and frequently in lockouts by operators and protests and even riots by users. This diagnostic of Curitiba's situation in the 1950s is not uncommon to many cities in the developing world even today. Almost 44 years after Curitiba, Bogotá addressed a similar situation—albeit in a different manner—in order to implement the TransMilenio project.

The commission structured its recommendations around the concept of the exclusive or "selective" area—as it was dubbed in Curitiba. The plan was to divide the city into nine "selective" areas and grant a temporary monopoly to operate buses to one or at most two companies per area.[148] The head of the commission, Alípio Ayres, summarized the intent of this measure in the following way: "It was fundamental to prove...through technical and economic viability, that there would be a positive return for the investor and the user..."[149]. Because the number of bus companies already existing was significant and there were many informal operators, it was necessary to group all of the operators in just 13 cooperatives or companies.[150] The policy, consequently, sought to reduce the excessive competition and lower the number of actors that the state had to supervise and regulate. At the same time, because each area was a monopoly, profitability was almost guaranteed—provided the fare was set

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[146] Mazza (1990, p. 53).
[147] In addition, the large number of buses in the streets can exacerbate congestion and pollution levels can increase. For a more theoretical discussion of these issues and policy recommendations see World Bank (2002, ch. 7). See also Vasconcellos (2001, esp. ch. 11).
[148] Mazza (1990, p. 53); Brasileiro (1999, p. 471); and Vasconcellos (2001 p. 129).
[149] As quoted by Mazza (1990, p. 53, translation by author).

to ensure this. Because some "selective" areas would be more profitable than others would, the areas were defined in such as way that they included both profitable and unprofitable routes,[151] which implied even having some non-continuous areas. Finally, the downtown area—a box 1.0 mile in length—was considered neutral territory and all companies could provide service in that area (Figure 1).

The government entered negotiations with the operators to seek a consensual solution, [152] which was achieved in the end sometime in 1955.[153] Unfortunately, my sources do not go into detail and in my fieldwork I could not reconstruct this part of the process. Probably as a result of those negotiations, however, Braga decided that while the new companies would have to compete for servicing the "selective" areas, the competition would be limited only to existing operators and no outsider would be allowed to compete.[154] This move clearly raised the political support for the plan among operators and reduced their risk of participating in the process.[155] These negotiations must have also convinced the operators of the benefits of grouping in companies, even if before the relations among them were not cordial due to excessive competition.[156] The incentive of guaranteeing a monopoly to each company and the secure duration of the permits or concessions—initially five years—together with the possibility of renewing them, probably also motivated operators to follow the government's policy. In other words, there is no evidence of the operators opposing the proposed measures. Quite the contrary the evidence suggests the operators liked the idea and rapidly organized themselves into 13 companies. In this regard, Brasileiro refers to the overall process in the following terms: "It can be seen...an effort to solve the potential conflicts between the city government and private bus

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[150] Brasileiro (1999, p. 471); Mazza (1990, p. 54); Vasconcellos (2001, p. 129); and Urban (1987, p. 34), but this last author mentions 14 companies and not 13.
[151] De Oliveira (2000, p. 137); Braga (1990, p. 7); and Rovani (1990, p. 76).
[152] Brasileiro (1999, p. 471-72).
[153] Perón et al. (1975, p. 20).
[154] Braga (1990, p. 6-7).
[155] In the process for the TransMilenio project a similar strategy is used to gather support from the existing operators.
[156] Mazza (1990, p. 54) documents the types of negative behavior that the excessive competition led to. The same happened in the Bogotá case years later when drivers would have to try to compete against other vehicles and at the same time maximize the number of passengers. To make matters even more unsafe, and again, the same as in Bogotá, the driver would be responsible for collecting the fare and giving change back to the passenger.

operators. Through a minimum consensus, the operators benefited from the policies, supported the policies and committed to the general urban planning orientations proposed by the municipality."[157]

The city government wanted other changes that could have been opposed by the operators, but again, there is no evidence of this happening. First, given that the choice was to keep the operations in the hands of the private sector,[158] the city government became the main regulator, planner and enforcer.[159] In this role the city would set fares, establish schedules, frequencies, and determine the routes.[160] Second, the city government forbade the use of small buses,[161] or *lotações*, which sat up to 10 people.[162] *Lotações* used to be the norm in Curitiba at the time. The new companies had to use a larger bus, known as conventional bus, and using any small vehicle would be illegal.[163] This implied a significant investment in new rolling stock, which was assured by the contractual guarantee that the concessions would last 5 years, after which the conventional buses could no longer be used.[164] In 1956 the new bus companies completed the introduction of conventional buses.[165]

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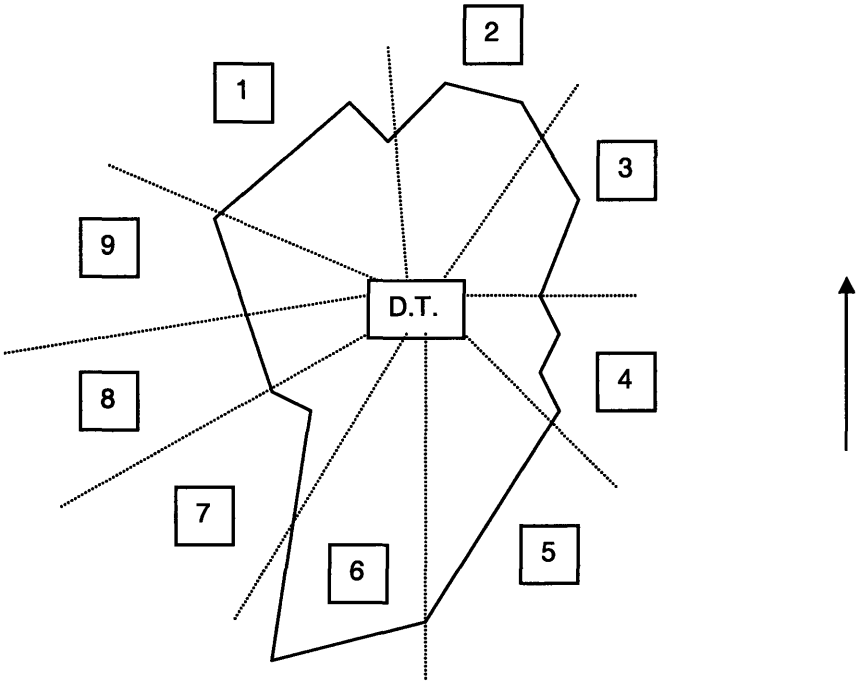
[157] Brasileiro (1999, p. 472).
[158] Curitiba has never had a publicly owned bus company as such (Brasileiro, 1990, p. 471-2).
[159] At the time the City of Curitiba had the autonomy to regulate public transport. In 1960 this autonomy would be temporarily lost as I detail below (Mazza, 1990 p. 55).
[160] Brasileiro (1999, p. 471).
[161] Brasileiro (1999, p. 471).
[162] Perón et al. (1975, p. 21).
[163] Brasileiro (1999, p. 471).
[164] Mazza (1990, p. 54).
[165] Perón et al. (1975, p. 21).

Figure 1. Selective areas in Curitiba



Source: author based on a Brasileiro (1999, p. 459) and an actual map of the areas the author saw in Curitiba.
Note: D.T. is downtown Curitiba. The figure only illustrates the idea of the selective areas. The actual areas are more complex.

As a result of this process public transportation service in Curitiba suffered a quite dramatic transformation on several fronts. First, from a disorganized, almost informal, and almost unregulated structure, the system became an organized, formal and highly regulated. Second, from a structure with little or no barriers to entry of competitors into the market to one with high entry barriers. In fact, the 13 companies consolidated into 9,[166] and those are the companies that even today provide the service in Curitiba.[167] Further, the "selective" areas still exist today, but in a *de facto* manner, given that they were formally abolished in 1987.[168] Third, the system changed from a highly fragmented structure to a rather concentrated one. Politically

[166] Brasileiro (1990, p. 471).
[167] The *de facto* consolidation of the bus companies in Curitiba is higher today because a single family group owns close to 50% of the bus companies, which continue to operate under different names (de Oliveira, 2000, p. 142).

speaking this is crucial. The new companies rapidly became highly capitalized due to the required investments in new buses—with almost ensured profitability. Further, the companies also became rather capable in their business of operating and maintaining buses. These features gave them power and turned them into indispensable actors in the provision of public transportation in Curitiba.

Finally, the city government emerged in theory as well as a powerful actor, able to determine fares, plan service and determine schedules and frequencies. From a government unable to control entry and limit informality, the city established effective barriers to entry and effectively controlled informality. The city also acquired the *legal* capacity needed to plan bus service and equally important to enforce its rules.[169] For example, for fare setting purposes the government needed to know the number of passengers per route and hired students to do counts every three months[170]—few cities in the developing world even nowadays are capable of doing this.[171] Despite this example, reality differed from this situation as I detail below, mostly because the legal mandate was not paralleled by an increase in institutional capacity necessary to plan service and to fully enforce regulations and contractual agreements.

In short, thanks to the reforms of this period both the bus companies and the city government became empowered. De Oliveira argues that the balance of power ran in favor of the nine bus companies,[172] in part because of the lack of sufficient institutional capacity in the city government. The next actions by the operators indicate that they quickly realized they could extract more from the government—they just had to build their political muscle and find opportunities to flex it.

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[168] My interviews with bus operators and planners in Curitiba show that the "selective" areas still exist and any new service is assigned by the government bearing in mind the share that each company must have according to the original areas. De Oliveira (2000) reaches a similar conclusion.
[169] According to Brasileiro (1999) Curitiba is one of the few Brazilian cities that has not experienced problems with informal transport. This is a striking contrast with the explosion of informal transportation in cities such as São Paulo and Rio de Janeiro, where even violence is frequent in the relations with informal operators.
[170] Braga (1990, p. 7).
[171] See World Bank (2002, ch. 11); and Vasconcellos (2001, ch. 8).
[172] De Oliveira (2000, p. 138).

Flexing the political muscle: the lockout of 1960

Braga left the mayor's office in 1958 after a successful tenure as mayor of Curitiba for one term—there was no immediate reelection at the time. Braga ran that same year for the Federal House of Representatives, winning easily a seat. In 1960 he was elected governor of the state of Paraná, for the 1961-1965 period.[173/174] General Iberê de Mattos was elected in 1958 as mayor of Curitiba to serve for the next four-year period. Mattos would have to face the demands of the bus companies.[175] While the changes during the Braga administration had improved the quality of bus service in Curitiba, there were signs that the level of service could still be higher. For example, drivers and fare-collectors—the conventional buses needed a crew of two people—still did not treat well the passengers and service at night was scarce.[176] Further, the operators wanted changes that would reduce their risk and improve their profitability. Four issues were in contention: first, the duration of the initial concessions; second, the duration of the useful life of the buses as allowed by the contracts; third, the fare-setting methodology and fare increases; and finally, the quality of the service.

To strengthen their political clout, the bus companies created their own trade association to represent their interests, the *Sindicato Estadual de Transportadores de Passageiros do Paraná* (SETPP) circa 1956.[177] This trade association submitted its first two demands in August of 1959. First, SETPP wanted the city to guarantee the

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[173] Braga (1997, p. 26-27).

[174] Braga would be one of the governors who supported the military coup of 1964, among others, by signing in 1963 the "Manifest of Democratic Governors" against the government of President João Goulart (Bueno, 2002, p. 365). During the military regime Braga was appointed Secretary of Agriculture (1965-66), elected senator in 1966, appointed Secretary of Education between 1974-78. Braga was also elected by the state legislature governor of Paraná and served as governor between March 15th 1979 and May 14th 1982 (Braga, 1990, p. 1; and Braga, 1997, p. 17-52). Braga would also participate in the appointments of Jaime Lerner as mayor of Curitiba twice during the seventies as I detail below, the first while Braga was senator and the second during his second tenure as Governor of Paraná. Indeed, Braga was the main political leader in Paraná and controlled its politics for almost 30 years (De Novaes, 1997, p. 153).

[175] Perón et al. (1975, p. 21).

[176] Perón et al. (1975, p. 22). At night demand decreases and operators find it difficult to cover even variable costs (labor and operating costs), more so with large vehicles. The rational decision is to cut service and not have service at night. This is a problem common in many cities and can give informal operators an opportunity to enter the market. Curitiba addressed this lack of service, among others, by paying operators per distance logged by the buses and not per passenger transported. This change, however, took place in the mid-1980s.

[177] De Oliveira (2000, p. 138). In English the name is State Trade association of Passenger Bus Companies of Paraná.

renewal of the concessions to the same companies, and second, it wanted a fare increase. SETPP then submitted a third request, to extend the useful life of buses by modifying the system for renewing the bus fleet.[178] A five-year concession, as the ones issued by Braga's administration, can be short, particularly when the useful life of a bus can extend beyond this, depending on the usage. There is therefore an incentive to request an extension of the concessions and of the useful life of the buses. If granted, the companies would not have to incur any new capital costs, as the buses could still be used for at least some years. This clearly increases the profitability of the initial investment, particularly if the fare structure still reflects payments to capital.

Because the city government had to authorize any fare increase this became a critical source of conflict between the city administration and the bus operators. Each actor faced different incentives. On the operators' side, the pressure to constantly adjust the fare had its origin in the increasing rate of inflation of the Brazilian economy,[179] which increased their cost of doing business. By 1959 inflation was 39.5% per year,[180] and the average yearly inflation for 1960-69 was even higher, 45.8%.[181] Wages, on the other hand, did not keep pace with inflation.[182] Unions and others labor-oriented organizations therefore pressed against any fare increase. Fare increases reduced even more the available income of workers—the main users of public transport. The city government, or at least Mayor Mattos, was receptive to this

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[178] Perón et al (1975, p. 21-22).

[179] Between 1956 and 1960 Brazil's president Juscelino Kubitschek followed an economic policy targeted at promoting growth and industrialization (Bueno (2002, p. 351-355); and Fausto (2001, p. 237-241)). The results of this policy were to a large extent positive; the economy grew between 1957 and 1961 at an annual rate of 7%, and income per capita at 4%, the fastest in Latin America (Fausto (2001, p. 236). Other economic indicators are also worth mentioning. Between 1955 and 1961, industrial output grew in real terms 80% and transportation equipment an impressive 600%. Indeed, an important part of the development strategy was to attract foreign firms to assemble and manufacture cars in Brazil (Fausto (2001, p. 237-241); and Bueno (2002 p. 351-355)). This economic development policy, however, had another outcome, inflation, which was probably due to the high deficits the government had and/or real shortages in the economy due to the rapid increases in income per capita (See Cardoso and Helwege (1992, chapter 6). For a history of the car-manufacturing industry in Brazil in this period see Shapiro (1991).

[180] Fausto (2001, p. 238). The average yearly inflation for the 1950-59 period was 21% (Thorp (1998, p. 352).

[181] Cardoso and Helwege (1992, p. 141).

[182] Fausto (2001, p. 239).

argument and probably did not want to risk his electoral future by approving unpopular fare-increases or at least not as frequently as the operators wanted.

To study the several petitions submitted by the operators' trade association, SETPP, Mayor Mattos created a commission, the *Comissão Municipal de Transporte Coletivo*, CMTC.[183] Representatives of the city government and of the bus companies integrated CMTC, but no representative of the bus riders was appointed to the commission.[184] The commission studied the renewal of the concessions and concluded that each company would have to apply separately to renew its concession. On March 11th 1960, CMTC issued its report concluding that a 20% fare increase across the board for all companies could be justified. Mayor Mattos rejected CMTC's proposal on the grounds that the fare had been increased twice during 1959, one of which was to cover an increase in the salaries paid to the drivers and conductors. The bus companies had justified their petition for a fare increase precisely on the order by a court to increase these salaries. SETPP did not like CMTC's proposal either, for it had requested a 40% increase. SETPP argued, moreover, that unless there was a fare increase, there would be a lockout and set a date for starting the strike.[185]

Mayor Mattos maintained his position that a fare increase was not justifiable and in light of the approaching lockout filed a petition with a judge to seize the bus companies' buses and offices, which the judge allowed for the duration of the lockout. Labor unions and other organizations offered public support for the mayor's policy. The bus companies decided to abort their attempt to carry out a lockout and the judge removed the injunction on the 25th of March of 1960. The companies, however, kept demanding a fare increase—this time, a 10% increase—now on the grounds that the price of spare parts and fuel and lubricants had gone up 10%. Mattos replied that a new study had to be done but looking at the finances of each company separately so that the fare increase would be different for each company. SETPP strongly rejected

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[183] In English Municipal Public Transportation Commission.
[184] Urban (1987, p. 40); and Perón et al. (1975, p. 21).
[185] Perón et al. (1975, p. 21-22).

this proposal because the most profitable companies had a return above 100% on their investment and they would therefore get no fare increase.[186]

The bus companies then threatened to take their buses and their business to the city of São Paulo, whose mayor, Adhemar de Barros, had apparently invited them. Mayor Mattos replied that there were many investors who wanted to offer bus service in Curitiba and the existing companies were free to leave the city. Mattos also voiced the argument that public transportation in Curitiba could not depend on constant fare increases and that a more structural solution was needed. He proposed to lobby the president of Brazil, Juscelino Kubitschek, to seek measures that would lower the costs for the industry. First, subsidies for spare parts made in Brazil as well as for fuel and lubricants. Second, special exchange rates to favor the imports by bus companies. Third, access to loans from the Brazil's National Bank for Economic Development (BNDES) to finance the purchase of new buses at low rates and longer terms. All three proposals were subsidies for the fixed and variable costs of the bus companies. Fourth, to pave the streets used by the buses, which lowered their operating costs. Finally, Mattos also proposed to eliminate the selective areas. The bus companies, however, did not believe in this proposal and doubted the president would ever act,[187] more so 1960 being a presidential-election year.[188]

The bus companies then argued that their financial situation was dire and that they could not operate after April 26th. The lockout started this day and lasted for 7 days, during which the citizens of Curitiba had to use city and army owned buses as well as any vehicle willing to transport them. In anticipation to the Mayor's moves with the judiciary to seize the buses, the bus companies had hid their equipment in neighboring municipalities before the lockout started. Mayor Mattos nonetheless obtained a court injunction that ordered the buses to be seized, which was done but at a slower pace than in the attempted lockout the month before. Mattos, moreover, wanted to cancel the concession contracts, abolish the "selective" areas and establish a new bus company owned in part by the city and in part by the existing bus

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[186] Perón et al. (1975, p. 22-23); and Urban (1987, p. 41).
[187] Perón et al. (1975, p. 23-24); and Urban (1987, p. 41).
[188] Bueno (2002, p. 356).

companies. On May 1st 1960 the mayor was about to issue a decree canceling the contracts, but prominent actors, mainly the Catholic Archbishop, lobbied for a truce, because an Eucharistic congress was about to start in Curitiba. A truce for sixty days was signed that day between the mayor and the bus companies.

If implemented, Mayor Mattos' proposals could have hurt the interests of the bus companies, who in response through SETPP lobbied the state government to take control of Curitiba's public transportation sector. This responsibility had been decentralized to Curitiba in 1952,[189] but state law allowed the governor to revert this transfer of responsibility.[190] The governor of Paraná, Moisés Lupión, decreed the transfer of responsibilities for mass transit on May 2nd, and by the 3rd the State government and the bus companies agreed to end the lockout without any fare increase[191]—and without any of Mattos' proposals carried out. By the end of 1960, however, the state government granted the fare increases the companies wanted.[192] Early in 1961 the new governor, Ney Braga, returned the responsibility for mass transit to Curitiba.[193]

The events that follow are not clear because authors such as Urban, de Oliveira, Neves and Perón et al. offer contradictory accounts. For example, de Oliveira argues that as a result of the political strife between the bus companies and the city government during the late 1950s the length of the concessions was extended to 15 years, until 1974.[194] Urban, on the other hand, argues that the concessions were initially valid for 20 years, until 1974,[195] and not for five years as de Oliveira argues. Neves offers an account whereby in 1962 the bus companies and the city government amicably agreed to cancel the existing contracts and issue new ones, valid for 5 years, which were constantly renewed—without competitive bids[196]—only to be cancelled in the mid eighties by Mayor Requião. Perón et al, finally, argues that the

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[189] Perón et al. (1975, p. 25).
[190] Mazza (1990, p. 55).
[191] Perón et al. (1975, p. 25).
[192] Perón et al. (1975, p. 25); and Urban (1987, p. 41).
[193] Mazza (1990, p. 55).
[194] De Oliveira (1999, p. 138).
[195] Urban (1987, p. 39).
[196] Neves (2002, p. 105); and Neves (1995, p. 67-69).

contracts were issued in 1955 and expired in 1962, and were later on extended until 1974.[197]

In my fieldwork I was unable to find primary information about these events and therefore I cannot directly clarify this contradiction in the existing literature in Portuguese. However, a possible explanation for these contradictions lies in one characteristic of Curitiba's transportation system—the bus companies have not changed since their creation in the mid-1950s, except through mergers and acquisitions, and still exist today.[198] Around 1961 the bus companies managed to turn the "selective" areas into a "principle" that could not be affected or changed by the city government and much less cancelled.[199] This move had ample repercussions that favored the bus companies. First, by turning the "selective" area into a principle that cannot be modified, the companies became the *de facto* owners of that share of the pie for good. Second, because the bus companies are *de facto* owners of a "selective" area, the city government has no need—or incentive—to hold truly competitive bids when it needs to determine who will service a new bus route. Instead, any new bus route always falls in some "selective" area and there is one company that already holds the rights to any service in that zone.[200]

The accounts by de Oliveira, Urban and Neves can therefore be reconciled when one understands that in Curitiba there is no need to hold competitive bidding for bus routes, because of the rigidity of the "selective" area principle. Each company has a share of the market for life. As seen later in this document, even today this principle is used and there are no competitive bids. However, a formal renewal of the contracts between the city and the operators is necessary—for public relations reasons at a minimum—and several have taken place. I therefore accept De Oliveira and Urban's accounts that the contracts did expire in 1974. Evidence I discuss later tends to corroborate this.

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[197] Perón et al. (1975, p. 20).
[198] Brasileiro (1999, p. 471); and Menezes (2001, p. 71).
[199] De Oliveira (1987, p.138).
[200] Interviews in Curitiba corroborate this. For example, still today the city assigns routes bearing in mind the selective area principle and in a non-competitive manner as described in the text.

In the early sixties, the bus companies scored two other victories. First, the companies succeeded at extending the useful life of the buses, from 5 years as initially established, to seven, ten and finally twelve years.[201] These changes lowered the capital outlays by the bus companies and extended the period over which the government had to recognize a return to capital item in the fare structure. Both increase the profitability of the bus companies. Second, and related, the bus companies managed to modify the way the city government calculated the fare by introducing many elements—depreciation, tires, crew costs, etc.—some of which inflated the true costs of providing the service.[202] Further, the fare was different for each "selective" area to recognize different conditions—amount of paved streets, etc.[203]

In conclusion, when the bus companies flexed their political muscle in the early 1960s they met with strong opposition from Mayor Mattos. The companies managed nonetheless to maneuver in different ways—including convincing a governor to transfer the responsibility for public transportation to the State government—to obtain what they wanted. In the end, the political strength of the bus companies was sufficient to make them almost impregnable. The main achievement was to turn the "selective" areas into a non-modifiable principle. This eliminated competition between bus companies both for servicing new bus routes and for passengers along a route. These rigidities seem to leave the city government with few elements to improve the system—and certainly there was ample room for improvement as I show below. Yet it would be the policies of the early 1970s that turned began the transformation of Curitiba's bus transportation for the better. Before explaining these events, however, it is necessary to describe the comprehensive urban planning exercises in Curitiba, because they play a central role.

The role of planners

The events above reveal two different situations. First, during Braga's tenure the government of Curitiba appointed a commission to propose solutions to Curitiba's

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[201] Mazza (1990, p. 54).
[202] De Oliveira (2000, p. 138).
[203] As inferred from Ceneviva (1999, p. 187).

problems regarding public transportation. This commission represents planners in the account. The commission proposed only one solution—the adoption of "selective" areas and the consolidation of the operators into 13 bus companies. Unfortunately, the level of detail is not enough to understand the events. But because the sources indicate that the solution reached was consensual, my theoretical framework allows me to argue that there was a minimal interaction between planners, politicians, and stakeholders. This interaction allowed the government to enact a plan that favored both operators' interests and broader ones, such as improving the quality of bus services in Curitiba.

Second, Braga's policies allowed the companies to become powerful. At the same time, the government of Curitiba does not seem to have developed the required institutional capacity to match this power. A power imbalance emerged. By 1960 the bus companies wanted to extend the duration of the concessions, increase the fare, and extend the useful life of the buses. But absent the institutional capacity in the city government—i.e. a capable planning team—there was no one to mediate between the mayor and the bus companies. Mayor Mattos desperately tried to counter the power of the bus companies but he could not. There seem to be no agency in charge of interacting with the bus companies. What followed was a deep conflict because there was no way to reduce the power of the bus companies. The companies pressured the governor of Paraná to take control of mass transit planning in the city of Curitiba. The companies then scored a series of victories that increased their profitability at the expense of the user. In sum, the power imbalance led to a quasi capture of the government by the bus companies. The results of any policy enacted under capture are biased in favor of the stakeholder that captures the government. Hence the image of the bus companies being almost impregnable. Years later, Mayor Lerner will change around the situation by building capable institution that interacted with the operators and lowered their power.

The Agache Master Plan and its political demise

Curitiba has had a rather long tradition of land use planning, which dates to the mid-ninetieth century, when Curitiba became the capital of the newly created state of

Paraná.[204] During the 1920s and 30s Curitiba experienced a deep recession that severely limited the ability of the city government to invest in infrastructure and basic services. In the 1940s, however, the economy of Paraná began an accelerated process of growth thanks to a new export crop, coffee, which made this state one of the wealthiest in Brazil. The city of Curitiba was also experiencing a rapid population growth and the elite decided to seek a new plan to reverse the declining trend of the previous decades. The French architect Alfred Agache, who was famous amongst others for the master plan for Australia's new capital, Canberra, crafted the new plan, locally known after him.[205]

The Agache Plan was approved in 1943 and had as one of its main objectives to transform the city into a city worthy of being a state capital.[206] To achieve this the plan proposed three main lines of work. First, to improve the water and sanitation network. Second, to build a road network, consisting of radial roads to link the downtown area to the rest of the city, as well as four concentric ring roads to connect the radial roads. The plan called for using mostly the already-existing network, but significant road widening had to take place in many areas. There was also a proposal for a road that crossed the heart of downtown, using XV of November and Vicente Machado Streets. The outer-most ring was planned as a 60-meter (180-ft.) parkway and it was the road that implied the largest purchases of properties. Third, the plan divided the city into several "functional" zones such as the command, production, and social functions. The "*Centro Cívico,*" where the state government would have its seat, represented the command function.[207]

Authors such as Cervero and Frausto[208] have argued that the Agache Plan was not implemented, mainly because the city could not afford the large avenues and infrastructure proposed by the plan. I disagree with both statements. A significant part

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[204] Menezes (2001, p. 17-64); Nieri (2000, p. 173-175); and Santoro (no date, p. 7-15). Paraná was part of the state of São Paulo.
[205] Menezes (2001, p. 63-65).
[206] Boletim PMC (1943, p. 17 and 30-36).
[207] Boletim PMC (1943, p. 10 and 17-36). See also Atherino (1991, p. 15-20) for a description of the Agache plan from the point of view of a planner in charge of implementing it.
[208] Cervero (1998, p. 268); and Frausto (1999, p. 44). Even IPPUC shares this view that it is mostly financial reasons what explain the partial implementation of the Agache Plan (see IPPUC, 2002, p. 2).

of the plan was implemented and therefore it was mostly political rather than financial factors that explain the demise of this play. During Ney Braga's tenure as mayor a number of streets were widened, including parts of the most active one in the city, XV of November Street.[209] Equally important, some of the functional areas were implemented, the main one being the *Centro Cívico*—with its modernist look, as well as the main city market.[210] The development of the *Centro Cívico* area displaced many people but once working, it catalyzed the development of the northern area of the city.[211] Underlying the implementation of the *Centro* Cívico was the political push of Governor Munhoz da Rocha to celebrate in this way Paraná's centennial.[212] Further, the Agache Plan had a large impact by having introduced urbanism and planning as concepts that the elite would respect and even quasi-mystify later on.[213]

The political demise of the Agache Plan took place during the tenure of Mayor Ivo Arzua (1962-1966). Arzua was part of Braga's party, who was then the governor of Paraná, and had been chosen as candidate by a small group headed by governor Braga.[214] Arzua implemented two main reforms, one administrative and one fiscal. The first changed the structure of the city government. For example, the Department of Public Transportation disappeared and the newly created Department of Concessions and Permissions assumed its functions. The second reform improved the financial shape of the government of Curitiba in a dramatic manner. Tax revenue grew at a faster pace than debt and administrative expenses (columns 1 and 2 in Table 5), which freed resources for investment in public works.

Nieri (2000, p. 173-4) argues that little of the Agache plan was implemented but offers no specific reason.

[209] Braga (1990, p. 3); and Menezes (2001, p. 67). Other avenues that the city government widened as part of the implementation of the Agache Plan were 7th of September, Visconde de Guarapuava and Floriano Peixoto. These roads were used in the 1970s for the bus rapid transit system, based on the *trinary road* concept.

[210] Braga (1997, p. 23 and 25); Nieri (2000, p. 173-4); Menezes (2001, p. 67); and de Oliveira (2000, p. 51).

[211] Valduga (1991, p. 95).

[212] Brandão (1991, p. 6).

[213] Menezes (2001, p. 72); and Coelho (1974, p. 23).

[214] Interview by author with Karlos Rischbieter, April 2003.

During the campaign, Arzua had promised to review the Agache Plan, but he did not intend to change it for a different one[215]—as it happened in effect. The review seemed necessary because some of the plan's main tenets were becoming outdated—e.g. the idea of building ring roads—and land use controls had not managed to orient urban growth in the way the plan wanted.[216] One of the first steps by Arzua in his attempt to review the Agache Plan was to create a new agency in charge of urban renewal, URBS.[217] Arzua appointed Luiz Garcez, an urban engineer who had worked under Mayor Braga and a faculty member at the Federal University of Paraná, as the director of URBS.[218]

Table 5. Fiscal indicators for the City of Curitiba, 1959-1973.

Year	(1) Public debt/total revenue (%)	(2) Administrative expenses/total revenue (%)
1959	99.9	53.0
1960	97.7	49.6
1961	86.8	50.1
1962	93.7	53.9
1963	71.2	56.8
1964	55.9	44.6
1965	63.7	42.7
1966	51.5	41.4
1967	N.A.	33.1
1968	N.A.	28.8
1969	15.8	21.4
1970	12.8	21.8
1971	20.3	35.9
1972	35.0	36.3
1973	36.3	47.8

Source: Coelho (1974, p. 41-42). N.A. = not available. The higher the value of column 1, the worse off is the financial situation of the city for it has to devote a large share of revenue to debt payments, leaving little for investment. Analogously, the higher the value of column 2, the less funds are available for investment because administrative expenses consume a higher share of revenue.

Garcez proposed to build a viaduct for car traffic that was to run between two of the main squares in downtown Curitiba—Praça Tiradentes and Praça Carlos

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[215] Arzua (1989, p. 4-5); Menezes (2001, p. 75); and Coelho (1974, p. 31). Arzua in his inaugural address in March of 1962 announced he intended to review and update the Agache Plan (Coelho (1974, p. 15).

[216] Menezes (2001, p. 70-72); and Santoro (no date, p. 16).

[217] Menezes (2001, p. 75); and Coelho (1974, p. 15). URBS is the Urbanization Company of Curitiba.

[218] Arzua (1989, p. 10); Coelho (1974, p. 32).

Gomez.[219] The viaduct would go above XV of November Street, which the Agache Plan wanted to turn into one of the main thoroughfares in the city. While from a traffic perspective Garcez's proposal might have made sense, it should be clear that its aesthetic impact in the heart of downtown could have been highly negative. Garcez also convinced Arzua to widen other streets, in line with the Agache Plan, such as 7th of September, XV of November, and Marechal Deodoro, among others.[220] These proposals triggered a two-pronged political reaction that ultimately led to the crafting and adoption of a new plan.

First was the reaction by a group of young engineers and architects[221]—among others Jaime Lerner, Lubomir Ficinski, Luis Netto, Jose Maria Gandolfi, and Marcos Prado.[222] This group had been meeting periodically to discuss urban issues and Curitiba's urban future in light of the public works announced by the mayor's office. Lerner, for example, had been active writing op-ed pieces for newspapers with urban planning analysis and proposals.[223] During 1963 the group reached the conclusion that Curitiba needed a new plan and the guidelines in the Agache Plan would not serve well Curitiba's future.[224] As Lerner told Menezes: "The Plans that Curitiba had were passive: zoning, some guidelines for the road network...It was never an inductive planning, one that would guide growth, one that would define urban growth. I always had the idea that planning ought to be to achieve change."[225]

Luiz Garcez occasionally met with the group and could not defend his own proposals and therefore proposed to take the group to meet the mayor to discuss its conclusions.[226] Mayor Arzua was receptive and seemingly allowed this group to start working at the Urban Planning Department. These planners continued lobbying for a

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[219] F. Rischbieter (1990, p. 3); and K. Rischbieter (1990, p. 15).
[220] Auríquio (1990, p. 4); and F. Rischbieter (1990, p. 3).
[221] At the time, the University of Paraná was about to graduate the first course in architecture. Students of engineering could transfer to architecture and enter directly into the third year. Most of the people in this group were either part of this group of had finished engineering and then started architecture once the university opened this program, as was the case of Jaime Lerner, who had just completed studies in Europe (Menezes, 2001, p. 75; and Ficinski, 1990, p.14).
[222] Netto (1991, p. 53); and Ficinski (1990, p. 14-15).
[223] Coelho (1991, p. 191).
[224] Ficinski (1990, p. 14-15); Coelho (1974, p. 32-34); and Netto (1991, p. 53-54).
[225] Menezes (2001, p. 76, translation by author).
[226] Ficinski (1990, p. 14-15); Interview by author with Lubomir Ficinski in April 2003; and Forte Netto (1991, p. 53-54).

new plan and managed to convince the Urban Planning Department of contracting out an update of the Agache Plan. The São Paulo firm SERETE submitted the only proposal. While the appraising committee considered it technically sound, the committee reported that the state development agency, CODEPAR,[227] was willing to finance a more comprehensive planning exercise without any cost for the municipality.[228]

CODEPAR was in fact the second source of opposition to the public works announced by Arzua's administration and it had the financial muscle to achieve its will. Karlos Rischbieter, a civil engineer and who had attended some architecture courses, headed the Project Unit of CODEPAR and was married to Francisca Rischbieter. Francisca was an advisor to the Urban Planning Department under Arzua and had worked for Mayor Braga.[229] Francisca Rischbieter and the Planning Department, headed by Theodocio Atherino, sympathized with the need for an update of the plan.[230] Further, the young group of engineers and architects who wanted a new plan had met with Karlos Rischbieter and asked him to finance a new plan for Curitiba.[231] Not surprisingly, when Arzua went to Karlos Rischbieter's office to seek funding for the controversial road projects of his administration, Rischbieter questioned the mayor about the choice of roads. Rischbieter argued that a comprehensive evaluation of the projects was needed, which entailed a new comprehensive plan.[232]

Arzua argued that Curitiba already had the Agache Plan and that it did not need a new one.[233] Arzua went to Ney Braga's office to complain about Rischbieter's

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[227] CODEPAR is the Economic Development Company of Paraná and was the first regional financing entity in Brazil. It helped finance basic infrastructure projects (roads, sanitation, telephone, etc.) to the municipalities of the state (Braga, 1997 p. 27).
[228] Coelho (1974, p. 33).
[229] Menezes (2001, p. 77); K. Rischbieter (1990, p 13-15); and interview by author with Karlos Rischbieter.
[230] Atherino (1991, p. 20-21); and F. Rischbieter (1990, p. 3-4). Mrs. Francisca Rischbieter later on became one of the main allies of Lerner and actively participated in Lerner's administration. She passed away in 1989. The Botanical Garden of Curitiba is named after her. See also Forte Netto (1991, p. 53-54).
[231] interview by author with Lubomir Ficinski, April 2003.
[232] F. Rischbieter (1990, p. 3), K. Rischbieter (1990, p. 15), and Auríquio (1990, p. 40 and Interview by author with Karlos Rischbieter by author April 2003.
[233] Auríquio (1990, p. 4).

attitude. Braga, the governor of Paraná and the creator of CODEPAR, strongly believed in planning.[234] Braga wanted Paraná's capital to set an example for the other municipalities in the state[235] and easily supported Rischbieter's position.[236] Arzua, however, was still not convinced about the need for a new plan. CODEPAR then started to flex its financial muscle to press Arzua to accept the idea of crafting a new plan. For example, a couple of months later CODEPAR conditioned the release of funds for the widening of Marechal Floriano Street to the realization of a new comprehensive urban planning exercise. Further, CODEPAR established the same condition for helping Curitiba with its intent to attract industries. Finally, CODEPAR offered to finance 100 percent of the cost of doing the new urban plan.[237] Arzua's opposition to the new planning exercise was mostly on financial grounds. Once CODEPAR offered to finance the entire cost of the study, Arzua was left with little reasons to oppose it and many to support it, more so in light of the strong support for the idea of crafting a new plan.

In conclusion, two years into Arzua's administration the Agache plan faced insurmountable political opposition and the decision to draft a new plan had been taken. The Agache Plan had been implemented slowly. Indeed, widening many streets and even building the *Centro Cívico*—which entailed displacing many residents—had been politically possible. It was only when Arzua and Garcez's proposals threatened to disrupt the downtown of Curitiba that a group of planners mobilized to stop these works with the argument that a new plan was needed. These planners, as the account shows later on, were particularly focused on the functional and aesthetic importance of downtown for Curitiba and maneuvered to gain support for their idea of having a new plan. Karlos Rischbieter and the powerful CODEPAR supported this position and flexed their financial muscle to obtain a new plan. Opposite to the Agache Plan, the new plan had *de facto* in some of its crafters a small political movement—whose genesis took place in these events. From now on this

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[234] See Braga (1997). Braga also believed in the ideas of Economics and Humanism of Father Lebret (Menezes, 2001, p. 74).
[235] Menezes (2001, p. 72-78).
[236] interview by author with Karlos Rischbieter, April 2003.
[237] Coelho (1974, p. 33-34 and Menezes (2001, p. 77).

group maneuvered in different ways to achieve influence and ultimately implement the plan, as I show below.

Finally, an historical note is in order. On April 1st 1964 the Brazilian military lead a coup d'etát against democratically elected president João Goulart. While the military originally intended to restore democracy in 1967, they remained in power until 1985.[238] The military allowed the elections for governor to take place in 1965/66, but they abolished by 1966 the elections for mayors of state capitals.[239] Ivo Arzua was appointed by the governor and confirmed by the state legislature as mayor for the 1966-1970. He resigned in 1967.[240]

The role of planners

Arzua created URBS in part to implement the Agache Plan, but URBS' first actions generated opposition by a group of planners that included Jaime Lerner. The plan did not change in light of these demands. These planners, and other interests, cared about the negative impacts of implementing aspects of the plan in downtown. Absent any changes to aspects of the plan the opponents resorted to opposing the entire plan. Lerner and his fellow planners argued that the entire Agache Plan was no longer a valid solution for Curitiba. In parallel, they offered an alternative solution, which was to craft a new master plan. Indeed, planners that oppose a plan or policy tend to follow this two-pronged approach—the plan is not a good solution *and* here is a better alternative. Further, Lerner and his fellow planners had to maneuver to create the conditions for drafting the new plan they wanted. These maneuvers entailed building a coalition in support of the new plan. Planners brought agencies such as CODEPAR, which had the financial resources to fund the new planning exercise, and interests related to downtown into this coalition. In the end, these planners had to reduce the power of the key decision-maker, Mayor Arzua, who thought the Agache Plan only

[238] Bueno (2002, chaps. 33 and 34).
[239] De Oliveira (2000, p. 79); Fernandez (1991, p. 47); de Novaes (1997, p. 153); and as inferred from Willis, Garman, and Haggard (1998).
[240] Arzua (1989, p. 1).

needed small revisions. Thanks to the strength of the coalition, Arzua eventually agreed to carry out a new planning exercise. [241]

[241] Authors such as Cervero (1998); Rabinovitch (1992 and 1996); Rabinovitch and Leitman (1993 and 1996); and Frausto (1999) consider the 1965 Master Plan as a critical element in Curitiba's evolution.

Chapter 3

Crafting a New Urban Master Plan and then a Transport Plan

By 1964 Mayor Arzua was convinced of the convenience of allowing a new planning exercise to proceed. This had been the result of the successful political mobilization of planners who wanted the city to abandon the Agache Plan and to adopt a new master plan. This group of planners—Lerner, Ficinski, Netto, Gandolfi, etc.—entered the public scene in Curitiba from this point onwards. These planners participated in the crafting of the plan and became members of the new city agency in charge of implementing the plan. The new plan had in these planners a small but effective political movement that supported the adoption of the plan and that worked towards this end. But for this to happen, planners needed to wait for the right opportunity, which came with the appointment of Jaime Lerner as mayor of Curitiba. In this chapter I describe the crafting of the master plan, or Director Plan, and discuss some of the events that followed and that led to the writing of other plans for example in mass transportation. In the next chapter I analyze the events once Lerner was appointed.

The Planning Exercises of 1965

In July 1964 the municipality invited consulting firms to bid for the new planning study. The decision was to have a *preliminary* plan and not a Director Plan—as a comprehensive plan is known in Brazil—because of cost and timeline issues.[242] Arzua was interested in having the new plan produced during his tenure, even if throughout this stage he was still not fully convinced that he would like the final outcome. To his advantage was the freedom of telling his constituents that the plan had anyway been CODEPAR's gift if, for whatever reason, he rejected it.[243]

Of the firms that submitted a proposal, four are of interest for the purposes of my research because of the actors involved. A consortium of two firms, Serete and

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[242] Coelho (1974, p. 10-13, 16, and 44-46).
[243] Fernandez (1991, p. 31).

Jorge Wilheim Architects, both from São Paulo, submitted the winning proposal.[244] The second bidder was Sagmacs, or Society of Graphic and Mechanic-graphic Analyses Applied to Social Complexes.[245] Sagmacs had had a significant influence in the state of Paraná by helping to build a strong support for planning as a way of promoting economic and human development. Sagmacs followed the "Economy and Humanism" principles of the French priest Lebret. Father Lebret had worked in Brazil in the 1940s and 1950s, and had influenced the ideology—toward one more centered on humanity—of many future planners and leaders, including Saul Raiz, a future mayor of Curitiba.[246] Sagmacs had also written in 1963 the Development Plan of Paraná for Governor Ney Braga—who was one of the converts to strongly believing in planning.[247]

The next two proponents were directly or indirectly linked to Luiz Garcez, the head of URBS at the time. In fact, URBS was one of the proponents. Garcez had been head of the City Planning Department under Arzua, and had proposed with others the creation of Curitiba's Planning Commission in 1960. He thought that URBS could do the job of writing the new preliminary plan.[248] The last firm was Urplan a firm that included Jaime Lerner, Luis Forte Neto, Jose Maria Gandolfi and the other members of the original group that I mentioned above, together with other specialists.[249] Garcez was linked to this proponent because of his friendship with Netto and others in this group.[250] Further, Netto and Gandolfi had worked with Wilheim in São Paulo.[251] Unsurprisingly, Wilheim later on hired this firm to do some of

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[244] Coelho (1974, p. 46); and Menezes (2001, p. 78).
[245] In Portuguese Sociedade de Análises Gráficas e Mecanográficas Aplicadas aos Complexos Sociais.
[246] Menezes (2001, p. 72-74); and Fernandez (1990, p. 72). Saul Raiz was mayor of Curitiba between 1975 and 1979, right in between Jaime Lerner's first two terms as mayor. Raiz studied in France with Father Lebret. According to Raiz, one of the main tenets of the "Economy and Humanism" view was that people had to be integrated into the planning process and that the ruler or planner had to be sensitive enough to listen and convince people in an inherently interactive process. Interview by author with Saul Raiz in April 2003.
[247] Menezes (2001, p. 74); and Brasileiro (1999, p. 473). For a general description of Lebret's work and influence in Paraná and Brazil see Carneiro (1991).
[248] Coelho (1974, p. 46-47).
[249] Netto (1991, p. 53-54).
[250] Coelho (1974, p. 50-51).
[251] Netto (1991, p. 54); and Wilheim (1990, p. 28).

the information gathering needed for the planning exercise and Wilheim even called some of its members to participate in the local "accompanying group".[252/253]

CODEPAR had demanded that a local accompanying group worked together with the consultants,[254] to achieve two objectives. Formally, the intent was to have a local team that would know the plan by having participated in its conception and that could be responsible for its administration and continuity. Politically, however, the local accompanying group can be interpreted as an attempt to appease opposition to the planning exercise within the city government. Not only Garcez and his URBS, but also the Urban Planning Department and other local planners—and even the media—distrusted the idea of having a firm from São Paulo do the plan. A firm that, they argued, would not be aware of the local conditions and which might try to tackle the problem in a generic fashion.[255]

The local accompanying group, therefore, had representation from several city agencies, the main one being the Urban Planning Department. This agency had nurtured as well expectations that it would write the plan, but once this option was discarded it expected to be the agency in charge of the plan once it was completed.[256] Among the most relevant members of the accompanying group because of their past and future actions were Jaime Lerner, Jose Maria Gandolfi, Luis Forte Neto, Lubomir Ficinski—from the original group of planners in 1963—, Francisca Rischbieter, Dúlcia Auríquio, Almir Fernandez, and Onaldo Pinto[257] among others. Saul Raiz is also listed as a member of this team,[258] but while he participated in many discussions, he was not as involved.[259] Jaime Lerner and Saul Raiz later on became mayors of Curitiba

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[252] Netto (1991, p. 55); and Coelho (1974, p. 51).
[253] The two other firms that submitted a proposal were Asplan and M.M. Roberto Architects (Menezes (2001, p. 78).
[254] Coelho (1974, p. 48); and Fernandez (1990, p. 71). See also F. Rischbieter (1990); and Auríquio (1990).
[255] Coelho (1974, p. 48-51).
[256] Coelho (1974, p. 50-51).
[257] F. Rischbieter (1990, p. 5); Monteiro (1991, p. 71); and Serete-Wilheim (1965, p iv).
[258] Serete-Wilheim (1965, p iv).
[259] Raiz (1990, p. 56-7).

and were in charge of the implementation of the plan.[260] Both drew some of their main collaborators from this group.

In February of 1965 Serete/Wilheim and the local accompanying group started to work in the preliminary plan for Curitiba.[261] The São Paulo consultants worked in that city and every two weeks went to Curitiba to interact with the local accompanying group and discuss the proposals they made.[262] Wilheim, the leading urban planner, tried to understand the city and its growth pattern to launch proposals that would not introduce dramatic changes if implemented—Curitiba was already growing linearly[263] (see figure N). Conflict soon developed, however, between Wilheim and some of the members of the accompanying group, mostly Onaldo Pinto. Pinto thought Wilheim's proposal was just the Agache Plan with different terms—such as the later-on famous *structural axis,* for defining a radial road.[264]

Theodocio Atherino, head of the Urban Planning Department, did not agree with Wilheim's proposals either. De facto going against the mayor, he asked the faculty of the Department of Architecture of the Federal University of Paraná (UFPR) to write an alternative plan. Gustavo Monteiro, Luiz Garcez, and Onaldo Pinto—all three among the faculty—started to write an alternative plan. Garcez, probably because of his role as URBS' president soon left the group,[265] but Pinto remained working both in the alternative plan and as part of the accompanying group. This allowed Pinto and even Monteiro to participate in the debates that took place in the planning team, where each side analyzed the other's proposals and criticized them. At one point, the part of the accompanying group working with Wilheim suggested to unify the two proposals, because both had good things. Pinto rejected the proposal arguing that it would be like mixing water and oil—impossible. Not surprisingly, the proposal to unify the two plans was abandoned and the group formally chose

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[260] Moreover, Lerner will be elected twice the governor of Paraná and Raiz will ran once for governor in 1982.
[261] Coelho (1974, p. 16).
[262] F. Rischbieter (1990, p. 4).
[263] See Wilheim (1990, p. 29-30); Serete-Wilheim (1965, p. 163), and Raiz (1990, p. 56-7).
[264] See Pinto (1990, p. 43-45).
[265] Monteiro (1991, p. 71-72).

Wilheim's plan[266]—the one they had been working on. By June of 1965 both Wilheim's team and Monteiro and Pinto had finished their respective plans.[267]

The main proposals in Wilheim's preliminary plan were to allow the downtown to grow mostly through densification and slightly toward the Batel area, to the southwest of downtown.[268] Second, the plan proposed to build two structural axes, as these corridors are locally known, to promote the densification of the residential areas[269]—something that was already taking place (see Figure 2). The structural axes were to be tangential to downtown and were expected to link downtown to a set of secondary centers[270] (Figure 3). The plan called for building a ring road around downtown to handle slow-speed traffic. Because of the new traffic pattern that this ring created, the plan proposed the pedestrianization of XV of November Street and other streets in the heart of downtown.[271] Wilheim's plan also called for allowing higher densities in certain areas, with the highest residential densities being along the structural axes.[272] Curitiba's overall density was remarkably low and planners wanted to increase its density among others to lower the cost of urban service delivery.[273] Finally, Wilheim's preliminary plan rejected the idea of allowing urban development to take place to the southeast of the main federal highway that crossed Curitiba, BR-2,[274] in the Boqueirão area. The main concern was that the area was prone to flooding and the land had a low value.[275]

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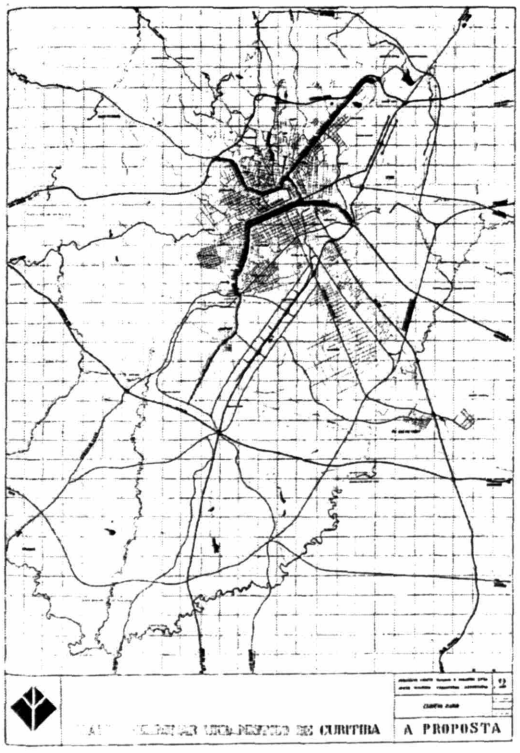
[266] Pinto (1990, 46-49).
[267] Coelho (1974, p. 16); and Pinto (1990 p. 49).
[268] Serete-Wilheim (1965, p. 147).
[269] Wilheim (1990, p. 29); and Serete-Wilheim (1965, p. 146-147, 150-154).
[270] Serete-Wilheim (1965, p. 154 and 163).
[271] Incidentally, this last proposal made Mayor Arzua nervous when he saw it, because the city government was purchasing properties to expand XV of November Street. Arzua feared a backlash from the public because the original intention was to turn this street into a main thoroughfare following the Agache Plan. Wilheim replied to Arzua that instead of having a street (calçada) for pedestrians, the city would have a very-wide-street for pedestrian (calçadão) (Wilheim (1990, p. 30 and 55-56).
[272] Serete-Wilheim (1965, p. 150-154).
[273] Serete-Wilheim (1965, p. xii-xiii, 84 and 146). While densification along these corridors did occur once the structural axes were implemented, the axes concentrate a smaller share of the city's population. In 1970 the corridors where the structural lines were built concentrated 35% of the home in Curitiba. But by 1990 this figure was down to 29 and was expected to drop to 27% by 2020 (Smith and Raemaekers, 1998, p. 238).
[274] This highway is currently known as BR-116.
[275] Serete-Wilheim (1965, p. 147); and Wilheim (1990, p. 32).

Figure 2. Densification along linear axis in Curitiba before the Director Plan

O Centro principal desenvolve-se espontâneamente de forma alongada, paralela à Rua XV de Novembro. Esta linearidade facilita a colocação de vias rápidas que o tangenciem sem cruzá-lo.

Source: Serete-Wilheim (1965, no page number).
Note: the caption reads "The main center is spontaneously developing linearly, parallel to the XV of November Street. This linearity facilitates the implementation of high-speed roads tangent to it [downtown] without crossing it.

Figure 3. Wilheim's proposal for the structural axes



Source: Serete-Wilheim (1965, no page number).

Wilheim's plan has a strong flavor toward favoring car-based transport, because of the main characteristics of the structural axes and because of its lack of attention to mass transit, except for brief mentions of an eventual metro system.[276] Regarding the structural axes, Wilheim's plan called for roads with a constant width and with two lanes for high-speed traffic and one for slow traffic in each direction. Further, the structural axes "will be crossed by transversal viaducts and no traffic lights will be needed."[277] The plan also reserved space in the structural axes for an eventual metro line, but does not elaborate much further.[278] To join the two structural axes, the plan proposed to build an elevated road that would have required demolishing entire blocks in downtown Curitiba.[279] Finally, the plan advocated for reorganizing traffic flows to increase car-speed by creating alternating one-way streets.[280] With the exception of the plan to pedestrianize XV of November Street, the measures proposed in the plan go against pedestrian flow safety while favoring car-based transport.[281] The structural axes, for example, resemble a parkway for high-speed travel by car and certainly required wide space and substantial land takings. Because of this, the cost of the plan was so high that the planners recognized the plan was under-financed.[282]

Pinto and Monteiro's plan shared with Wilheim's proposal the idea of having two structural axes, only that the chosen alignments were radically different. Both of Wilheim's axes ran from downtown, one towards the northeast of the city and the

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[276] Because of the level of detail I go into, I am able to trace the changes from the Preliminary Plan to the Director Plan and then to what was eventually implemented. These changes are a central part of my analysis. Other pieces in English on Curitiba's history tend to group these changes as part of the original plan. While Curitiba today favors mass transit, the original plan did not mention it in major detail and to the contrary it seemed to favor car-based transport.

[277] Serete-Wilheim (1965, p. 155).

[278] In this regard, the planners thought the heavy rail line would be needed by the year 2000 and the needed capacity would be of 60,000 passengers per hour. The planners do emphasize, however, that the heavy rail option needs to be compared with other alternatives including bus-based options, but they do no elaborate much (see Serete-Wilheim, 1965, p. 208). The planners argued that a heavy rail line would be needed because their population projections indicated that Curitiba would have 3.5 million inhabitants by 2000 (Serete-Wilheim, 1965, p. 147). Curitiba's population is estimated to be around 1.6 million in 2000 (Santoro, no date, p. 16), less than half the planners' original projection.

[279] Serete-Wilheim (1965, p. 150-154 and 197-202).

[280] Serete-Wilheim (1965, p. 156).

[281] During my fieldwork in Curitiba I could experience this first hand. The proposal to create alternating one-way streets was implemented and has endured. Cars indeed can achieve very high speeds and pedestrians have to be very careful when crossing a street.

other toward the southeast—without crossing BR-2, the main interstate highway. Monteiro and Pinto chose precisely BR-2 as one of their structural axes—under the correct assumption that the federal government had plans to build a new highway outside of Curitiba (Figure 4). The second axis was on Marechal Floriano Peixoto Avenue and it would connect downtown to the Boqueirão area in the southeast—the one that Wilheim considered inadequate for urbanization. The Floriano Av. axis continued to the north and while it used a few existing streets it implied demolishing a number of properties. Monteiro and Pinto conceived the structural axes as "parkways," and, as Wilheim's axes, the traffic would face no interruption thanks to grade-separated intersections.[283] The plan also proposed to increase significantly the density of Curitiba, particularly along the structural axes.[284] Monteiro and Pinto were against making pedestrian only XV of November Street.[285]

In short, by June 1965 Mayor Arzua had two preliminary plans to choose from. Arzua was not necessarily in favor of either and was hesitant to decide which one to adopt. Moreover, the Institute of Engineering of Paraná had published Monteiro and Pinto's plan[286] and the press had taken issue, among others, with Wilheim and the main consultants in his team being from São Paulo.[287] Arzua acting as a politician interested in his political future, decided to organize a seminar where CODEPAR's plan—as the mayor dubbed it—would be presented to the public for discussion[288] and the seminar "will accept any other plan submitted for discussion."[289] Arzua baptized the seminar as "Curitiba of Tomorrow" and in a sound marketing act dubbed July the "Urbanism Month." This was the first time in Brazil that a draft plan was to be

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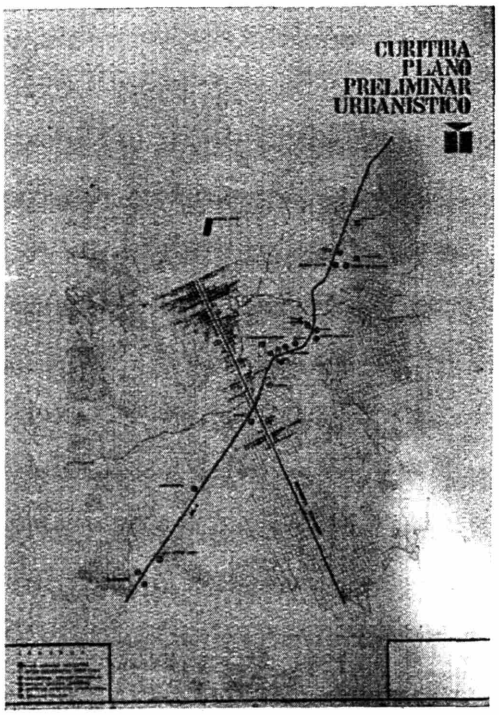
[282] See Serete-Wilheim (1965, p. 197).
[283] Monteiro and Pinto (1965, p. 5-14).
[284] Monteiro and Pinto (1965, p. 6-7 and 19); and Pinto (1990, p. 51).
[285] Pinto (1990, p. 50-51).
[286] Pinto (1990, p. 51); and Monteiro and Pinto (1965). I want to thank Capt. Onaldo Pinto Jr. who gave a copy of this publication. Mr. Onaldo Pinto Sr. passed away in 2000.
[287] Wilheim (1990, p. 31); Coelho (1974, p. 52-53); and Monteiro (1991, p. 75).
[288] Coelho (1974, p. 52-53); Wilheim (1990, p. 31).
[289] Wilheim (1990, p. 31). Arzua was not bluffing. Press accounts at the time report with some surprise how two instead of one plan were being submitted for presentation and discussion (see Gazeta do Povo, Editorial note for July 9th 1965).

discussed in public.[290] Wilheim knew the situation was political and not technical and praised the mayor for his decision.[291]

Figure 4. Pinto and Monteiro's proposal for the structural axes



Source: Monteiro and Pinto (1965, p. 12).

Choosing a Plan: the Curitiba of Tomorrow Seminar

The need to subject the urban plan sponsored by CODEPAR—Wilheim's plan—to public hearings was a political imperative, more so given Mayor Arzua's own doubts about the convenience of the plan. In the end, because the funding for the plan was not from the city government but from CODEPAR, Arzua could reject the plan without major political costs.[292] Moreover, there were in reality two plans and Arzua was aware of that.[293] Arzua justified the seminar by using a statement by John Friedman, a rather famous U.S. urban planner: "The planner is far from being God, who drives mortals towards his inscrutable goals. The public interest must be found in the public.

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[290] Coelho (1974, p. 52).
[291] Wilheim (1990, p. 31).
[292] Coelho (1974, p. 53); and Fernandez (1990, p. 30).
[293] Pinto (1990, p. 49); Monteiro and Pinto (1965, p. 4); Monteiro (1991, p. 75).

The public must approve its own future."[294] Arzua years later explained how he understood Friedman's statement: "I could not impose, on my brothers in Curitiba, an idea of mine saying that their future or their family's future had to be like this or like that. It is necessary to listen to the people to see where they want to go, in general terms. It is evident that in merely technical questions the technical concept should prevail."[295] In other words, in spite of the military dictatorship at the federal level in Brazil, Arzua kept thinking as an elected politician[296] who needed to have minimum consultations before making a decision.

The seminar took place in the context of the "Urbanism Month," in which the major's office had published Wilheim's plan, including a land use map and the section where Wilheim advocated for the creation of a separate unit within the city government. This unit was to be in charge of finalizing the plan and of leading the implementation of the plan.[297] The seminar took place in seven different sessions, geared toward different parts of the public opinion.[298] Most of the sessions targeted the economic and intellectual elite of Curitiba—the Institute of Engineering of Paraná, the Chamber of Commerce of Paraná, the Federal University of Paraná, to name a few. Two of the sessions targeted blue-collar workers and were held at the offices of a local union and at a community center.[299]

In one of the first sessions, which took place at the Institute of Engineering of Paraná, Monteiro and Pinto presented their plan first to an audience of 500 engineers and it was well received. The next presentation was by Wilheim and his planners.[300] Wilheim had decided he would not do the presentation of the plan. Rather, it would be the junior planners of the accompanying group who would. Wilheim did this to help these planners appropriate and become responsible for the plan's future.[301] These planners did not do a good job the first time they presented the plan. This bothered Pinto who took it as a lack of professionalism, and begun to ask tough questions and

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[294] Arzua (1989, p. 6, translation by author).
[295] Arzua (1989, p. 6, translation by author).
[296] Fernandez (1991, p. 47).
[297] Coelho (1974, p. 52); and Serete and Wilheim (1965, p. 190).
[298] Brasileiro (1999, p. 582).
[299] Coelho (1974, p. 53-54); and Arzua (1989, p. 7-8).
[300] Monteiro (1991, p. 75).

criticize the content of the plan.[302] Yet the situation created by Pinto—who did not allow the presentation to proceed—became uncomfortable for all involved. After this, Monteiro decided that it was not convenient to continue presenting their plan and together with Pinto cancelled their participation in the seminar.[303] The day after this incident Pinto was excluded from the accompanying group and sent back to his normal job in a city agency.[304] Pinto, moreover, seemed not to have understood the political importance of the hearings, which were not so much to analyze a technical plan but to legitimize it in political terms. Years later he wrote: "what could a businessman, even if successful, discuss about an urban plan?"[305] Pinto and Monteiro's plan was no longer an alternative for consideration in the Seminar—only Wilheim's plan remained.

As the Curitiba of Tomorrow seminar progressed, Mayor Arzua changed his attitude toward the plan, in part because he went to all the sessions. Fernandez, a planner who was part of the accompanying group, said later on: "In that process that lasted a month, we [the planners who wrote the plan] were able to explain and debate the Plan, understand criticisms and absorb them, and at the end the owner of the plan was Ivo Arzua."[306] In this regard, in the session at the labor union, the planners found it hard to explain Wilheim's plan to this group of people because the planners kept using planners' jargon. It was Mayor Arzua, also an engineer, who found the way to explain the technical concepts in the plan to this audience.[307] The planners took this as a sign that the mayor had decided to adopt their plan and had become a keen supporter.[308]

This support by major Arzua aggravated a conflict that was taking place between three agencies or groups within the city government—the Urban Planning Department, URBS, and the accompanying group. All three wanted to become the agency responsible for the plan, which included writing the final version of the plan

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[301] Wilheim (1990, p. 35).
[302] Pinto (1990, p. 49).
[303] Monteiro (1991, p. 75).
[304] Pinto (1990, p. 49).
[305] Pinto (1990, p. 50).
[306] Fernandez (1991, p. 31).
[307] Coelho (1974, p. 54).

and then participating in its implementation. Theodocio Atherino, head of the Urban Planning Department, always thought that his agency was the natural place for having the plan. Atherino, however, had argued before that there was no need for outside consultants. Atherino, moreover, had spearheaded the initiation of Monteiro and Pinto's plan[309]—which at this point was politically dead given Monteiro and Pinto's decision to withdraw the plan from consideration at the Seminar. Garcez, the head of URBS, saw an opportunity to financially and functionally strengthen his agency by being in charge of the plan.[310] Finally, the accompanying group had participated in the crafting of the plan, which said that the preferred option was to have a new agency in charge of the plan. This new organization would be advisory to the mayor and would rank above all other city agencies in order to advice them and evaluate how their policies fitted the new master plan.[311] At the crux of the conflict, therefore, was the issue of organizational survival, because being in charge of the new plan could bring resources and prestige for whichever agency became in charge.

The members of the accompanying group wanted Mayor Arzua to adopt their plan *without* having consulted the Urban Planning Department or any other city agency on the contents of the plan. Atherino opposed this view and wanted the mayor to make the decision after his agency had produced a professional concept. When the mayor adopted the plan without this concept, Atherino resigned, close to the end of the Seminar.[312] The path was open for the creation of a new agency. During the Seminar, participants repeatedly asked the mayor about this new agency that would be in charge of the plan—as the publication of the plan advocated. Mayor Arzua initially did not know that part of the plan and often gave contradictory answers. But by the last session he was convinced that a new agency was the best option and announced the creation of APPUC—Advisory for Urban Research and Planning of Curitiba.[313]

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[308] Fernandez (1991, p. 31).
[309] Coelho (1974, p. 55-56).
[310] F. Rischbieter (1990, p. 5).
[311] Serete and Wilheim (1965, p. 190).
[312] Coelho (1974, p. 55).
[313] Coelho (1974, p. 54); and Fernandez (1991, p. 33). I use the acronym in Portuguese, APPUC, which stands for *Assessoria de Pesquisa e Planejamento Urbano de Curitiba.*

In conclusion, thanks to the Seminar, Wilheim and the accompanying group convinced Mayor Arzua that their plan was good enough to be adopted and scored an additional victory when Arzua created APPUC and yet another one when APPUC received the planning functions of the Urban Planning Department.[314] Crucial in this effort was that the Seminar allowed open participation by the public. Arzua had emphasized to his planners that they had to answer the questions directly or if they could not, they should mail a response later on or even meet with the person.[315] These actions seemed to have contributed to legitimizing the planning exercise, as was the fact that the plan was preliminary and not definitive. The audience believed that more than being informed about an already-adopted public policy they could actually question it and influence the final outcome.[316] In effect, the preliminary plan did suffer some changes, such as the creation of an historic district and the prohibition to urbanize flood-prone areas, among others.[317] The press also reviewed the Plan in increasingly favorable terms as the Seminar progressed.[318] All this contributed to de-legitimizing those who opposed the plan on the grounds that an alien team from São Paulo had written it and that it had been written behind close walls.[319] The plan was now close to becoming Curitiba's plan.

While some authors claim that thanks to the Seminar the preliminary plan was on very political solid territory I disagree.[320] Coelho for example argues that "the seminar established for future mayors a public and irreversible commitment with the intent of planning and with the guidelines of the plan itself."[321] Coelho's statement has to be seen in the context that Curitiba's political elite was very receptive to planning, particularly as how planning tools could help its objective of attracting capital and promoting economic growth.[322] In this sense, it is clear that the seminar achieved the objective of legitimizing the planning exercise with that elite and a couple of other

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[314] Coelho (1974, p. 57).
[315] Arzua (1989, p. 8).
[316] Fernandez (1991, p. 32).
[317] Arzua (1989, p. 11-12).
[318] Gazeta do Povo, various issues July 1965.
[319] Coelho (1974, p. 56); and Menezes (2001, p. 81-82).
[320] See Coelho (1974, p. 55-56); and Brasileiro (1999, p. 474-476).
[321] Coelho (1974, p. 56).
[322] See de Oliveira (2000, p. 42-44).

actors. For Mayor Arzua the seminar was particularly important because once he saw the elite approved the plan he decided to adopt it. However, even under these highly favorable conditions for planning, future administrations were not necessarily committed to implementing it—even if the plan became a city law in mid 1966—unless the plan was changed in light of political conditions. And these political conditions could not have been detected by the seminar for what was being discussed was an abstract, comprehensive plan, which did not necessarily solve any tangible problem—only many problems that *could* occur in the future according to the planners. It was only when specific projects and policies based on the plan were being readied for implementation that political forces materialized and forced changes in the plan in order to allow it to proceed. Therefore, for the plan to be implemented much political and technical work remained to be done.

Finally, the situation up to now in Curitiba is interesting in light of Altshuler's argument that when there is a "coherent power elite firmly committed to a plan"[323] a comprehensive plan is more feasible than when this is not the case. Curitiba's case partially validates this claim for there seem to have been a committed power elite. Further, the city adopted a comprehensive plan that later on, as I detail below, became a central piece of urban policymaking. However, Curitiba's case also shows that even when there is this coherent power elite, a comprehensive plan is too general and the political forces that materialize in its support are not significant enough to guarantee implementation. Therefore, even in the context of Curitiba in the 1960s, Altshuler's statement for a more developed democracy seems valid:
"...comprehensive democratic planning is virtually impossible. No legislature or committee of interest group leaders can rationally evaluate a statement of comprehensive goals. Its members cannot, in the absence of *specific project proposals and citizen reactions to them*, predict how the countless measures needed to accomplish the goals will affect the overall quality of community life or the interests of their own constituents and organizations."[324]

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[323] Altshuler (1965, p. 311).
[324] Altshuler (1965, p. 311, my emphasis).

Creating IPPUC and enacting the Director Plan in the City Council

In order for the plan to ever be carried out, the crafters of the preliminary plan believed that a new organization was needed. The planners timidly argued in the plan that creating a new agency should be the path to follow. However, they do not appear to have been very convinced about the feasibility of their preferred alternative for they devoted only two paragraphs to it. Instead, they focused on arguing that if the current structure of the city government was streamlined it could be possible to write the Director Plan and implement it. They suggested splitting tasks among the Department of Urban Planning, which was to be in charge of the plan, the Public Works Department, in charge of road construction, and URBS, in charge of special projects related to the plan. [325] Their lack of belief in the feasibility of creating of a new agency in charge of the plan indicates that it was the events during the Seminar the Curitiba of Tomorrow that tilted the balance in favor of the alternative preferred by the planners. In this regard, Mayor Arzua seemed to have been convinced that the Department of Urban Planning and URBS were not appropriate for developing the Plan. On the one hand, Arzua thought these agencies were too bureaucratic. On the other, he became convinced that a new agency should plan, the Institute for Research and Urban Planning of Curitiba (IPPUC), and the other two agencies should handle the day-to-day administrative activities that implementing the plan entailed.[326]

Creating IPPUC, however, required a city law and this could take time. As a result, Mayor Arzua came up with the idea of creating initially APPUC—although he already had the draft legislation to create IPPUC by the end of the seminar. Arzua charged APPUC with two tasks to be carried in that order of priority. First, APPUC had to lobby the City Council and pass the law to create IPPUC. Second, APPUC had to incorporate the results of the seminar and update the preliminary plan, with the idea of eventually producing the Director Plan for Curitiba.[327] The first task is mostly political for it implies interacting with the councilors who were elected politicians. The

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[325] See Serete-Wilheim (1965, p. 190-191).
[326] Coelho (1974, p. 66-67.
[327] Fernandez (1991, p. 40).

second is arguably mostly technical and it implied writing the final version of the plan. APPUC never carried out the second task; it was IPPUC.

The draft legislation specified that IPPUC was to be an autonomous agency directly under the city mayor, with exclusive responsibility for urban research and planning and without responsibility for project construction.[328] The draft legislation also specified that IPPUC would be responsible for, one, writing the final version of the Director Plan, and two, for adapting the plan with the objective of insuring its implementation.[329] For this purpose IPPUC would receive authority to design specific projects and control the implementation of the plan.[330] The authority to design projects was not limited to any specific area, in effect giving IPPUC the possibility of "planning" projects in education to transportation—this feature later on became a source of interagency conflict.[331] Arzua received the draft legislation and introduced provisions to force IPPUC to consider many stakeholders and interest groups when making decisions.[332] Arzua then sent the project to the City Council.

The City Council had few objections and passed the law creating IPPUC easily in December 1965.[333] One aspect that probably helped was that by being an autonomous agency, IPPUC had to have a "deliberative council" or board of directors with two representatives of the City Council. Interestingly, the "deliberative council" also had representatives of several city agencies, some of which would have opposed the creation of IPPUC—the Department of Urbanism and URBS for example.[334] Because the "deliberative council" is the ruling body at IPPUC, all these agencies

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[328] Coelho (1974, p. 58).
[329] Fernandez (1991, p. 41).
[330] Coelho (1974, p. 58).
[331] See Auríquio (1990). For an idea of the range of projects that IPPUC has undertaken see IPPUC (1985).
[332] Arzua (1989, p. 13).
[333] Fernandez (1991, p. 43); and IPPUC (1985, p. 11). Among the functions assigned to IPPUC in the law that created it were the following. First, "to carry out the studies to institutionalize the Director Plan of Curitiba, and subsequently suggest the necessary modifications." Second, "to promote studies and research for the integrated planning of the city of Curitiba." Third, "recommend legislation and amendments to law that can impact the urban planning of the city." Fourth, "cooperate with other agencies in the city government to rationalize and coordinate the integrated planning of Curitiba." Fifth, "create conditions for the implementation and continuity in planning and to establish the continuous adaptation of the sector and global plans to the changing reality of the municipality." (all quotes from IPPUC (1985, p. 11), translation by author.)
[334] Coelho (1974, p. 59-60).

have at least a nominal ability to influence the urban planning set by the Institute. Further, the "deliberative council" can also be an instrument for coordinating the several city agencies and seek policies that do not undermine the director plan. While true in theory, conflict between IPPUC and other agencies developed quite frequently and mayors had to develop mechanisms to address it.

IPPUC's initial task was to prepare the draft legislation containing the Director Plan for Curitiba.[335] Opposite to comprehensive plans for other cities,[336] IPPUC prepared a highly flexible plan that contained mostly guidelines as to how urban development ought to take place. For example, for the road system, including the structural axes, the Director Plan devotes only two short pages. The structural axes—the main transportation and land-use element of the plan—are covered in one short paragraph that specifies their width and indicates that they *should* have intersections reasonably spaced and no left turns.[337] Contrast this to the less-flexible Preliminary Plan that defined in more detail the structural axes as quasi-urban highways with grade-separated intersections.[338] Planners at IPPUC selected to submit to the City Council a highly flexible—and therefore scantily detailed—plan because they realized that the Director Plan had to change in response to many situations.[339] Fernandez, a participant in the process, summarizes their rationale:

> When we submitted [to the City Council] the draft law of the Director Plan, we practically submitted a plan with basic guidelines, because our rationale was like this: "What is a Director Plan? Are we going to send a straightjacket? Are we going to send detailed maps to the City Council?" It wasn't that what mattered, at that time, in reality, we were inventing a way of legalizing an urban policy for the city of Curitiba. Nothing was detailed; we would do the detailing later on.[340]

The city councilors had some objections to this approach. The main one was that in practice IPPUC could change the Director Plan—by adapting it to a changing reality—without having to go to the City Council to obtain a new law. The city council, therefore, was afraid that if the law passed as presented, IPPUC would have too

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[335] The law that created IPPUC gives it responsibility to (1) control de implementation of the Director Plan. (2) Design and detail projects. (3) Implement, under special circumstances, projects in cooperation with other city agencies. See Coelho (1974, p. 58); and see IPPUC (1985, p. 11).
[336] See Scott (1998); and Peattie (1987) for examples of this.
[337] PMC (1966, p. 5-6).
[338] See Serete-Wilheim (1965, p. 150-154).
[339] Fernandez (1991, p.41).
[340] Fernandez (1991, p. 42).

much power and de facto IPPUC would be the plan. The planners argued that their philosophy was that IPPUC—the planning agency—ought to be permanent, whereas the plan had to constantly change. The planners also put in the law a provision that allowed only IPPUC's "deliberative council" to introduce changes to the plan. Because the "deliberative council" had two city councilors, the City Council was in effect represented whenever a change was being discussed.[341] This approach convinced the city council, which approved the city law (law no. 2828) adopting the Director Plan in July of 1966.[342]

The role of planners

The events show that the planning team in Curitiba was a capable planning team, according to the definition in Chapter 1. The team had technical and political capacity. Planners were able to craft the Preliminary Plan and then modify it to turn it into the Director Plan—mostly technical tasks. The political side of the team was able to present the plan at the Curitiba of Tomorrow Seminar. More important, the team was able to pass in the City Council the legislation creating IPPUC and formally adopting the Director Plan. Contrast now with Monteiro and Pinto's team, which I argue lacked political capacity—but had technical one. Pinto did not understand the political side of planning and as a result had to withdraw his plan from consideration.

The combination of political and technical capacity allowed the planning team to later on specialize to maximize its effectiveness. In effect, according to Auríquio, in the future she and Francisca Rischbieter became in charge of lobbying the City Council to defend the Director Plan and to pass legislation needed to adapt the plan to changing conditions.[343] Other planners at IPPUC figured out technical solutions to political problems that emerged as the plan was implemented, as I detail below. Hence, IPPUC became a capable agency able to tackle the technical and the political side of planning.

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[341] It is important to understand, however, that the extent to which the plan can be changed without City Council approval is limited. The changes are more on the *how* to carry out the objectives of the plan, but not on the main guidelines for urban development embedded in the plan. See PMC (1966).
[342] Fernandez (1991, p. 42-43).
[343] Auríquio (1990, p. 6).

Finally, planners introduced flexibility in the Director Plan by removing details and many elements that could later on prove difficult to change. Flexibility is important because any plan is crafted with incomplete information—mostly on how stakeholders will respond to specific elements in the plan. For the plan to be implemented a window of opportunity has to open, for example the appointment of someone supportive of the plan to the mayor's seat. During the window of opportunity a series of political forces become active precisely because there is a chance that the plan will be adopted. If adopted, the plan can affect stakeholders' interests and this possibility motivates them to participate in the process. A capable planning team is then essential for the political side of the team has to interact with the stakeholders and with politicians. As a result of the interaction, the plan will change in response to the political reality unveiled by the interaction. A flexible plan can be adapted. Hence the importance of introducing flexibility in a plan—even if it implies fighting for it in the City Council, as planners in Curitiba did.

The first years of the Director Plan

Arzua's term as elected mayor expired at the end of 1966. Because the military dictatorship at the Federal level had abolished elections for state capitals, the state governor appointed Arzua for a new term. Arzua resigned, however, by 1967,[344] because he was appointed minister of state by the military regime.[345] Governor Paulo Pimentel[346] appointed Omar Sabbag as mayor of Curitiba for a four-year term running until 1971.[347] Sabbag was a sanitary engineer and his main concern was precisely in that area—where Curitiba has lagged historically—and not in the Director Plan as such.[348] Sabbag, in effect, had not participated in any of the events that led to the

[344] Arzua (1989, p. 1).
[345] De Souza (1999, p. 126).
[346] Pimentel (1997, p. 53-54).
[347] Brasileiro (1999, p. 475); Wilheim (1990, p. 31)
[348] Brasileiro (1999, p. 475); see also Wilheim (1990, p. 32) who agrees with the diagnostic that Curitiba is lacking in water infrastructure. Based on a comparison with the city Porto Alegre, also in the south of Brazil, it is possible to argue that Sabbag's emphasis on sanitation later on increased the political feasibility of implementing the Director Plan. In Porto Alegre, the Workers Party arrived to the mayor's office with the idea of writing the city's budget through a highly participatory process (Abers, 1996 and 1998). Fieldwork I conducted in 2002 indicates that city officials initially expected people to prioritize street paving, but in reality they prioritized sanitation. Only when this problem had been sufficiently addressed did the people ask for street paving in the participatory budgeting process.

adoption of the Director Plan.[349] Furthermore, Sabbag was a bit distrustful of IPPUC's broad mandate and the power this represented.[350] Both things led to several conflicts with the heads of IPPUC.

As part of Sabbag's appointment, the governor of Paraná ordered him to appoint as head of IPPUC Luiz Forte Netto, a personal friend of the Governor and who had been part of the overall planning effort.[351] Netto had four objectives in mind. First, to strengthen the institutional capacity of IPPUC by appointing knowledgeable people, mostly the planners of the accompanying group, including Jaime Lerner. Second, Netto wanted IPPUC's planners to design projects that would allow the city administration to implement the guidelines in the Director Plan.[352] Netto knew that these plans and projects would not be used immediately, but his intent was to have them ready for whenever a window of opportunity emerged.[353] Thirdly, Netto wanted to convince other city agencies of using the Director Plan and of following IPPUC's instructions in that regard.[354] Fourth, Netto understood that it was necessary to begin implementing some elements of the Plan—namely the road system.[355]

Netto successfully achieved the first two objectives and thus IPPUC became a capable planning agency that was able to elaborate projects in areas ranging from education to transport.[356] Netto, however, only partially achieved the other two objectives. Many line agencies acquiesced to Netto's desires that they consulted IPPUC and even that their own plans be approved by IPPUC's deliberative council before becoming agency policy.[357] Instrumental in convincing other agencies were IPPUC's institutional capacity, which allowed it to formulate innovative plans, and its Deliberative Council, where the mayor and the heads of many city agencies gathered to make decisions by consensus—at least in theory. Yet the Urban Planning Department—which had been stripped of all urban planning functions—and the

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[349] Coelho (1974, p. 63).
[350] Fernandez (1991, p. 34).
[351] Coelho (1974, p. 74-75); and Netto (1991, 57-58).
[352] Netto (1991, p. 58-61).
[353] Coelho (1974, p. 71).
[354] Netto (1991, p. 58-61).
[355] Coelho (1974, p. 68-71).
[356] Coelho (1974, p. 73).
[357] Coelho (1974, p. 72 and 77); and Netto (1991, p. 60).

Department of Public Works opposed IPPUC's idea and even argued that IPPUC should only plan when a line agency asked it to do so. Therefore, each agency should and could plan on its own without needing IPPUC's approval.[358]

Also opposing IPPUC was Mayor Sabbag who regarded IPPUC as a "group of architects" interested more in aesthetics than in the technical and financial aspects of city administration. Sabbag also opposed the need to have consensual decisions at IPPUC's Deliberative Council for he was willing to override decisions using his authority as city mayor and/or his technical knowledge as sanitary engineer. As a result, Sabbag isolated IPPUC and confined it to planning new projects but without an intention of having these projects implemented.[359] Despite all this opposition, IPPUC was able to start the implementation of the first ring for slow traffic around Curitiba's downtown—a relatively simple project[360]—but it implemented little else under Sabbag's tenure.[361]

The resources to finance the ring road and other parts of the plan resulted from a conflict between IPPUC and the Department of Public Works. IPPUC argued that the city government should use all its available funds to implement the Director Plan. The Department of Public Works, on the other hand, was very receptive for demands by neighborhood groups to guide its expenditures in street pavement and devoted its resources for that purpose. Given the demand for local pavements, planners at IPPUC came up with the idea of creating a Communal Paving Plan in which URBS would pave a street if the neighbors provided the funding. The plan was a success as residents were willing to supply the funding. This made URBS a powerful and rich agency thanks to this new source of revenue, which was not part of the tax base.[362] The outcome of IPPUC's proposal in the end was threefold: URBS insured its own organizational survival, which was at stake; IPPUC freed financial resources for

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[358] Coelho (1974, p. 77).
[359] Coelho (1974, p. 74-75).
[360] Implementing the ring road around downtown entailed linking small streets around the core of downtown. Little or not demolitions took place. The project entailed new traffic patterns.
[361] Netto (1991, p. 62-63).
[362] This wealth helped URBS implement the Industrial City of Curitiba (CIC) project as detailed below.

implementing the plan, although more funds were still necessary. Finally, IPPUC and URBS began to frame an alliance.[363]

The conflict between the mayor and IPPUC eventually led to Netto's resignation in 1969. By then, IPPUC had produced a significant number of plans and project designs. Netto, moreover, suggested Mayor Sabbag to appoint Jaime Lerner, who was head of physical Planning at IPPUC, as the new head of the Institute. Sabbag agreed and Lerner became president of IPPUC for the first and only time in his life.[364] Lerner's tenure, however, was short-lived. Sabbag wanted to build the new bus and train terminal—locally known as *Rodoferroviaria*—which was contemplated in the Director Plan. IPPUC had prepared a project, but the mayor did not like it. In a meeting of IPPUC's Deliberative Council the mayor said that IPPUC's project for the station was incomplete and that contracting a professional firm was necessary. Lerner defended IPPUC by saying the project was almost ready. Lerner formally proposed to hold a public hearing, which would include the City Council and other political actors, to present IPPUC's project and get feedback. Lerner wanted the members of the Deliberative Council to vote his proposal.[365] Clearly, Lerner was looking for political backing outside of the mayor's realm by putting forward this proposal. But Sabbag had already made up his mind and as president of the Deliberative Council rejected Lerner's idea and said the city would contract a private firm to design the terminal. As a result Lerner resigned on the spot on July of 1969.[366]

Sabbag appointed Clóvis Lunardi as president of IPPUC, and Lunardi in turn kept Lerner in a senior position at the Institute.[367] Sabbag's move isolated IPPUC from the rest of the administration and Lunardi had to maneuver to stop Sabbag from shutting down the Institute.[368] In the end, Sabbag accepted that IPPUC continued to design projects and plans to develop the guidelines contained in the Director Plan but without trying to get them adopted.[369] The hope of the planners was, however, that

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[363] Netto (1991, p. 61-63).
[364] Netto (1991, p. 64).
[365] Coelho (1974, p. 75-78); and Lunardi (1990, p. 6-7).
[366] Coelho (1974, p. 75-77); and Taniguchi (1990, p. 49).
[367] Lunardi (1990, p. 7).
[368] Lunardi (1990, p. 7).
[369] Coelho (1974, p. 75-78); Brasileiro (1999, p. 475); and F. Rischbieter (1990, p. 5).

their ideas would someday be implemented. Part of the plans and projects planners worked on had to do with transport, as I detail in the next section.

Transportation planning during the Sabbag administration

Luis Netto, president of IPPUC during the Sabbag administration, organized a seminar around 1967-68 to study what to do with the structural axes in the Director Plan. Experts from around Brazil, and even some foreigners, were invited to attend. Someone presented a relatively new technology—buses using exclusive lanes segregated from general traffic. This person argued that a few other cities in the world had already adopted this technology and that it worked effectively because cars did not interfere with bus operation.[370] As of that moment, planners at IPPUC started discussing this new option and in particular the resulting idea of reserving space in the structural axes for mass transit purposes. Planners, however, were aware that the reserved lane could be for a busway, light-rail, or even heavy-rail.[371]

Between 1968 and 1969 IPPUC carried out several transportation planning studies, in part during Lerner's tenure a president of the Institute. The main study was the "Preliminary Study for the Metro of Curitiba," also known in Curitiba as "Preliminary Mass Transit Plan."[372] Lerner thought even back then that a car-oriented Curitiba was impossible because of the endless need to increase road capacity, with its associated cost and negative urban impact. The solution was therefore to promote mass transit and the pedestrianization of downtown Curitiba.[373] To carry out these studies, planners at IPPUC collected information on mass transit systems in the World and studied several alternatives for Curitiba.[374] Planners found that many mass transit

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[370] Anecdotal information suggests that Lima (Peru) was the first city in Latin America to build a busway and that even planners from Curitiba went to Lima to see this facility. IPPUC's report "Preliminary Study for the Metro of Curitiba" (1969, p. 1.7) says that planners at the Brookings Institution developed the idea of exclusive or segregated lanes for buses. The report, however, does not give more information in this regard. In the late 1960s the city of Liege (Belgium) implemented the first busway in Europe (Cracknell, Cornwell and Gardner, 1991?, p. 3). Grava (2003, p. 405) reports that the first busway (or rather High Occupancy Vehicle Lane) in the U.S. opened in 1969 in Washington D.C. and a second one in 1973 in the Los Angeles area.

[371] Netto (1991, p. 63).

[372] IPPUC (1972, p. 7); Dely (1990, p. 18); and Perón et al. (1975, p. 27-30); see also IPPUC (1969).

[373] Lerner (1997, p. 324).

[374] IPPUC (1969, ch. 2 and 4). Standard practice suggests that an origin-destination study should be carried out to determine travel patterns and plan the transportation system accordingly. To this day,

systems, particularly rail-based, had important flaws once in operation. First, the mass transit systems did not have a clear linkage to land-use considerations and therefore the systems did not necessarily accompany the city's growth. Second, the systems were designed for servicing high-density areas, both at the origin and destination, but could not serve well medium- and low-density areas. Overall, these systems were not flexible enough to adapt to the changing needs of a rapidly growing city as Curitiba.[375] Planners also concluded that a system based on only one type of technology would not be able to satisfy all the needs of a growing city and therefore a combination of technologies was needed.[376]

Any transportation system for Curitiba had to address these flaws and had to be within the guidelines established by the Director Plan, which proposed to increase the residential density along the structural axes. The Plan established that density was to be progressively lower the farther away from the structural axes. This meant that there had to be three types of services. First, mass-transit services for the high-density corridors on the structural axes. Second, a feeder service linking medium density areas with the service on the main corridors, and thirdly, a low-density area served by conventional buses.[377] After considering several alternatives—heavy rail, light rail, commuter rail, and buses on busways and on mixed traffic, among others—planners concluded that "in underdeveloped and developing countries, where urban activity patterns change rapidly, the adoption of rigid mass transit systems, with high investments, is an unsafe strategy."[378/379] The study, however, was not very fond of bus-based solutions either, despite the higher flexibility. The study did recognize that

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Curitiba does not have an origin-destination study. Planners have resorted instead to less detailed approaches such as traffic counts to determine demand, which do appear in this study (see IPPUC, 2969, ch. 5).

[375] IPPUC (1969, p. 1.4); and Perón et al. (1975, p. 27-30).

[376] IPPUC (1969, p. 4.6, 5.3).

[377] IPPUC (1969, p. 5.2-5.3); and Perón et al. (1975, p. 27-29). For a more general discussion of these issues see Transport Research Laboratory/Halcrow Fox and Associates (1989) and the recent update of this study HFA (2000).

[378] IPPUC (1969, p. 6.2); and Perón et al. (1975, p. 28-29).

[379] Notice that one outcome of Curitiba's planning was to integrate quite closely transport and land use planning. While planners criticized heavy rail for being too rigid, they adopted a flexible BRT system that helped downtown businesses and residents extend along specific axes and not in all directions.

bus-based alternatives had some potential, particularly if buses were given an exclusive lane.[380]

The planners therefore recommended against a heavy rail-based solution and opted for a gradual strategy with two stages. First, planners recommended the implementation of an express bus system that will use especially designed buses with wide doors, stations where passengers would pay before boarding the bus, and the stations would be farther apart than in the existing system. The intention was to have this system offer a higher quality service and in this way build demand to prepare the corridor for the second stage, the "Transit Expressway."[381] The study, however, is not fully convinced about the need for the first stage—but leaves the option open.[382] For the second and main stage, the plan proposed the construction of a "metro" network using a new but rather untested technology developed by Westinghouse called the "Transit Expressway." The Transit Expressway used small electric vehicles with rubber tires on concrete rails. An apparent advantage was that the technology in principle allowed the use of trains with up to 10 cars—almost 1,000 passengers per train. The proposed network was elevated for the most part with tunnels in downtown.[383] Apart from not being widely used, this technology had other problems such as not allowing an easy transfer of the cars from one track to another due to the use of concrete rails.[384] These limitations were some of the reasons why Lerner, the second author of the report after Euro Brandão, advocated the use of a bus-based solution first. That is why Lerner managed to introduce the bus-based component in the report.[385] Bus rapid transit, which was flexible and could be adapted to Curitiba's changing needs, begun to loom as the preferred option.

The role of planners

The Director Plan is a city law. Moreover, IPPUC, a capable planning agency, is in charge of the plan. Further, IPPUC's elite seems very receptive to planning. These

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[380] IPPUC (1969, p. 1.7, 4.3).
[381] IPPUC (1969, p. 6.4 and 8.3).
[382] See IPPUC (1969, ch. 9) where the intended schedule does not include the preliminary stage.
[383] IPPUC (1969, p. 4.5-4.6, and 6.1-6.5).
[384] Brandão (1991, p. 7-8).
[385] Brandão (1991, p. 7).

seem adequate conditions to allow the plan to be implemented. Yet the plan does not move forward. The main reason is that the time has not yet come for the plan. Mayor Sabbag does not believe in the plan and distrusts IPPUC. Sabbag puts the plan in the back burner. This situation illustrates the point that time matters in the planning process. Lerner and his fellow planners took advantage of the window of opportunity that Mayor Arzua opened when he announced that the Agache Plan needed some changes. By mobilizing and interacting with other actors, Lerner and his group were able to get a new plan, turn it into city law, and create IPPUC. The appointment of Sabbag closed that window of opportunity. The window lasted enough to allow many things to happen but not the actual implementation of the plan.

A second reason that explains why the plan was not implemented was that the plan was too general. While the lack of specific projects made the plan highly flexible, it also meant it was not possible to implement the guidelines in the plan. Further, a general plan cannot elicit reactions from affected parties or from politicians, who cannot easily see how the plan affects their interests. As a result of these two reasons, stakeholders and politicians were not interested in the plan. Therefore, planners could not interact with these actors and obtain valuable feedback that could have lead to building a coalition of support for the plan.

Planners then retreated to a corner where Mayor Sabbag did not look frequently to carry out two tasks. First, planners detailed the plan by producing other plans, such as the mass transit plan, and specific projects, some of which were somewhat ready for adoption.[386] Second, planners fought for the survival of IPPUC. To do so, they followed a two-pronged approach. First, planners tried to implement small parts of the plan, such as the ring road around downtown. Thanks to this attempt they realized that funding was going to be a critical issue. Indeed, the Preliminary Plan acknowledged that the plan's costs surpassed the city's financial capacity.[387] Second, and related, planners built an alliance between IPPUC and URBS, thanks to the way IPPUC planners solved the lack of funding. With allies it was more difficult for Mayor Sabbag to kill IPPUC. From their corner planners were

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[386] Coelho (1974, p. 79).
[387] Serete-Wilheim (1965, p. 197-8).

awaiting more receptive conditions. That is, a window of opportunity to carry out their plans.

Chapter 4

A First Window of Opportunity for Implementing the Director Plan

The appointment of Jaime Lerner as mayor of the City of Curitiba opened up the window of opportunity that the planners supporting the Director Plan were awaiting. In this chapter I describe the events that took place during Lerner's first term in office regarding the implementation of certain aspects of the Director Plan and mostly of the transport component—the express bus system. For Lerner and other influential planners I offer also a description of their views on the practice of planning for they illuminate why they were effective. I also offer two "intermezzos" on aspects that are not central to the story but that are nonetheless relevant. The uninterested reader can skip these "intermezzos" and will still be able to understand the rest.

The appointment of Jaime Lerner and his views on planning and politics

By 1971 Ney Braga was federal senator.[388] Braga visited IPPUC to inquire about Curitiba's situation and future. Lerner and other planners at IPPUC presented to Braga the Director Plan and several of the projects they were planning. Braga was impressed by the plans at IPPUC[389] and evidently saw leadership abilities in Lerner. Lerner, most probably, used his political abilities and his experience as former president of IPPUC to sell the idea that IPPUC had many projects almost ready for adoption and that the only impediment until then had been an administration that was not convinced of the plan.[390] Braga then told Lerner he would get him appointed mayor with Governor Haroldo León[391]—one thing Braga could do because he was the political boss of Paraná at the time.[392] Lerner was a "technician" and state governors throughout Brazil were looking precisely for "non-politicians" to appoint as mayors of

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[388] Braga (1990, p. 1); and Braga (1994, p. 34).
[389] Wilheim (1990, p. 31).
[390] Lerner (1978, p. 25 and 26).
[391] Wilheim (1990, p. 31).
[392] De Novaes (1997, p. 153); and Pereira (1997, p. 135-136). See also Braga (1997, p. 17-52).

state capitals. Governors were seeking to avoid immediate and future political competition from the mayors. As an architect, president of the Institute of Architects of Paraná, and former president of IPPUC[393] Lerner was an ideal candidate from this point of view. The governor accepted Braga's proposal and submitted Lerner's name to the state assembly for confirmation, which took place and Lerner became mayor for the period 1971-75.[394]

While some participants in the Curitiba story have called the appointment of Lerner a "happy event,"[395] it is possible to argue that it was also a political move by Braga to further his own political agenda. As the term of Mayor Sabbag was finishing, political figures in Paraná were looking for candidates to present to the recently appointed Governor León, and Braga found in Lerner—then only 33 years old[396]—his candidate. Lerner shared Braga's belief in planning as a tool for change and knew very well the Director Plan that Braga had sponsored when governor. Lerner, therefore, was Braga's best chance of seeing the plan implemented and of having someone of his own political group in the mayor's office.

Lerner took office on March 24th 1971 and began his tenure by doing three critical things. First, because Lerner knew both the Plan, and wanted to see the Plan carried out, he increased IPPUC's powers. From a primarily planning and research based agency, Lerner gave IPPUC powers to "coordinate, control, implement and manage virtually all the administration's reform programs."[397] Second, Lerner appointed people from IPPUC to head most of the other departments and line agencies in Curitiba's administration,[398] including URBS, which had been headed by Garcez for almost 10 years.[399] Lerner said, "my team was the team at IPPUC."[400] With this, planners who had been involved in the planning and detailing of the Director Plan were now in control of the agencies that had opposed the implementation of the Plan in the previous administration. Lerner's still nascent "political movement" was now in

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[393] Lerner (1978, p. 25 and 26).
[394] Lerner (1997, p. 321-22), and Interview by author with Jaime Lerner, April 2003.
[395] Netto (1994, p. 66); and F. Rischbieter (1990, p. 5-6).
[396] Menezes (2001, p. 90).
[397] Coelho (1974, p. 79).
[398] Netto (1991, p. 64); and Lerner (1997, p. 322).
[399] Coelho (1974, p. 79).

power and was extending its tentacles throughout the administration. Third, because Lerner knew the projects available at IPPUC, he organized an exhibition of large panels with some of the projects his administration would implement during its four-year tenure.[401]

Because of the role of Jaime Lerner in Curitiba's history it is important to mention some of his background as well as some of his views regarding planning and politics—views that certainly guided his actions as mayor and that influenced other members of his administration. Lerner is a civil engineer (1960) and an architect (1964) from the Federal University of Paraná. He also completed urban and regional planning studies in France, and did internships in Paris and Toulouse, where he participated in a comprehensive planning exercise.[402]

Lerner's views on planning and politics are, first, he believes that planning's main worth is when its recommendations are adopted—hence for him planning and implementation cannot be divorced. In an interview to a planning publication in 1978, Lerner said: "One thing is to plan for planning's sake. It is very different to plan for implementation. The proportions are completely different...A planner solves his/her problem: tries to do a good job, well supported in research, with solid analysis, with all the alternatives defined. That takes time! When you are in a country that has a population that expands rapidly, it is even criminal. I think it is even more criminal than not to plan! This is a selfish attitude, for personal satisfaction, ignoring the collective needs of the society."[403] Lerner's opinions had not changed much by 2003 when I interviewed him. He said: "You cannot know all the answers beforehand. Many [planners, mayors] miss the opportunity to do something because they want to have all the answers beforehand. Planning a city is a process that you can correct. The important thing is to do something and not continue just carrying out studies."[404] Lerner's view on planning and implementation does not mean that he believes that implementation ought to occur at any price or without careful planning or a political

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[400] Lerner (1997, p. 322).
[401] Ficinski (1990, p. 19-20).
[402] Biography of Jaime Lerner, No date, no author, mimeographed, Public Library of Paraná.
[403] Lerner (1978, p. 25, translation by author).
[404] Interview by author with Jaime Lerner, April 2003.

process—as the next point suggests. Rather, it is a call for planning that leads to changes through actions and a rejection of planning that just carries out studies but achieves little else.

Second, and related, Lerner seems to believe that planning and politics are inseparable and further, that political events can nourish a planning exercise. For this process to work, he believes that the politicians and planners ought to put forward a proposal—or place it in the political agenda of the city in the terms I've been using—and await the reaction from interested parties and the population at large. Again from the 1978 interview: "It is key to have a proposal and put it forward for discussion. That is when participation begins, when the reaction by the representatives of the community, by the press, by associations starts. All these reactions nourish the proposal, and can generate consensus or changes [to the proposal]. But it seems evident that you need a question to get an answer. It is through the question that participation starts and things are validated."[405] In an interview with me, he added in this regard: "You do not need to know everything, the population itself is going to correct you, because people react to a proposal—[therefore] it is key that people learn about the proposal."[406]

This view translates into a plan-making style whereby a proposal is first floated with the objective of getting reactions from stakeholders and the population at large. These reactions most probably imply adapting the proposal or even abandoning it altogether—as Lerner told me it had happened many times. If there is enough support and consensus, then the administration implements the proposal. Lerner offers an example of this: "I was not a politician, evidently. Politics caught up with me but I had a clear notion that things do not happen without one being accountable. You have to reveal your plans to the population and feel the reaction so that those plans are consolidated or modified. The Park Plan implemented in Curitiba was the result of modifications due to the reaction of the population. We had a beautiful project, one park every 500 meters. There was a sudden reaction from the population. "Instead of

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[405] Lerner (1978, p. 27, translation by author).
[406] Interview by author with Jaime Lerner, April 2003.

building [many parks] why don't you preserve the existing forests?" They were right, therein lies the origin of the Curitiba's development in green areas."[407]

Thirdly, Lerner thinks that the availability of funds should not determine whether a project should be undertaken or not. Lerner illustrates this by telling a story that took place when Ivo Arzua was mayor, circa 1964. "I went to talk to the head of the Planning Office. As he told me about the projects they had, he said: "See, it is impossible to do anything here in Curitiba because we do not even have the resources to purchase [the properties] and widen Marechal Deodoro St." This sentence stayed in my head: "It is impossible to do anything here in Curitiba." There was no idea how much can be done in a city. So many years passed and see what took place in Curitiba. It was impossible to do anything in Curitiba. Of course it was possible! The problem is not money. The problem is to establish a good equation."[408]

The equation Lerner refers to is what he calls the shared-responsibility equation. He told me: "You have to understand that every problem has a shared-responsibility equation. The quandary is not money. Sometimes the public sector has to contribute more, sometimes the private sector, sometimes the population. In a proposal that all understand as desirable, everyone will help."[409] Notice the importance of the previous point. Lerner, therefore, as a policymaker was receptive to bringing in the private sector when needed in order to make a policy feasible. The Integrated Transit Network and the Industrial City of Curitiba are examples of this.

Finally, Lerner recognizes the importance of showing results as a way of achieving legitimacy and gathering political support. When Lerner was appointed mayor for the first time, there was no guarantee that an appointee would fulfill his/her term in office. The governor could ask for the resignation of a mayor or the military in charge of the federal government could dismiss any governor or mayor—and even

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[407] Lerner (1997, p. 326, translation by author). Curitiba has one of the largest indices of green space per inhabitant in the world. The index went from 0.5 square meter per inhabitant to 52 (Rabinovitch (1992, p. 69). Part of the reason this jump was possible is what Lerner describes in the example in the paragraph. By preserving the forests around the city, Curitiba created a green area around part of its perimeter.

[408] Lerner (1997, p. 320).

[409] Interview by author with Jaime Lerner, April 2003.

legislators.[410] Further, Lerner's political situation was complex because he was an appointed mayor while the City Council was elected—the councilors had been elected in 1968 and new elections for council took place in 1972. Lerner therefore knew he could have strong opposition and that one solution was to show results quickly. Lerner constantly reminded his team of this political reality.[411] As Lerner said, "Every week they wanted to throw me out of office. There was always a political movement. What made me last in office? What made us last in office? I always told my team: "We have to do things quickly because we do not know how long we are going to be in the mayor's office." Moving quickly... gave us popular support."[412] Indeed, Lerner went through two changes of governor, and while they could have removed him they opted for leaving him in office.[413]

The need to show results promptly, together with Lerner's emphasis on doing, are probably some of the reasons why Lerner's administration focused on relatively small-scale projects—at least when compared to other Brazilian cities.[414] Lerner summarizes this by saying: "Curitiba went against all [the plans] that other cities [in Brazil] were implementing. If the other cities talked about doing and did projects for the automobile, we were doing projects for pedestrians. The other cities spoke about a metro for the year 2000, we were doing the transportation system that we could do at the time."[415] Lerner's view is therefore that plans and policies should not target a far away horizon. Instead, plans should target the problems that the current generation faces.[416] At IPPUC, for example, Lerner's view translated into plans and policies that "respect the scale of the city so that the result of the technical solutions is not even worse distortions from a human point of view than the original problems themselves."[417] And Carlos Ceneviva, later on president of IPPUC and head of URBS,

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[410] See Pimentel (1997, p. 64-68); and Bueno (2002, chapter 34).
[411] Lerner (1997, p. 321-23, translation by author).
[412] Lerner (1997, p. 322, translation by author).
[413] Gomes (1997, p. 104, 115-116). The military asked governor Haroldo Leon to resign. The deputy governor, Pedro Parigot de Souza, took office, but passed away soon after. Governor Emilio Hoffman Gomes was appointed by the military and confirmed by Assembly of Paraná. Gomes took office on August 13th, 1973.
[414] See Ceneviva (1999); and Kruckemeyer (1999) who also highlight Curitiba small-scale approach.
[415] Lerner (1997, p. 326, translation by author).
[416] Lerner (1978, p. 27).
[417] IPPUC (1975a, p. 2).

said that the ideas of Lerner were to "find our own solutions, local and simple solutions, never thought of before...The idea was to figure out our own solutions at a low cost."[418]

Lerner's views of planning and politics contrast with the views of planners and politicians in other cities in Brazil and with those of the military then in office at the Federal Level. For one, while cities in Brazil were undertaking large-scale projects—highways and rail systems—Curitiba was implementing bus rapid transit and streets for pedestrians. For another, Lerner advocated exposing a policy proposal to the people to get feedback at a time when the military regime had become a fully-fledged dictatorship—in 1968 the military had temporarily closed congress and several state assemblies.[419] Yet Lerner does not seem to have been the only politician in Paraná who valued a rather democratic policy making process. For example, Paraná's assembly was not closed in 1968 thanks to the successful lobbying of then Governor Pimentel. Governor Pimentel convinced the military president to go against the advice of his Minister of Justice, Gama e Silva, who had engineered the measure to close down congress and other legislative bodies.[420] Gama e Silva had said then "ruling a state is much easier without the state assembly."[421] Pimentel argued that Gama e Silva's opinion was wrong: "It is much easier to govern [a state] with the Assembly. Because any error, any mistake is corrected by the control exerted by the Assembly."[422]

An initial set of modifications to the plans

The appointment of Jaime Lerner in 1971 to the Mayor's Office opened a window of opportunity for the eventual implementation of the Director Plan and the transport plans, amongst other proposals at IPPUC. The possibility—albeit still remote—that implementation was possible unleashed social, economic, and political forces that the planners had not faced before. Planner Rafael Dely—who had joined IPPUC in

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[418] Ceneviva (1990, p. 34).
[419] See Bueno (2002, ch. 34). The measure that closed congress and allowed the military to close state assemblies was known as Ato Institucional (Institutional Act) No. 5.
[420] Pimentel (1997, p. 64-66).
[421] Pimentel (1997, p. 66, translation by author).
[422] Pimentel (1997, p. 66, translation by author).

1968[423]—eloquently summarizes this by saying: "What troubled us [the planners at IPPUC] the most was the question: What is a plan on paper and what is a plan that can be implemented? Things completely change in the second part because it is then necessary to take into account economic, political, and operational conditions."[424] Dely added: "The proximity of implementation generated realism."[425] Curitiba, however, had both a quite flexible Director Plan and planners who understood how to take advantage of that flexibility. Lubomir Ficinski, head of IPPUC during the first years of the Lerner administration and part of the original group that lobbied for a plan in 1964, argued that the advantage of the Plan was that it offered only guidelines and not rigid proposals. "We the planners had to detail the plan in real time."[426]

Probably the main element of the Director Plan was the structural axes—one from downtown toward the northeast of the city and the other toward the southeast—along which population growth was to concentrate. As seen, Curitiba's Mass Transit Plan called for building an initial stage using buses followed by a relatively untested and risky "Transit Expressway." Lerner favored the bus option and not surprisingly planners focused on this first stage. Planners pretty much abandoned for good the "Transit Expressway" alternative.[427] The bus option implied adding two exclusive lanes for buses in the median of each structural axis. The structural axes, therefore, reached a width of 60 meters (180 ft.). The construction of the axes now entailed even more property purchases by the city government, because existing roads were 30 meters wide or less.[428] If the structural axes were implemented as the transportation plan directed, the city administration would have had to dislocate thousands of residents and spend millions in property takings. Planners were worried about these social impacts. "Even if the city had the money, it was not fair in terms of urban memory and culture to bulldoze all that the city had built over time, placing instead an

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[423] Dely (1990, p. 11).
[424] Dely (1990, p. 13, translation by author).
[425] Interview by author with Rafael Dely, April 2003.
[426] Interview by author with Lubomir Ficinski, April 2003.
[427] See IPPUC (1972).
[428] The original Director Plan established that the structural axes were to be 30 meters wide (PMC, 1966, p. 5). When the bus lanes are added, the stations, and the sidewalks, the total width required easily surpasses this figure and can even reach 60 m., depending on the design.

incredibly wide avenue without urban scale."[429] In addition, because of their huge scale, the structural axes would not promote pedestrian use. Overall, the planners judged the transport plan as something bad for the city.[430] Mayor Lerner, in turn, was also worried about the political consequences of adopting the structural axes as they were planned and did not approve them.

If the structural axes were to be implemented and if the emphasis on mass transit was to be kept, it was necessary to accommodate several lanes for general traffic and two lanes for the buses, plus space for the bus stops and pedestrian traffic.[431] Dely was the planner who came up with the solution to this problem early in 1972, a solution dubbed the *trinary* road system.[432] Instead of building one very wide road, Dely proposed to build three narrower but parallel roads each with a different function. The central road would have the exclusive lanes for buses, the bus stops and wide sidewalks, together with two lanes for general traffic in each direction and some parking spaces. These lanes for general traffic would target slow-moving traffic. Overall, the design sought to foster retail and business development along this road, by allowing easy access from both car and bus riders. The two other roads in the *trinary* scheme would target high-speed traffic, in particular cars and trucks that wanted to cover longer distances. At one block distance from the central road, each of the high-speed roads was to have three lanes and be one-way streets.[433] Dely's proposal sought to connect the existing roads that were already somewhat wide—and hence could handle larger volumes of traffic—through minor land takings and without any major urban surgery (Figure 5).[434]

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[429] Dely (1990, p. 14, translation by author).
[430] Interview by author with Rafael Dely, April 2003.
[431] Kochanny (1991, p. 271).
[432] Ceneviva (1990, p. 29); Dely (1990, p. 14); interview by author with Lubomir Ficinski, April, 2004; and interview by author with Rafael Dely, April 2003 and February 2004.
[433] Dely (1990, p. 14-15); and interview by author with Rafael Dely, April 2003.
[434] Barão (1991, p. 230), Ceneviva (1999, p. 183-4), and interview by author with Carlos Ceneviva, April 2002. According to Ceneviva (1999, p. 184-6) the central road in the *trinary* road is 30 meters wide, including sidewalks, general traffic lanes, and busway lanes.

Figure 5. An structural axes and the *trinary* road system solution

Notice the buses in the busway at the center of the *trinary* road system.
Source: IPPUC.

The planning community at IPPUC, after some discussions, accepted Dely's proposal, for it addressed most of the planners' main concerns. Indeed, the amount of properties the city had to purchase was minimal, and thus the proposal for the *trinary* road system preserved Curitiba's urban scale and memory.[435] The adoption of the structural axes—the main element of the Director Plan because the axes would guide urban growth—seemed possible now. Mayor Lerner, however, was not fully convinced and it took Dely and other planners two weeks of daily discussions to show Lerner that the *trinary* road system was the solution they were looking for.[436]

Dely's approach to planning probably helped him convince Lerner for Dely believes that a good plan is an idea that is feasible and that can become operational. Regarding feasibility, Dely, an architect, speaks of four "subjective" values: urban scale, cityscape, urban animation, and urban memory. A plan is feasible if it enhances or preserves these subjective values of a city, for example by motivating people to use the streets (animation), and by creating a cityscape such that it does not disrupt the existing urban scale and preserves the urban memory. These "subjective" values, according to Dely, are complemented by "objective" values such as the buses and the

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[435] Dely (1990, p. 15).
[436] Interview by author with Dúlcia Auríquio, April, 2003.

facilities that constitute a good transportation system. For the Dely the "planner that only works with "objective" values runs into trouble because the population does not create linkages to the "subjective" values of the city."[437] Hence for a project to be feasible and eventually successful it has to be planned bearing in mind both objective and "subjective" values.[438]

Regarding operations, a feasible plan is one that can operate with existing technology, or with some innovation, and at a reasonable cost.[439] Dely argues that if one of these parts to a good plan—idea, feasibility, and capacity to be operated—does not materialize then implementation is impossible and if implemented failure is around the corner.[440] Dely then says: "A friend of mine said "I have a good idea but it is not feasible," to which I replied "then it is not a good idea at all.""[441] Dely also believes that planning has to show results by getting projects implemented. His call is not necessarily for mega-projects but rather for interventions along his idea of "subjective" values. The need to have something done is to obtain the population's response and with this feedback figure out adaptations and improvements. Dely calls this "planning through successive approximations," and uses the *trinary* road system as a critical example of his overall approach.

Dely showed Lerner how his proposal for the *trinary* road system was feasible and could become operational. Given Lerner's like of simplicity and desire to show results, it is not surprising that Dely's solution eventually convinced him. Notice, however, how Dely's conception of feasibility even if defined in architectural terms has clear political ramifications that appeal to a politician in office. A proposal that is

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[437] Interviews by author with Rafael Dely, April, 2003 and February, 2004.
[438] Dely gave here the example of Paris where buildings blend stores in the first level, offices in the next couple of floors, and then apartments. According to Dely that is why streets in Paris are usually crowed with people and therefore the city is animated. Dely's view of planning, in particular his idea of animation, had an important impact in Curitiba. Specifically, IPPUC under Dely carried out a study on the use of public spaces in Curitiba and found that public space use was low. IPPUC recommended the creation of Cultural Foundation of Curitiba, an idea that was accepted and implemented by Lerner (Paciornik (1991, p. 163-4)). Lidia Dely (1991, p. 176) says in this regard "IPPUC was the planning agency, URBS was the executive agency that built public works. And the Cultural Foundation of Curitiba brought life to these public works. For example, all the parks built had an animation project." In this regard, Kruckemeyer (1999, p. 196) writes about Curitiba: "The stores and markets in downtown Curitiba are thriving. Because there is so much activity, one feels safe, day and night."
[439] Interview by author with Rafael Dely, April 2003.
[440] Dely (1990, p. 13).

feasible along Dely's subjective values is one that tends to eliminate negative impacts and quite the contrary that tries to create positive ones. Therefore, the chances that promoters of a feasible plan can gather political support and minimize opposition are larger. In this regard, contrast the feasibility of the structural axis as contained in the transportation plans and the *trinary* road system and the political ramifications of each. Clearly, the *trinary* road proposal had fewer impacts and was politically appealing. On the operational side, at least at this point, the *trinary* road concept did not entail major changes to the operations of the buses in Curitiba—later on planners introduced important changes in this front. Lerner was eventually convinced and gave orders to detail the project so that construction could begin in 1972 and would open by 1974.[442]

Dely was also the planner who came up with a second important change to the guidelines contained in the Director Plan. The Plan called for concentrating business activity in the existing downtown. The downtown area could expand in a limited area bounded by the two structural axes[443]—for industrial activity the plan contemplated the creation of an industrial park known today as *Cidade Industrial de Curitiba*. Dely and other planners argued that constraining downtown would eventually overload the traffic system in the downtown area. Dely then suggested allowing the business activity to grow along the structural axes. The original plan allowed only housing to concentrate along the axes, which would be a linkage between the main downtown and a series of secondary centers. Now the main business district would grow along the axes and eventually reach the secondary centers. This proposal had additional advantages from a transport perspective. At least in principle, housing would be closer to the workplace thus reducing average trip length.[444] Second, because of the mixed land use, buildings would both generate and attract transit trips, hence having a fairly balanced two-way flow. This helps the financial health of any public transit

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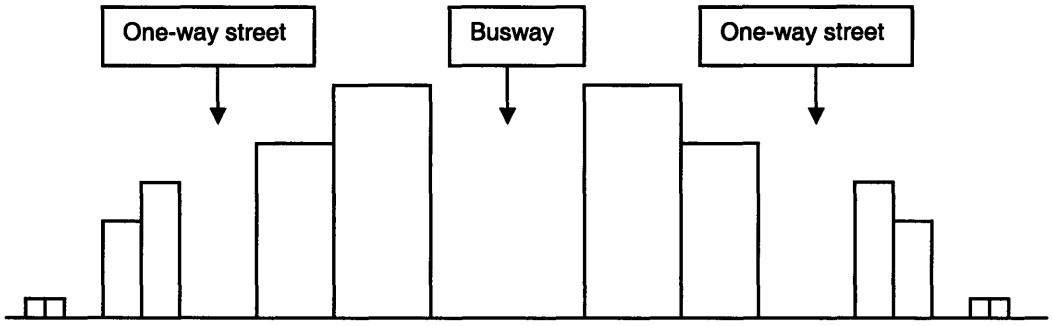
[441] Interview by author with Rafael Dely, April 2003.
[442] Brasileiro (1999, p. 479).
[443] Akel (1991, p. 211).
[444] Dely (1990, p. 13-14).

system.[445] In short, Curitiba's central business district was to grow linearly along the structural axes and not in all directions as it does in most cities.[446]

Finally, Dely and planners at IPPUC realized that incentives were needed to have developers build along the structural axes. The solution was to allow a built area to plot area ratio higher than in the downtown area, thus increasing the profitability of building in these corridors.[447] This served to integrate the transportation system with the land-use scheme because developers had the aforementioned incentives and residents were attracted to live by a high-quality transit system. In the end, the zoning would allow higher densities the closer to the busway—the central road in the three-road system—because it is designed to handle large volumes of passengers. Hence the block between the busway and each of the one-way streets would have the higher densities and mixed land uses (Figure 6). After each of the one-way streets density decreases and built space is mostly residential.[448]

Figure 6. Distribution of densities along the *trinary roads* in Curitiba



Source: author based on Cervero (1998, p. 274).

[445] Cervero (1998, p. 273-4).
[446] Ceneviva (1999, p. 184). For a description of the *trinary* axes concept as it was finally adopted, including land use regulations, see IPPUC (1989, p. 26-28).
[447] Dely (1990, p. 15).
[448] Cervero (1998, p. 273-4); Cervero (1998, p. 285-286) also reports that the dwellers in the higher density areas are the ones that use the least the bus-based transit system. This is because high-income people are the ones who can afford to live in the high-rises along the structural axes. For one, the higher a building the higher the cost of construction and therefore the least affordable to poor people. Poor people can also live in high-density areas but not high-rises (see Jaramillo, 1994). For another, market conditions can place a premium on living in an area readily accessible to downtown as it happens in Curitiba (Cervero (1998, p. 285). And higher-income people are the ones with higher car-ownership rates.

Lerner decided in favor of all of Dely's proposals, which implied significant changes to the 1966 Director Plan.[449] The Lerner administration submitted a proposal to the City Council to amend the Director Plan particularly regarding zoning rules. In 1972 the City Council approved city law 4,199 which enacted new zoning regulations and entirely revoked the 37 articles on zoning in the Director Plan[450]—a law that had in total 65 articles.[451] The amended Plan now included the *trinary* road concept and the accompanying land use regulations that made feasible the structural axes.[452] Lerner appointed Dely as IPPUC's president after Ficinski resigned late in 1972. Dely was later on in charge of overseeing the implementation of the *trinary* system and the busways, together with a new bus service dubbed the express bus. Dely remained president of IPPUC until 1975, when Mayor Saul Raiz was appointed and Ficinski took over again a president of IPPUC.

Putting the Plan in the Agenda: the pedestrianization of downtown Curitiba

In spite of the planners being now in office, a significant amount of mostly political work laid ahead in order to get the Director Plan and its projects adopted. Lerner knew he had to start with something that could show results and help gather support for his overall objective of transforming Curitiba's physical layout through the implementation of the Director Plan. Indeed, in his inauguration speech, Lerner had argued that downtown Curitiba ought to be given back to pedestrians; cars should be displaced to other roads.[453]

The policy Lerner chose was therefore turning one of Curitiba's main downtown avenues—the XV of November Street—into a pedestrian-only promenade, as the Director Plan instructed. This move, however, had a large political risk embedded in it, because no other city in Brazil had done this before and therefore neither the administration nor the neighboring businesses could point to a successful

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[449] Barão (1991, p. 230).
[450] The Director Plan is city Law 2828 of 1966.
[451] Menezes (2001, p. 101-103).
[452] Coelho (1975, p. 120-124).
[453] Lerner (1971, p. 9-10).

precedent.[454] People would find it difficult to relate to the abstract idea of pedestrianizing one of Curitiba's main streets. On the technical side the situation was different because Wilheim—the father of the idea of a pedestrianized downtown—had noticed that it was possible to handle the traffic in downtown Curitiba with that street closed to traffic. Wilheim also noticed that the many pedestrians used XV of November Street and that pedestrianizing would only reinforce its character.[455] In spite of IPPUC's solid library documenting the success of similar interventions in Europe, the planners could not be fully assured that it would benefit the business sector.[456]

Lerner and his team established a strategy to implement the pedestrianization, which had been designed by architect Abrão Assad.[457] First, they approached the retail sector, presented the idea, seeking feedback and support for the idea.[458] The retail sector, however, was reluctant to support a pedestrian only street for it feared sales would go down.[459] Second, IPPUC launched a media campaign to explain the idea and its benefits. As part of this campaign, Lerner and Wilheim figured out a way to organize an event to call the attention of the local press. Wilheim was Brazil's representative to the International Architect Union (IAU), entity that wanted to hold a meeting in Brazil. Wilheim managed to convince the organizers to hold the meeting in Curitiba. Lerner and Wilheim agreed to temporarily close XV of November Street to car traffic as a way to honor the IAU members visiting the city. Wilheim, in turn, lobbied the visiting architects to issue statements praising the value of the exercise

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[454] Lunardi (1990, p. 4).
[455] Wilheim (1990, p. 30). Atherino (1991, p. 16) corroborates that XV of November street was heavily used by pedestrians before it was pedestrianized.
[456] Lunardi (1990, p. 4); and Dely (1990, p. 15).
[457] Assad (1990, p. 27-28).
[458] Santoro (no date, p. 25).
[459] Brasileiro (1999, p. 477). Even in Europe where the experience with turning streets into pedestrian-only facilities is broad, the business sector can strongly oppose a measure like this one. Flyvbjerg (1998) documented one such experience in Aalborg (Denmark). The business sector thought that buyers arrived by car to shopped while planners argued they shopped on foot. The planners did surveys to document their claims. A business association responded by hiring its own survey, which interestingly arrived at opposite conclusions. After a lengthy political battle, the street was pedestrianized and the sales by retail increased as a result.

and its benefits. The press then said that pedestrian-only street was an idea praised by the most respectable architects in the World.[460]

But this did not change the opinion of most of the retailers on XV Street who still opposed the measure.[461] Lerner had a third part to the strategy. Once he realized the project was too controversial, he concluded that an example was needed to show how the pedestrianization worked and its benefits. He therefore decided to build a 100-meter leg.[462] For a year Lerner had the Department of Public Works figure out a way to build this short stretch of the pedestrian-only project in less than 48 hours. This implied preparing all the necessary aspects of the project: lampposts, benches, planters, etc. So that no party could resort to filing a lawsuit with a judge and halt construction, the "operation" started on the Friday night of a three-day weekend in April 1972.[463] By Monday this one-block stretch was done.[464] Lerner explains "If the project did not work, there would be no problem. It was a simple project, it could be reverted to car use, but it was important that the population could see [a pedestrian street] in practice."[465] Initially, retailers tried to petition Governor Parigot to fire Lerner, but the governor told them he would meet with them in 30 days. This meeting, however, never took place,[466] because in less than a month the project proved to be a success as pedestrians and shoppers flocked to the new street, thus showing retailers that the measure worked.[467] Given this, retailers and pedestrians filed petitions to extend the street area turned over to pedestrians and the city administration eventually pedestrianized 49 blocks (Figure 7).[468] The first intervention using the

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[460] Wilheim (1990, p. 34).
[461] XV of November Street is known in Curitiba as Rua XV or XV street.
[462] Lerner (1997, p. 395).
[463] Interview by author with Carlos Ceneviva May 2002.
[464] F. Rischbieter (1990, p. 9); Dely (1990, p. 9).
[465] Lerner (1997, p. 395).
[466] Interview by author with Lubomir Ficinski, April 2003.
[467] Lerner (1997, p. 395); F. Rischbieter (1990, p. 9); Dely (1990, p. 9); Brasileiro (1999, p. 477). While pedestrian traffic increased, people tended to walk on the old sidewalk forgetting the newly pedestrianized road. Planners at IPPUC figured that they had to create activities to have the people get used to the new pedestrian areas. One such activity was providing paper and watercolors to children who would paint in the middle of the pedestrian-only street. It took close to two years of activities like this to convince the majority of the people that they could walk in any part of the pedestrian street and not only on the sidewalks (see Dely (1991, p. 176) and Paciornik (1991, p. 163 and 165-66)).
[468] Cervero (1995, p. 271).

guidelines in the Director Plan had yielded a resounding success. The Director Plan and its components were in the political agenda of the City of Curitiba.

The role of planners

The appointment of Lerner as mayor of Curitiba opened the window of opportunity for the Director Plan. Before the window opened planners were crafting proposals, such as the Mass Transit Plan. But planners were not interacting much with other actors such as the mayor let alone stakeholders. Mayor Sabbag, for example, was paying attention to other proposals (mostly in sanitation) but not to the Director Plan. When the window of opportunity opened, planners began to interact with Mayor Lerner. The original plan began to change. Lerner was not willing to raze thousands of houses in order to implement the key element of the Director Plan—the structural axes. Dely discovered the solution in the form of the *trinary* road system, which minimizes the impact of adopting the axes. Dely added another change regarding land use—a change that would tighten the link between transportation and land use. The plan changed as a result of the window of opportunity because of political forces that materialize only during the window. Before the window, planners might have changed the plan by adding elements, but they lacked the political context given by the window of opportunity.

Figure 7. XV of November St. in 2003.

Source: Author.

The implementation of the pedestrian-only street in downtown Curitiba extended the scope of planners' interaction beyond Mayor Lerner. Planners, politicians, and stakeholders had to interact. The planners talked to the retail business and sought feedback. In part because the idea was so new at the time, planners found it difficult to explain the idea. This difficulty complicated planners' effort at persuading the key stakeholders. Thanks to the interaction, however, the original project changed because otherwise it was politically infeasible. Further, risk was too high for Lerner who could end up loosing his job. The project did not change, however, in the broad objective of pedestrianizing the XV of November Street but on *how* the pedestrianization was going to be implemented. Lerner figured a demonstration segment was needed so that people could understand the project and then give useful feedback. Risk went down for Lerner and for all other parties. If the demonstration segment did not work it could be torn down. Lerner's bet worked out and the project was a success. Lerner gained significant political capital as a result.

In sum, during the window of opportunity planners interact with politicians and stakeholders. Planners then become problem solvers but within a political context defined by the interaction. Plans change as a result. Thanks to the interaction the plan or project can enter the political agenda of the city. Coupled to Lerner's marketing ability, people started talking about the plan and on how planning was possible in

Curitiba. But stakeholders were still unable to voice a meaningful response to the abstract concept of "a plan." The adoption of the Director Plan therefore proceeded through specific projects.

Intermezzo 1: The *Rodoferroviaria* experience

Before continuing with the story underlying the planning of the bus rapid transit system it is important to analyze two events. First, the opening of the *Rodoferroviaria* station—the design of which had led to the resignation of Lerner as president of IPPUC in 1969—and second the decision to implement the Industrial City of Curitiba. These events are important because they are one more example of how the Lerner administration would have to assemble a coalition of support and negotiate with stakeholders in order to achieve its goals. Further, the Industrial City of Curitiba in particular shows also that the Lerner administration is pro-growth and pro-business and that many of its future actions in urban transportation are also framed by that logic. I treat here the *Rodoferroviaria* experience and in the next section the Industrial City story.

Even if Lerner did not like the designs for the *Rodoferroviaria* station—a station for both inter-city buses and trains—he could not demolish it and was responsible for opening it to the public. Lerner in fact, had to go to Rio de Janeiro to convince the Railways' central administration of allowing the construction of the station to proceed.[469] IPPUC and URBS were in charge of putting the *Rodoferroviaria* in operation and hired Cassio Taniguchi—an electronics engineer with graduate work in economic development planning—to head this effort. For eight months Taniguchi directed the negotiations with the different stakeholders that were affected by the new station—mainly bus companies and retail owners. Taniguchi was in constant contact with Lerner and planners at IPPUC during this process. By the end of this effort, the Rodoferroviaria was opened and passengers, bus companies, and retail operators liked the final outcome.[470] In fact, thanks to the high quality work in some areas, the station became a showcase example among Brazilian cities.[471]

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[469] Brandão (1991, p. 4-5).
[470] Taniguchi (1990, p. 49-50).
[471] Coelho (1991, p. 200).

Lerner liked Taniguchi's work and appointed him to head URBS, an agency that was the "doer" agency—in charge of building infrastructure and the Industrial City of Curitiba—while IPPUC was responsible for "planning."[472] Taniguchi summarizes his role and URBS': "I was more involved with the execution of things, because there was a group that had ideas but that could not transform them into facts, into reality. A lot of things from Jaime's [Lerner] first term in office, in terms of financing and securing funds, were done by our people [at URBS]. URBS at that time raised or helped raise a series of financial resources from BNH, Banco do Brasil, and from organizations that could offer some sort of financial cooperation [to Curitiba]."[473] From URBS, Taniguchi also played a role in the implementation of the *trinary* axes and the express bus service. Taniguchi later on would head IPPUC during Lerner's second and third administration and would be elected mayor of Curitiba at the end of the 1990s (see Table 6 below).

In conclusion, Taniguchi exemplifies the "planner" who possesses executive ability to materialize other planners' plans. That is, Taniguchi is a good manager, able to find funds, and able to direct a complex organization in charge of contracting out the construction services needed to build the facilities specified in the plans. The implementation of the Director Plan could not have been possible in the absence of a capable organization such as URBS. Having only capable planning organizations, such as IPPUC, leaves the planning function orphan for these agencies usually do not have the capacity to carry out most of the tasks involved in the implementation of their plans. In the division of labor among agencies adopted in Curitiba, IPPUC was the planning, with capacity to oversee the implementation, and URBS was the main "doer" agency.[474] Bogotá adopted a similar division of labor for the implementation of the TransMilenio project.

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[472] Taniguchi (1990, p. 49-50).
[473] Taniguchi (1990, p. 51, translation by author). BNH is *Banco Nacional de Habitação* or National Housing Bank.
[474] For an similar argument see Hayakawa (1991, p. 222-223).

Intermezzo 2: The Industrial City of Curitiba

The second event to analyze is the adoption of the Industrial City of Curitiba and its aftermath. In the early 1960s, the intellectual and business elite in Paraná and Curitiba was concerned about the economic future of the city and the state. Paraná's economy was mostly agricultural and Curitiba had little industry. The elite was worried that the state had to "import" its industrial consumption from other states in Brazil. The elite was also worried that agriculture—most importantly coffee—would not be able to sustain the state's population. The elite concluded, therefore, that industrial development had to take place. In 1965, some time after the Curitiba of Tomorrow Seminar, the economic elite organized the Industrial Development Seminar of Curitiba. This seminar gathered members of the city and state government as well as local economic actors to discuss alternatives for promoting Curitiba's industrialization. Among the conclusions was first the need to strengthen the government agencies in charge of promoting economic development. Second, the need to create policies that would attract investors, such as promoting the advantages of the city and giving tax brakes and other financial incentives.[475] While the Master Plan incorporated an area for industrial development, the city government under Omar Sabbag did not undertake the implementation of any industrial policy, but it did expand the area devoted to industry in the zoning legislation of 1969.[476]

Lerner in his inaugural address brought attention to the topic of economic development and industrialization. Lerner said back then: "the Municipality must act in a more dynamic and efficient manner at attracting industries, through the definition of a policy that provides incentives and through the consolidation of production centers." He then criticized the problems emerging from Brazil's typical urbanization pattern in which the population cannot find decent jobs—i.e. industrial jobs. Lerner concluded by saying: "Industrialization is the main accelerator of our development. And we need to walk fast."[477] With this speech, Lerner opened a window of opportunity for policies that promoted industrialization.

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[475] De Oliveira (2000, p. 124-126); See also Taniguchi (1990, p. 50).
[476] Coelho (1975, p. 123).
[477] All quotes from Lerner (1971, p. 6, translation by author).

In October 1971, seven months into Lerner's first administration, business and industrial associations organized the Economic Development Conference of Curitiba. The objective was to continue Lerner's initial effort of putting industrialization in the political agenda. The main conclusion of the event was that economic development should be promoted along the following lines. First, state economic development banks should attract new industries to Curitiba through measures such as providing subsidized capital to these firms—for example by purchasing the firms' stock. Second, the creation of specialized agencies that would advice firms regarding their decision to update technology or to merge with other industries. Finally, Curitiba should have specific areas for the exclusive use by industries—what eventually became the Industrial City of Curitiba.[478/479]

The strategy used by the economic elite to put economic development on the agenda seemed to have worked. A first result was the creation of the Council of Financial Policy of the City of Curitiba, whose objective was to help Mayor Lerner design policies to attract funds to finance economic development policies.[480] Second, Lerner seized on the momentum created by the seminar and went in February of 1972 to Karlos Rischbieter, now president of the Economic Development Bank of Paraná, BADEP—formerly known as CODEPAR—to ask for support for an industrial city within Curitiba.[481] BADEP already had programs to attract industry, but the missing element was physical—an issue solved precisely by Lerner's proposal.[482] Third, the changes to the zoning law, law 4,199 of 1972 discussed above, included a specific mention for the first time of the Industrial City of Curitiba[483]—CIC for its name in Portuguese. The CIC was to cover almost 10% of the Curitiba's area—

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[478] De Oliveira (2000, p. 128-9).
[479] This sounds very similar to what States, counties, and cities still do in the U.S. to foster economic development within their jurisdictions. See Blakely and Bradshaw (2002); and Eisinger (1988).
[480] De Oliveira (2000, p. 128-9).
[481] Lerner originally called it an industrial park, but when he went to talk to Karlos Rischbieter at BADEP, Rischbieter said that name was passé (Rischbieter (1990, p. 19). Lerner then had the idea to build a beautiful industrial park or rather a garden and from there came the idea of calling it Industrial City or *Cidade Industrial de Curitiba* in Portuguese (Rischbieter (1990, p. 15). Taniguichi (1992 p. 24) offers a similar account.
[482] K. Rischbieter (1991, p. 15).
[483] De Oliveira (2000, p. 129).

approximately 43 square kilometers to the southwest of downtown.[484] Fourth, IPPUC and URBS hired Jorge Wilheim, the author of the original Director Plan, to develop the plan for the CIC.[485] Wilheim's original plan contemplated a single access to the CIC and a self-contained road system within the industrial city. Dely, president of IPPUC, thought a better approach was to have several points of access,[486] ultimately to have the industrial area integrated to the city and not as a functionally separate element.[487] Taniguchi remarks regarding this situation: "...once again the original project was modified, by giving it a more humane conception..."[488]

In January of 1973 Lerner signed the decree that condemned the land—mostly rural and underdeveloped—for the CIC allowing the city to purchase it.[489] Also in this year the state and city government signed an agreement splitting the responsibilities for the implementation of the CIC.[490] Curitiba's government was in charge, through URBS, of planning and developing the site, providing a basic road network, purchasing the land, and selling it—at a discount—to the interested industries. The state government had to supply water, electricity, and phone infrastructure. More important, the state government through its development bank had to provide financing for the establishment or expansion of industries. Secondly, the state had to offer tax exemptions and postponements and even working capital in the form of shares to attract new industries.[491] Clearly, the strategy was to offer a good package that included disguised subsidies to attract firms to the CIC.

Hence the economic elite, the state of Paraná, and the city of Curitiba had formed an alliance—or growth coalition—to promote industrialization mostly by attracting new industries to Curitiba. Actors in all three levels mobilized to support this effort. D'Aquino, who coordinated the implementation of the CIC at URBS in 1973, summarizes the situation by saying:

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[484] D'Aquino (1991, p. 297). 43 square kilometers are equivalent to 16.8 square miles. The total area of Curitiba is 432 square kilometers or 169 sq. mi. (Nieri, 1999, p. 1).
[485] Taniguchi (1990, p. 50); de Oliveira (2000, p. 129); and Wilheim (1990, p. 32).
[486] Taniguchi (1990, p. 50).
[487] Dely (1990, p. 16).
[488] Taniguchi (1990, p. 50).
[489] D'Aquino (1991, p. 297); and Taniguchi (1990, p. 51).
[490] De Oliveira (2000, p. 129-130); and Cordeiro (1992, p. 70-71).
[491] De Oliveira (2000, p. 129-130); See also K. Rischbieter (1990, p. 19-21).

> At the time, the Brazilian [economic] miracle was taking place.[492] Brazil was experiencing the arrival of foreign capital at an important pace. And all the states were competing for these projects. And Paraná had nothing to offer. The Industrial City project was therefore the only thing we had to offer at the time. All the agencies were involved in promoting it. The president of BADEP in 1973, Karlos Rischbieter, was a real traveling salesman...We made contact with Bosch [an industrial firm]. We learned that Bosch was studying alternative areas for establishing a new facility in Brazil. He telephoned Bosch and then he went there to talk to the directors of the company. He went to "sell" Curitiba, to sell Paraná. Today when you hear that Bosch is in Curitiba, generating five thousand jobs, it is important to know that that was the result of the hard work of a few people. That same work to search, to contact, took place with several firms.[493]

Karlos Rischbieter was indeed a key player in this effort to attract industries to the CIC—among others he helped convince Bosch, Siemens, Philip Morris, and Volvo. Rischbieter reasoned that all the cities in Brazil had essentially the same things to offer in terms of financing, more so given that the main force behind attracting foreign direct investment was the Brazilian economic miracle.[494] What differentiated Curitiba was "the combination of a city that was turning itself into "livable," an industrial city and a series of mechanisms"[495] whereby the state of Paraná invested in the company's stock to provide low-cost access to capital. The agreement established that after several years the firm could repurchase the shares from the state.[496] Rischbieter, however, was clear that if the only reason why a company located in Paraná was the subsidies, then it was not going to be sustainable once these incentives came to an end. Location and other factors had to play a major role in this decision.[497]

Key to the effort to attract industries was to let investors know about Curitiba's plan—something that probably started Curitiba's strong tradition at marketing a positive image full of achievements. Lerner and his team, for example, would make presentations to industrial firms highlighting not only the advantages of locating in the

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[492] During the Brazilian Miracle the rate of growth of the Brazilian economy exceeded that of all countries in Latin America, except Costa Rica (Thorp (1998, p. 338); and Cardoso and Helwege (1992, p. 25).
[493] D'Aquino (1991, p. 299, translation by author).
[494] K. Rischbieter (1990, p. 19).
[495] K. Rischbieter (1990, p. 20).
[496] K. Rischbieter (1990, p. 20).
[497] D'Aquino (1991, p. 302).

CIC but also the changes that were taking place in Curitiba that would improve the quality of life.[498] Further, they lobbied media commentators to make "glowing write-ups about the city."[499] BADEP and URBS scheduled missions in Europe, the United States, and Japan to promote the investment opportunities at the CIC.[500] Rischbieter and Ney Braga and other members of the state government went on to occupy important positions at the national level[501] from which they promoted Curitiba and from there contributed to the successful implementation of the CIC.[502] Rischbieter, moreover, helped promote Curitiba through friends at the most important newspapers in São Paulo, O Globo, and Folha do São Paulo who wrote positive articles on Curitiba. The effort was so successful that in São Paulo—the industrial powerhouse of Brazil—the governor complained to Rischbieter that Curitiba was "stealing" their industries.[503]

URBS, headed by Cassio Taniguchi, was in charge of the construction of the basic infrastructure for the CIC. To finance these works URBS and the city of Curitiba used part of the huge revenue from a betterment tax that URBS charged property owners who benefited from the road paving done by URBS. This revenue was the same amount as the city government devoted each year to investment, approximately 30% of the city's tax revenue.[504] For accounting purposes URBS and the city government were separate. These funds, however, were not enough and URBS and the city government had to contract debt with national and international banks. An informal agreement between the state and the city indicated that a fraction, around 30%, of the state taxes raised in the CIC would be returned to the city of Curitiba. Curitiba, in turn, would repay its debt for the CIC.[505] To formalize the agreement, any of the governors should have asked the state legislature to enact a law to share the

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[498] Lerner (1980, p. VII).
[499] Schwartz (2004, p. 55).
[500] Schwartz (2004, p. 55).
[501] Rischbieter was appointed president of a national bank, the president of the Brazilian Federal Reserve, and then minister of finance (K. Rischbieter (1990, p.13). Braga was appointed minister of education between 1974 and 1978 (Braga, 1990, p. 1).
[502] Hoffman Gomes (1992, p. 10).
[503] Interview by author with Karlos Rischbieter, April 2003.
[504] Taniguchi (1991, p. 25).
[505] Taniguchi (1990, p. 53-54).

tax revenue from the CIC between the state and the city, but this never happened.[506] Because the agreement was kept informal, it was up to the governor to honor it or not and this rarely happened. As a result, Curitiba found it difficult to repay the debt in the early 1980s—which kept rolling and as a result multiplied from 20 million dollars to 120 million.[507] This situation was finally solved when Roberto Requião was governor of Paraná and Lerner was in his third term in office as mayor.[508]
The CIC was inaugurated officially on March 4th, 1975,[509] days before Lerner's first term in office finished. By then, however, several firms had already signed contracts or even opened facilities. By 1992 CIC had more than 400 industries[510] that directly employed approximately 50,000, and indirectly another 200,000. CIC generated close to 17 percent of the revenue of the Paraná's tax on commerce and industry. Finally, the firms at the CIC produce a wide range of products in different industrial sectors, using the most modern technologies in Brazil,[511] and in general in an ecologically friendly way.[512]

Schwartz studied why some firms decided to locate in the CIC and found several factors. First was Curitiba's proximity to Brazil's major regional market—the São Paulo-Rio de Janeiro-Belo Horizonte triangle. Second, a comparable set of incentives—tax brakes, subsidies, etc.—to that offered by other cities. Third, good and improving educational levels. Fourth, lower salaries for skilled labor than in other cities. Fifth, "municipal promoters apparently somewhat more adept than those from most other cities in linking foreign investors to national incentive schemes and in attending to special interests of individual foreign investors." Interestingly, Schwarz found that the issue of "quality of live"—for which Curitiba is nowadays known—only started to play a role once Lerner in his third term in office undertook a strong marketing campaign to highlight this feature of Curitiba, both within Brazil and abroad.

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[506] Cordeiro (1992, p. 72-73).
[507] Taniguchi (1990, p. 53-54). See also de Oliveira (2000, p. 131).
[508] Requião (1997, p. 254).
[509] Sganzeria (1992, p. 2).
[510] IPPUC (1992, pp. 245-254); and calculations by author.
[511] Sganzeria (1992, p. 2-3).
[512] The CIC allows only industries that do not pollute the atmosphere. However, the Curitiba area has attracted industries that do pollute, which have had to settle in neighboring communities (De Oliveira, 2000, p. 181). See also Menezes (2001, p. 94-103).

But by then, the stock of firms already in the CIC made it appealing for new firms to establish themselves there.[513] Hence it is unclear what is the role of the "quality of life" issue in the firms' decision to locate. The role of marketing the city, however, seems clear at promoting Curitiba to gain the attention of potential investors.[514]

In conclusion, the way Lerner maneuvered during his first administration to implement the CIC shows two important things. First, Lerner is clearly pro-growth and pro-business, particularly regarding industry, and so is his political movement.[515] Hence, policies and plans that are politically feasible in Curitiba are pro-business and serve the objective of promoting economic growth. Second, Curitiba is a city where the political elite and the economic elite are part of a growth coalition or "growth machine." Altshuler and Luberoff define growth machines as "alliances of those in the community who stand to profit from development."[516/517] The support from this growth coalition explains in part why Lerner's movement has been in office in Curitiba 27 of the last 33 years. Brasileiro summarizes these points by saying: "Curitiba is a city project inserted in an industrial project, for which economic, political, and social actors are committed and for which they converge."[518]

The plans for the express bus rapid transit system

The planning done until 1972 and the decision to implement the structural axes using the *trinary* road system took care of the infrastructure side of the project (busways, general traffic lanes, shelters, etc.). Yet the operational side (buses, terminals, feeder service, etc.) was still crude.[519] Indeed, the implementation of the first two *trinary* axes—including the exclusive lanes for buses, or busways—started in 1972.[520] These

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[513] Schwartz (2004, p. 101-2).
[514] See Sánchez-Garcia (1997) for a critical view of Curitiba's city marketing.
[515] For an example see Dely (1989).
[516] Altshuler and Luberoff (2003, p. 67); see also Logan and Molotch (1987)
[517] It is possible to argue that Curitiba's political system can be characterized as a "regime." Fainstein and Fainstein (1983, p. 256) define regime as the "circle of powerful elected officials and top administrators who move in and out of office," and who are "responsible for setting policy and susceptible to electoral forces." Local regimes represent mostly the dominant sectors of the local business class and they have to act as mediators between the capitalist and lower class interests (Altshuler and Luberoff, 2003, p. 65).
[518] Brasileiro (1999, p. 462, translation by author).
[519] See Ceneviva (1990, p. 30).
[520] Brasileiro (1999, p. 479).

first two axes run in the direction the city was already growing, northeastwards and southeastwards from downtown, and the two are known together as the North-South Axis (see Figure 3, above).[521] The construction of the busways was rather simple for it implied building a small median to separate the busway lanes from the general traffic lanes and simple bus stops or shelters for passengers (Figure 8). Equally simple was the construction of the high-speed roads in the *trinary* road system for they implied giving continuity to existing streets. By October 1972, just months after Lerner took the decision to adopt the project, 50% of the civil works had been already concluded.[522] Incidentally, because bus service could not be disrupted, the existing bus fleet continued to operate on segments of these corridors. This allowed planners to pre-test the operations of segregating bus traffic from general traffic and see its benefits[523] (see Figure 9).

Planning for the operations side of the project took place between 1972 and 1974.[524] The bases for these plans were the "Preliminary Mass Transit Plan," and the plan for mass transit terminals, the latter done 1971 just after Lerner took office.[525] Indeed, in his inaugural speech Lerner had hinted that the use of terminals where people could park their cars and transfer to buses was a solution to the ever-increasing traffic problem.[526] Recall also that Lerner had managed to include the bus option in the "Preliminary Mass Transit Plan,"[527] which already contemplated a change of bus toward a user friendly one.

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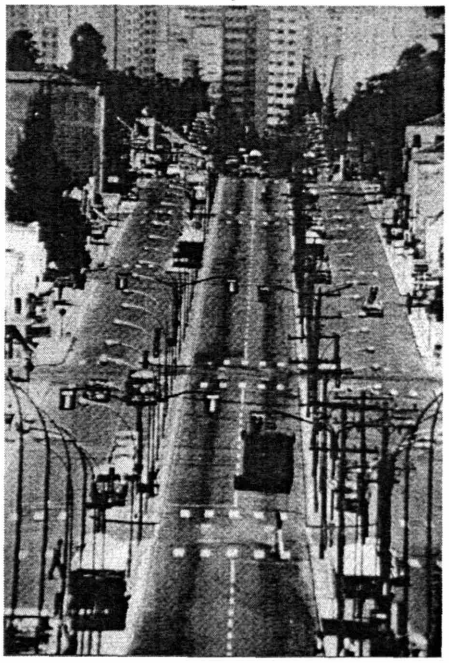
[521] Instituto Jaime Lerner (1994, p. 9).
[522] IPPUC (1972, p. 12).
[523] Perón (1975, p. 29 and 30); and IPPUC (1975a, p. 6).
[524] Brasileiro (1999, p. 479).
[525] Perón et al. (1975, p. 27).
[526] Lerner (1971, p. 9-10).
[527] Brandão (1991, p. 7).

Figure 8. First busways in Curitiba in 1974



Source: IPPUC. Notice the simple shelters used as bus stops. Passengers paid upon boarding the bus.

As a result of the planning exercises between 1972 and 1974 planners refined the concept of what eventually came to be known as the "express" bus service. The buses of the express service were to use exclusively the busways and no other bus—known as conventional bus—could use them. The system would therefore operate under a trunk and feeder system with the express buses as the trunk service and the conventional buses as feeders, with integration between the two at terminals. This general concept of the new service affected the interests of the existing bus operators, particularly in the "selective" areas where the axes were being built. Operators were not used to a trunk and feeder system; instead, they ran routes from the neighborhoods to downtown.

Figure 9. Old buses using the busway in Curitiba

Source: IPPUC (1990). Notice the new bus on the left side of road and the old one on the right side. The picture is in downtown Curitiba.

The planners also came up with three additional changes that increased the impact on the bus operators—the most relevant political actor at this point. First, planners wanted the express service to be able to run from the south end to the north end of the structural axis without having to interrupt its service in downtown.[528] Passenger would pay one fare for this trip and not two as it happened back then. This distortion was a legacy of the "selective" area scheme adopted in the 1950s and significantly strengthened in the 1960s (see Figure 1, above). Second, planners wanted a new type of bus, larger, wider, and lower, with improved suspension and engine, with three wide doors—instead of two narrow ones. In short, a new bus specifically designed for mass transit purposes. While more a comfortable bus, most of the passengers will be standees in order to fit more passengers.[529] Until then in Curitiba—as in many third world cities even today—buses were assembled on truck chassis, and frequently resemble the U.S. school bus.[530] This type of bus is, above all, incredibly difficult for passengers to board and disembark because of the bus' high platform and the lack of wide doors. Adopting the new buses implied important capital expenses for the bus companies, who had been successful before at extending the

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[528] De Oliveira (2000, p. 138).
[529] Brasileiro (1999, p. 479); de Oliveira (2000, p. 138-9); Ceneviva (1990, p. 30-31); Rovani (1990, p. 77-79); and Tomizawa (1991, p. 273-279).
[530] Ceneviva (1990, p. 30).

useful life of the buses. Thirdly, planners wanted to improve the control system so that the city government could rigidly enforce the new schedules and impose sanctions accordingly.[531] As seen, the control until then had not been as strict and companies faced little or no penalties.

The planners regarded the express service concept as the "only feasible solution at the time, with the conditions to compete with the private car in terms of offering mass transit service, representing a significant improvement of the urban bus, which had evolved little or nothing in the last 20 years with respect to critical aspects such as comfort, safety, flexibility, power, passenger capacity, seat arrangement, visibility, etc."[532] While the planners and Mayor Lerner backed this position and the underlying plans, the bus operators were quite against the idea of introducing so many changes at once. To implement the express bus as desired, negotiations between the city government and the bus operators had to take place.

The negotiations with the bus operators

The express bus service on the North-South axis affected only two bus companies—Transporte Coletivo Glória and Auto Viação Redentor—each the *de facto* "owner" the respective "selective" area. This reduced the number of actors that planners had to negotiate with.[533] The planners at IPPUC and other city agencies, backed by Lerner who even attended some of the meetings, approached the negotiations with these two bus operators with the following strategy. First, they had a clear proposal of what they wanted the operators to do in the express bus service. Planners were aware the city had the power to control bus services. A participant in these meetings paraphrased what was told to the bus operators: "The city is only one. You operate a service that is a concession by the city. We are going to plan the service and you are going to operate it according to our terms."[534] Second, planners knew they were requesting these two operators to introduce quite a few changes at the same time, many of them

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[531] De Oliveira (2000, p. 139).
[532] Quoted by Perón et al. (1975, p. 30, from an undisclosed original source, translation by author).
[533] This contrasts to what happened in Bogotá, where planners had to negotiate with close to 64 bus companies at the same time.

not tested before, such as the trunk and feeder system. It was natural therefore that the operators would be reticent to accepting these changes. "The operators had doubts referring for example to eliminating a route that went to downtown and turning it into a feeder route." Third, they intended to hold many discussions and meetings with representatives of the two affected operators to show them the benefits of the express bus, particularly in terms of profitability. "In the discussions we showed them that profitability was not going to drop—instead it was going to increase. We showed that they and the city—all of us—were better off with the proposal."[535]

Yet the planners lacked strong empirical evidence to back their claims. For one, demand estimates were not as accurate as some would like, particularly because operators assumed 100% of the risk—return on the investment was contingent on the number of passengers. Operators were therefore reluctant to accept the city's proposals. Lerner, according to several accounts, in one of the meetings said: "The city needs this project. If you [the operators] do not want to do it, we are going to call someone else." Lerner, moreover, even threatened the operators with having the city purchase the bus fleet and operate the service.[536] These words, more likely, were to show the resolve his administration had and improve the city's bargaining position. At the same time, Lerner also offered to help the operators find soft loans and other funding for the new buses.[537]

The city's bargaining position improved significantly because the concession contracts with all the operators expired in 1974.[538] According to sources, in the negotiations Lerner took advantage of this by threatening the operators with opening up the competition to other firms if Transporte Coletivo Glória and Auto Viação Redentor did not accept the express bus. As seen above, the "selective" areas never expire and are almost the property of the bus companies. The concession contracts

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[534] This information comes in part from interviews to planners and bus operators carried out during 2002 and 2003. I have decided not to disclose these sources in this section of the document to protect their identity. I do disclose secondary sources, however.
[535] By putting buses to operate in a segregated busway, operation costs go down, in essence because buses are interrupted less by cars and trucks and buses therefore get to travel at higher speeds. Also, the maneuver to pick up and drop passengers off takes less time and costs less.
[536] Ceneviva (1990, p. 30).
[537] De Oliveira (2000, p. 143).
[538] De Oliveira (2000, p. 141).

between the city and the operators, in contrast, do expire. Therefore, formal renewals of the contracts—even if they are not truly competitive—were needed and this happened in 1974. The city had to negotiate this renewal with all the operators, represented by their trade association. Thus the operators as a whole were interested in the outcomes of the negotiations around the express service. By mid February 1974 the city administration and the trade association reached an agreement to renew the contracts for seven years until 1981.[539] This general agreement also mentioned the specific agreement regarding the express service.

This agreement met in part planners' expectations. First, the operators in general and Transporte Coletivo Glória and Auto Viação Redentor in particular agreed to the introduction of the express service, which implied changing the routes within two "selective" areas.[540] The bulk of the routes would be merged into the express service and would run along the busway. Another share of the routes would be transformed into feeder routes to converge at terminals and transfer passengers to the express service. Finally, the remaining routes would continue to link the neighborhoods to downtown by using the high-speed roads of the *trinary* road scheme.[541] Furthermore, the agreement contemplated the possibility of extending the express service to other selective areas owned by other companies and to slowly increase the share of total ridership carried by the new service.[542]

Second, the "selective" areas would not be affected by the introduction of the express service in the North-South structural axis.[543] The planners' proposal to have a route along the entire axis that started in one "selective" area and finished in another was unacceptable to the operators. This proposal violated the exclusive "rights" each company held to an area. Further, each company had its own fare. Therefore, the proposal was difficult to make operational. "The most we could do was to establish a

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[539] Gazeta do Povo, "Cidade Tem mais 66 novos ônibus." March 7th 1974; and de Oliveira (2000, p. 141).
[540] See de Oliveira (2000, p. 140-142).
[541] IPPUC (1975b, p. 15); IPPUC (1990, p. 58); and Perón et al. (1975, p. 42-43). 50% of the frequencies outside the trunk lines were to feed the trunk-line express service. The remaining 50% of the frequencies kept going from the neighborhoods to downtown (Perón et al., 1975, p. 42-43).
[542] Gazeta do Povo "O expresso não elimina o sistema convencional." April 11, 1974; and de Oliveira (2000, p. 141).
[543] De Oliveira (2000, p. 139-140); and Perón et al. (1975, p. 42-43).

linkage in downtown. One company operated the South segment and another the North one...and arrived at the borderline between the two areas. The bus companies themselves determined this because it was established in the contract."[544] Therefore, a passenger wanting to travel along the entire axis had to disembark in downtown and board a second bus—owned by a different company—to continue the trip.

Third, operators agreed to use the new bus, more comfortable and designed for mass transit purposes, proposed by the planners.[545] The problem was that no company made this bus in Brazil. Planners at IPPUC had to find a company willing to make the chassis they needed and then find a bodywork manufacturer who could build their designs. While they could not find the chassis—lower than for a truck—they were able to convince Marco Polo to manufacture the new bodywork.[546] Fourth, bus operators agreed to the new controls of their operators by the city government. Interestingly, the Department of Public Services did not have the capacity to control the new express service. IPPUC, therefore, took over the responsibilities for planning bus service and supervising the operators.[547]

Finally, the system for determining the fare to be charged to the passengers was not altered—a methodology that was rather favorable to the bus operators.[548] At the time, each bus company collected from its riders the fare inside the bus and the fare was different for each company or "selective" area.[549] The fare estimate covered all costs for the operators including an estimate for the capital invested in the new buses and a reasonable return. Lerner's administration wanted to avoid subsidies and hence the fare paid by the user had to cover all costs—and also be affordable to the user. The city also agreed to continue to stop other operators from entering the market to compete with the established bus companies.[550] Curitiba is in fact one of

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[544] Rovani (1990, p. 71). The contract Rovani refers to is the contract that created the "selective" areas that never expired.
[545] De Oliveira (2000, p. 140).
[546] Ceneviva (1990, p. 36); Tomizawa (1991, p. 275-6); Rovani (1990, p. 77-78); and Perón et al. (1975, p. 35). Marco Polo also was a key player in the TransMilenio project in Bogotá, for it helped a local firm assemble the custom-made articulated buses the project planners' required (see Ardila and Morrison, 2002).
[547] De Oliveira (2000, p. 140-1).
[548] De Oliveira (2000, p. 142-3).
[549] Rovani (1990, p. 73).
[550] De Oliveira (2000, p. 142-3).

the few cities in Latin America were informal operators of small vehicles have not been able to enter the market—precisely because of the effective action by local authorities to prevent this from happening and equally important the existence of a good bus service.[551] These two measures are necessary to lower the risk for the operators who are investing in expensive equipment and who are assuming the demand risk, because their revenue comes entirely from the fare box.

The role of planners

Planners' role was to interact with politicians and stakeholders to achieve two objectives. First, reduce the power of the bus companies, which were initially reluctant to accept even minimal changes to the way the operated their buses. Planners entered with a clear strategy for negotiating with the operators. In the negotiations, Mayor Lerner and the planners took advantage of the expiration of the concession contracts in 1974. If the two bus companies affected by the plans were unwilling to accept at least some of the changes, the city could, in principle, concession the services with other parties. This threat helped planners lower the power of the bus companies. In parallel, planners' interaction with the CEOs of the bus companies affected by the express service helped them persuade them individually. Once the affected companies got on board the other companies had less power to oppose.

Second, thanks to the interaction, planners were able to modify the original plans for the express bus. These plans had been crafted with imperfect information, specifically regarding what was politically feasible. Further, the original plans entailed a very high risk for the bus operators because the plans brought about too many changes at the same time. By interacting with the operators and modifying the plans risk went down. As risk went down, the operators were willing to support the modified version of the express service. Carlos Ceneviva, one of the main transportation planners in Curitiba, summarized the situation by saying: "One thing is the idea, another thing is to make it happen. Then, this group [at IPPUC] started to do this:

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[551] Brasileiro (1999, p. 462).

work on the idea [in the original plan], detailing it, transforming it into fact. In this, the idea is transformed, it stops being the original one."[552]

The opening of the express service and its significance

Parallel to these events, Lerner's administration started a campaign to inform the population about the new service and create positive expectations among the population.[553] On the 22nd of September of 1974 the North-South axis started experimental service with 20 new buses, locally known as *Expressos*. In days, actual demand surpassed initial expectations—around 38,000 passengers per day—and planners had to allow old conventional buses to use the busway to add much needed capacity.[554] Two weeks after, planners had to order 16 new express buses: "because a lot of people left their car at home, because the new bus was fast."[555] The official opening took place on the 11th of October of 1974. The President of Brazil, General Eduardo Geisel, and other members of the national government participated in the inauguration and rode in the new buses. Four months after opening, demand had reached 54,000 passengers per day—60% percent above estimated demand.[556]

The significance of implementing the first express service corridor is twofold. First, it established what would evolve into a strong relationship—or rather an alliance—between Lerner's political movement and the bus operators. Darci Gulin, one of the main bus operators summarizes this when he said to a magazine in 1994 that commemorated the first 20 years of the express service: "It has been 20 years since we started operating with large buses...We had a solid foundation, naturally so in a city that offers safe conditions for making investments."[557] Another operator told me in an interview: "The municipality and the bus operators are partners, there is mutual trust."

Second, planners in charge of the bus system also understand the importance of their relationship with the bus operators and therefore seek win-win solutions. One

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[552] Ceneviva (1990, p.29).
[553] See Gazeta do Povo, several editions April-May, 1974.
[554] Perón et al. (1975, p. 30-31 and 43).
[555] Rovani (1990, p. 75). Perón et al. (1975, p. 44) reports that four months into the operation of the express service, 17.6% of the sampled users used to commute by car.
[556] Perón et al. (1975, p. 35-37 and 43-44).

planner at URBS, the agency currently in charge of the system, told me: "URBS does not like to cause traumatism by introducing radical changes. We plan and negotiate with the operators any change we deem necessary." Euclides Rovani, a key transport planner, told me: "We look for win-win solutions. Maintaining the financial equilibrium of the bus operators [i.e. the profitability] is fundamental for us. We do not want to hurt any enterprise let alone all of them."[558] By having this type of solution within the context given by the alliance with the operators, planners figure out proposals that operators can live with, and in general, operators support the planners and Lerner's movement.

The initial operation of the express services and its problems

Immediately after the express bus service begun to operate some problems appeared—overcrowded buses, insufficient bus fleet, and regrettably some express buses ran over pedestrians, probably because busway technology results in increased speed. These problems received prompt attention in one way or another—ordering operators to purchase additional buses, improving signage, etc.[559] More complex, however, were the problems emerging from the trunk-feeder system, in which some passengers were required to take a feeder bus and transfer to a trunk bus at an integration-terminal. If not properly handled, a passenger can end up paying more to get to downtown than with the previous system and this can generate a negative reaction among users.[560] That these problems emerged so soon after operations started and the way they were handled by planners at IPPUC are indicative of the planning style at IPPUC.

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[557] Tech Bus, March 1994. "O Ônibus A.C. e D.C."
[558] Interview by author with Euclides Rovani, April, 2003.
[559] Perón et al. (1975, p. 32-33).
[560] See TRL/HFA (1989, ch. 6 and 7). Metro systems in the developing world have usually found it very hard to achieve an effective integration between the rail service and the feeder buses. More often than not, a justification to build the metro was that it would replace the buses in the streets, hence reducing congestion. Buses would then become feeders to the metro. But a typical result is that integration is very difficult and buses continue to operate routes that directly compete against the new metro line. This reduces the overall economic benefits of undertaking a metro line.

Several reflections by Carlos Ceneviva, an architect who joined IPPUC in 1972 and one of the main planners for the express bus service,[561] illustrate the planning style at IPPUC. "The base was the goal of having a good transportation system that saves time at a low cost and that respects the city." "I had never worked in transportation before, but most people at IPPUC had not fiddled with many things, so when the problem emerged I did what everyone does: I used my head to solve it."[562] "We learned from practice." "We used very simple techniques to estimate passenger demand—we did not have time to do an origin destination survey[563] for it takes one to two years and only delays implementation." "Lerner told us: "The important thing is to have a proposal to start with and then solve problems as they emerge, in real time."" "Time is critical in the planning process for there are opportunities that go away if you don't get something done while they last." "There are no definitive solutions, solutions always have to change." "Planning is intertwined with learning from experience; lots of experience, spend most of your time in the street, at the project site, not in your desk."[564]

This vision is not unique to Ceneviva. Manoel Coelho, another planner at IPPUC, corroborates this approach by saying: "We studied everything in depth and carried out tests. When we wanted to implement something...we would test it in the streets, to receive critiques, suggestions, etc. Then and even today we proceed in that way: We leave certain things in the street and observe the reaction."[565] This approach, obviously, has limits. Ceneviva himself qualifies his opinion: "You cannot be irresponsible. You have to start knowing that the chances of success are fairly high. Once started, as you go along, you see what is possible and what needs to

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[561] Ceneviva (1990, p. 29-30); and Lerner (1997, p. 327).
[562] Ceneviva (1990, p. 30). This last idea by Ceneviva brings to mind Schön's (1991) "The Reflective Practitioner." Specifically, Schön's ideas on "knowing in action" and "reflection in action." Schön argues that people can think of what they are doing while they are doing it and that by doing this they develop a theory in action.
[563] In mid-2003 a new transportation study was taking place that was going to estimate an O-D survey for trips between the metropolitan area cities and Curitiba. This will be the first time that an O-D survey exists in Curitiba, but even then trips *within* Curitiba will not be captured because of the study's emphasis on trips from the metro area to Curitiba and vice versa.
[564] All quotes from interviews by author with Ceneviva in April 2002 and 2003 and in February, 2004; translation by author.
[565] Coelho (1991, p. 201).

change. You have to do what is possible, not what is a dream. The definitive plan does not exist."[566]

I use the example of the problems of integrating the feeder and express service to illustrate the planning style at IPPUC. To achieve fare integration between express and feeder buses, planners at IPPUC first tried a system whereby for each ride either on the express or the feeder a person would receive a ticket.[567] Each ticket would allow them a free ride later on in the express bus. Six or seven months into the operation of this scheme, planners learned that some people were counterfeiting the tickets. Planners decided to change the scheme. By now Saul Raiz was the mayor of Curitiba (more on his tenure below). Planners then tested having passengers pay two separate fares, 0.20 cruzeiros in the feeder and 0.30 cruzeiros in the express. This system did not last long because it was socially unfair. The relatively wealthy who could afford to live on the structural axes had to pay less than a poor person who had to take two buses. This scheme lasted one and a half years after which planners at IPPUC tested a new solution. The feeder bus would be free and passengers would only pay for using the express bus. But this scheme had perverse incentives embedded in it for some people abused the free ride on the feeder bus. After some time it was also abandoned. Rovani, a planner at IPPUC says about this experience: "We learned that for free, nothing can be done."[568]

Planners then came up with the idea of enclosing a small area within each terminal to allow passengers to disembark one bus, walk a short distance and board the other bus. Passengers paid whatever bus they took first and thanks to this enclosed area boarded the connecting bus for free. Because the enclosed areas were small and an increasing number of riders used them, they became crowded and were dubbed by the population as "little pigpens." This was clearly a feature that lowered the quality of the system and users did not like them.[569] To solve this problem, some planners proposed to eliminate the "little pigpens" by enclosing the entire transfer

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[566] Interview by author with Ceneviva in April 2002 and 2003; translation by author.
[567] This account is based on Rovani (1990, p. 71-71); and Ceneviva (1990, p. 32-33), unless otherwise noted.
[568] Rovani (1990, p. 72).
[569] Neves (1995, p. 76).

terminal area—including the shops inside. Only bus passengers would have access to the terminal. But a group of planners at IPPUC, involved mostly with urban planning, adamantly opposed this idea. These planners thought the integration terminals ought to serve for more than transfers between feeder and express buses. They argued that terminals should contain stores, markets, and pharmacies. People from the neighborhoods would take the feeder bus to the terminal, do their shopping at the terminal and head back home without going to downtown.

In 1980, when Lerner was again the mayor, the "little pigpen" problem needed solution. Lerner offered a ticket to Hawaii to the planner who could figure out how to achieve fare and physical integration between the feeder and express lines without having to enclose the entire terminal. No one won the ticket to Hawaii. The terminals then became fully enclosed. Passengers pay on the bus they take first or upon entering the terminal, and transfer between buses if needed at the terminal. Citing Rovani again: "This solution is sensational: there is no lost revenue, and boarding and disembarking are done very quickly."[570] Enclosed terminals are used even today in Curitiba and some have shops. The enclosed terminals have also proven resilient to other changes in the system, such as a new high-platform buses and a fare box that is raised by the city government and not the operators—changes that take place in the mid eighties and early nineties and that are covered below.

In sum, planners at IPPUC, most probably inspired by Lerner's style, are not as worried about methodological rigor; instead they care for having a proposal that can be put forward for eventual adoption. A proposal generates reactions by stakeholders that result in adaptations to the proposal and that serve to take it to the decision point. Once a plan is adopted, moreover, planners also seem open to starting a process of marginal improvements as problems emerge.[571] It is the interaction with stakeholders—bus operators and users in this case—that generate the feedback that allow planners to make adjustments to improve the plan. Aware of the need for

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[570] Rovani (1990, p. 72).

[571] Interestingly, not always are planning teams and city administrations willing to adjust their plans after implementation to address emerging problems (see Flyvbjerg (1998 and 2002).

adjustment as the process evolves, planners in Curitiba also craft proposals that are flexible.

Chapter 5

The Window of Opportunity Extended

The successes achieved by Lerner and his team during their first term in office gave momentum to the implementation of the Director Plan. The Plan had ample support and continued to be in the political agenda of the city. The Plan continues to change in part in response to political forces and in part to additions introduced by planners who want to expand the scope of the plan. In this chapter I focus on the administrations of Saul Raiz and Jaime Lerner, who was re-appointed to the mayor's office. These administrations are credited with finalizing the implementation of the main elements in the Director Plan. A key issue that will emerge is that when there is a successful precedent, carrying out subsequent stages of the same projects is politically easier. I finish the chapter with a discussion of the sources of funding used in the implementation of the transport elements of the Director Plan.

The appointment and tenure of Mayor Saul Raiz

In March 25th 1975 Jaime Lerner completed his four-year term in office. Lerner took part of his planning team and went to work as a consultant around Brazil in cities such as Aracajú, Recife, São Paulo, Rio de Janeiro, and even Caracas in Venezuela. Later on he received an invitation from Berkeley University to teach as a visiting professor—Lerner would be in Berkeley when Governor Ney Braga appointed him mayor again in 1979.[572] In 1975 the military government of Brazil appointed Jayme Canet as governor of Paraná. Canet in turn appointed Saul Raiz as mayor of Curitiba because Canet wanted someone that could continue with Lerner's work. Canet and Raiz, together with Karlos Rischbieter were part, among others, of Ney Braga's group.[573] Not surprisingly, Braga as head of this political group was behind Raiz's appointment. Braga, in effect, was the power broker during 30 years in Paraná's politics.[574] Braga

[572] Lerner (1997, p. 328-9); Braga (1997, p. 41).
[573] Pereira (1997, p. 129).
[574] De Novaes (1997, p. 153); and Pereira (1997, p. 135-136). See also Braga (1997, p. 17-52).

by then had been appointed minister of education at the federal level—and from that position helped direct federal resources to Curitiba.[575]

By the time Raiz was appointed mayor he had ample experience in planning, politics and as an executive in the private sector—he was heading a private company in São Paulo when the governor appointed him.[576] For instance, with just 24 years of age Raiz headed the Department of Urban Planning during Braga's tenure as mayor of Curitiba in 1954.[577] And during Braga's first term as governor in 1961, Raiz headed the Highway Department of the state of Paraná. There, among others, he had to raise funds abroad to build the Londrina-Curitiba highway and in this way reduce the pressure for separation of the northern part of the state from Paraná.[578] Raiz furthermore studied urban planning in France between 1958 and 1959 and took classes with Father Lebret. Raiz was influenced by Lebret's ideas on humanism. According to Raiz, Lebret argued that it was not enough to just make a plan. It was necessary to have a planning process that brings people in, to listen to these participants, and to obtain their reaction to the initiatives the administrator launches. That is, the planning process has to have many discussions among planners, politicians, and citizens. Raiz claims that these ideas helped him during his term as mayor and allowed him to continue implementing the Director Plan—while introducing some changes.[579]

Raiz took office aware that he could not interrupt Lerner's urban policies and that "Curitiba deserved continuity without repetition. Curitiba deserved that whoever was mayor did not destroy what was fundamental, that is, the Director Plan."[580] Raiz, therefore, tried to keep some of the people who had participated in Lerner's administration. Raiz appointed Lubomir Ficinski to head IPPUC. Ficinski had headed IPPUC for over a year at the beginning of Lerner's tenure (Table 6).[581] Raiz also

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[575] Braga (1990, p. 53).
[576] Interview by author with Saul Raiz, April, 2003.
[577] Raiz (1990, p. 53)
[578] Interview by author with Saul Raiz, April, 2003. De Oliveira (2000, p. 125-126) argues that the elite of Paraná resident in Curitiba afraid of the possibility that the north of the state separated, undertook economic planning and industrialization policies.
[579] Interview by author with Saul Raiz, April, 2003.
[580] Raiz (1990, p. 58).
[581] Ficinski (1990, p. 20); and Rocha (1990, p. 16).

called Dely but he could not join his administration initially. Raiz also retained Francisca Rischbieter and Dúlcia Auríquio to work on land use planning and control, as well as other planners of the Lerner administration.[582] This approach ensured IPPUC's hold on power by supervising the work of other agencies and being close to the mayor.[583] Raiz summarizes his approach: "I am proud of having had the courage, at a time when there were pressures to liberalize everything, of having supported Lerner's plan, introducing small modifications that his own planning team deemed important, without distorting that Plan, which is the basis for everything."[584]

Dúlcia Auríquio, also became the liaison between IPPUC and the Department of Urban Planning (DUP), because once again there was a serious conflict between these two agencies. In essence, IPPUC would plan for example land use regulations and DUP would be in charge of implementing and enforcing those regulations. DUP, however, would not always agree with IPPUC's ideas and tried to change them, hence the conflict. Mayor Raiz argued that DUP might have valid reasons to introduce changes and called Auríquio to mediate between the two agencies by having her work half her time at each agency.[585] This created a new flow of information between the two agencies, which now analyzed problems together and figured out solutions, such as new legislation.[586] Auríquio was also in charge of lobbying the City Council in order to get the changes to the land use regulations enacted.[587] "Whenever there was a problem we immediately proposed a change to the [zoning] law...and sent it to the City Council. My job was to defend that idea at the City Council. We were always at the City Council with some change [to the legislation], something that addressed the problems that were happening."[588]

In effect, during Raiz's tenure there were many pressures by developers to relax the zoning. The Raiz administration tried to resist and even tried to make zoning

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[582] Raiz (1990, p. 59).
[583] Rocha (1990, p. 20).
[584] Raiz (1990, p. 61).
[585] Auríquio (1990, p. 6-8); and interview by author with Dúlcia Auríquio, May 2003.
[586] Da Rocha (1990, p. 17).
[587] Auríquio (1990, p. 6-8); and interview by author with Dúlcia Auríquio, May 2003.
[588] Auríquio (1990, p. 6-7).

stricter.[589] This generated a lot of opposition from interests associate with land development, some of which filed lawsuits against the measures.[590] The new land use law was effective at curbing the occupation of some areas prone to flooding but not as much at curbing the emergence of illegal housing occupied by poor people—the famous *favelas*.[591] To address this problem Raiz and Dely designed a policy to provide public housing to some of the people living in the *favelas*. This policy was handled by a new city agency headed by Dely, COHAB-CT.[592] Raiz said in this regard: "I wanted the policies to address the *favela* problem not only by relocating people, but also by having a wider scope, by providing a unit with services, with schools, and with the participation of the future resident in defining how his/her future house would be. I wanted to break with the monotony of the residential complexes."[593/594]

Transportation Planning during Raiz's tenure

In addition to the land use changes to the Director Plan, the Raiz administration introduced two other changes. First, it planned three new structural axes that where not contemplated in the original plan. The first two extended eastward and westward from downtown and together later on constituted the East-West Axis[595]—which was opened to service during Lerner's second administration. The third new structural axis extended in the direction of Boqueirão.[596] This was the area that Wilheim had rejected in his original plan and argued it should not be urbanized for it could flood. It was also the area that planner Onaldo Pinto had foreseen as being important for development and as the one needing the structural axis. Despite Curitiba's apparent strong land-use controls, occupation of this area had proceeded at fast pace.[597] The low price of

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[589] Raiz (1990, p. 58-61).
[590] De Oliveira (2000, p. 153-4).
[591] Menezes (2001, p. 112-114).
[592] Dely (1990, p. 19-22); Raiz (1990, p. 60); and Malucelli (1991, p. 264-5).
[593] Raiz (1990, p. 60).
[594] For other aspects of the Raiz administration see also Greca (1991, p. 41-42); and Rocha (1990, p. 18-20).
[595] Raiz (1990, p. 59-60); and IPPUC (1976, p. 21-28).
[596] Raiz (1990, p. 59-60); and IPPUC (1976, p. 21-28).
[597] Rabinobitch (1996, p. 54).

the land in the area made it attractive for poor people to locate.[598] Paradoxically, the low price of the land is explained by the lack of public infrastructure as the city was trying to follow the Director Plan, which called for not urbanizing this area.[599] Yet there is evidence that as early as 1974, when the express bus service opened in the North-South axis, the Boqueirão area already concentrated an important number of people.[600]

Table 6. Mayors of Curitiba, Heads of IPPUC, and Governor's of Paraná

Year (Approx.)	Mayor of Curitiba	Head of IPPUC	Governor of Paraná
1954	Ney Braga (54-58) (a)	No IPPUC at the time	Munhoz da Rocha (??-55) Antonio Annibelli (55) Adolpho de Oliveira (55-??) (am)
1958	Iberê de Mattos (58-62) (ak)	No IPPUC at the time	Moisés Lupión (??-61?) (an)
1962	Ivo Arzua (62-66, 66-67) (c)	Jair Leal (d)	Ney Braga (61-65) (b)
1967	Omar Sabbag (67-71) (e)	Luiz Forte Netto (67-69) (f) Jaime Lerner (69) (f) Clóvis Lunardi (69-71) (g)	Paulo Pimentel (66-71) (h)
1971	Jaime Lerner (71-75) (i)	Lubomir Ficinski (71-72) (j) Rafael Dely (72-75) (k)	Haroldo León (71) (l) Pedro Parigot (71-72) (l) Hoffman Gomes (73-75) (m)
1975	Saul Raiz (75-79) (n)	Lubomir Ficinski (75-79) (j)	Jayme Canet (75-79) (o)

[598] IPPUC (1976, p. 24).
[599] Menezes (2001, p. 111).
[600] Specifically, a newspaper recorded that many people were surprised the new facility had not been built instead toward the Boqueirão area, showing that urbanization in this area had proceeded rapidly (Diario da Tarde, Sept. 23, 1974, cited by Perón et al. (1975, p. 32)).

Table 6 (continued). Mayors of Curitiba, Heads of IPPUC, and Governor's of Paraná

1979	Jaime Lerner (79-83) (i)	Carlos Ceneviva (79) (p) Cassio Taniguchi (80-83) (q)	Ney Braga (79-82) (b) José de Novaes (82-83) (aj)
1983	Mauricio Fruet (83-86) (r)	Alcidino Pereira (83-85) (s) Omar Akel (85-86) (v)	Jose Richa (83-86) (t)
1986	Roberto Requião de Mello e Silva (86-88) (u)	Adhail Sprenger (ao)	João Ferraz (86-87) (w) Álvaro Dias (87-91) (y)
1989	Jaime Lerner (89-92) (x)	Cassio Taniguchi (89-92) (q)	Roberto Requião (91-94) (z)
1993	Rafael Greca (93-96) (aa)	Rafael Dely (ap) Mauro Magnabosco (ab)	Mario Pereira (94-95) (ac)
1997	Cassio Taniguchi (97-00) (ad)	Unknown to author	Jaime Lerner (95-98) (i)
2001	Cassio Taniguchi (01-04) (ae)	Luis Hayakawa (01-04?) (af)	Jaime Lerner (99-02) (ag) Roberto Requião (03-07) (ah)

Note 1: Since Jaime Lerner became mayor in 1971 the only mayors who have not been part of Lerner's group are Mauricio Fruet and Roberto Requião, for a total of 6 years.
Note 2: The official term in office for mayors and governors is four years all along the period shown in the table, except for the transition period between 1983 and 1988. The day of the year the inauguration of a new mayor or governor takes place has changed frequently. Currently, mayors and governors are sworn in on January 1st of the year their term begins.
Sources: (a) Braga (1990, p. 1); (b) Braga (1997, p. 67-68); (c) Arzua (1989, p. 1); (d) Valduga (1991, p. 96); (e) Brasileiro (1998, p. 475); (f); Netto (1991, p. 51); (g) Lunardi (1990, p. 1); (h) Pimentel (1997, p. 53-54; (i) Lerner (1997, p. 317); (j) Ficinski (1990, p. 11); (k) Dely (1990, p. 9); (l) Gomes (1997, p. 104, 115-116); (m) Gomes (1997, p. 99); (n) Raiz (1990, p. 53); (o) Pereira, p. 124); (p) Ceneviva (1990, p. 27); (q) Taniguichi (1990, p. 47); (r) Menezes (2001, p. 121); (s) Pereira (1988, p. 3); (t) Richa (1997, p. 157); (u); Menezes (2000, p. 121); (v) Akel (1991, p. 205); (w) Ferraz (1997, p. 181); (x) Menezes (2001, p. 123); (y) Dias (1997, p. 1978); (z) Requião (1997, p. 249); (aa) Schwartz (2004, p. 133); (ab) Interview by author with Mauro Magnabosco, April, 2002; (ac) Pereira (1997, p. 275); (ad) Schwartz (2004, p. 133); (ae) Schwartz (2004, p. 133); (af) Gazeta do Povo (2003, p. 7); (ag); Schwartz (2004, p. 134); ah) Gazeta do Povo (2003, April 15th); (aj) de Novaes (1997, p. 139); (al) Perón et al (1975, p. 21); (am) Annibelli (1997, p. 1-3); (an) Perón et al. (1975, p. 25); (ao) Correio das Noticias, January 22nd, 1987; (ap) Interview by author with Rafael Dely, February 2004.

The Boqueirão axis with express service was opened to service in 1979.[601] There is little evidence that there was any problem negotiating the necessary changes in the bus fleet with the bus operators. Most probably, the fact that there was a successful precedent, the North-South axis, assured the bus company in the Boqueirão selective area that it would be profitable to adopt the new technology. Business and merchants in Boqueirão did not oppose the project either. Residents at first did not like the idea of having to transfer from a feeder bus to the express service, more so when before they only had to take one bus. However, the savings in time once the service opened convinced bus users that the project was convenient. Opposition, however, did exist and it was by the business owners in downtown. In essence, the *trinary* road concept could not be used in downtown for it implied demolishing a large number of properties, given the width of the streets. The solution was to have a one-way street carrying the express buses and the high-speed traffic lanes. Because it was a one-way street, the express bus lanes would face the storefronts. It was these merchants that opposed the solution, but planners managed to convince them to accept this solution.[602]

The second change introduced by the Raiz administration was regarding the Mariano Torres St., a street in downtown that connected the north and south structural axes and that connected downtown to the road to the airport. This street was to be built underground to allow for segregated over passes.[603] Raiz thought this project was too expensive and ordered changes. "We changed this project into one far simpler, with the feet on the ground (everybody was saying [about the original plan]: "its going to be a beautiful project, with viaducts..."). We had the courage to confront the retailers of Tibagi St."[604] In the end, the solution was to use two streets instead of one, the Mariano Torres and Tibagi streets, which are one block away from

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[601] URBS (1998, p. 6).
[602] Malucelli (1991, p. 263).
[603] See IPPUC (1976, p. 10). It is interesting to see that Raiz had to even change the plan IPPUC did at the beginning of his administration (IPPUC, 1976), which followed the original plan in having an underground Mariano Torres St., once financial reality showed the underground avenue was not feasible.
[604] Raiz (1990, p. 62).

each other. Both connect the north and south structural axes carrying traffic in only one, but opposite, direction.

Lerner re-appointed Mayor of Curitiba

In 1978 the state assembly elected Ney Braga governor of Paraná for the period starting on March 15th, 1979[605]—the day Saul Raiz's term as mayor finished. According to Raiz, Braga offered him to continue as mayor for a second term, but Raiz originally had plans to return to private industry in São Paulo and did not accept Braga's offer.[606] Raiz, however, later on became secretary of Municipal Development for Braga and this allowed him to run—unsuccessfully, nonetheless—in 1982 for governor in the first open election since the mid-sixties.[607] For the mayor's office, Braga then thought of appointing Lerner. Lerner, who was teaching at Berkeley, was reluctant at the beginning, but then accepted the offer and returned to Curitiba to start his second term as mayor.[608] Notice Braga's important role in this story. It took 12 years to implement the main elements of the Director Plan and Braga was behind the appointments of Lerner and Raiz, the mayors who achieved this outcome. But as said, Braga was the political boss of Paraná during this period.

The military dictatorship at the federal level in Brazil was beginning to allow a slim democratic opening—hence Braga's election by the assembly.[609] At the same time, organized labor in particular began to demand changes to the political system. Led mostly by union leader Luis "Lula" da Silva, currently the president of Brazil, workers demanded direct elections for president and therefore an end to the military regime.[610] Curitiba also saw its share of strikes during this time. At the same time, the Brazilian miracle was beginning to slow down and serious economic problems were around the corner.[611] Lerner's second term, therefore, took place within this environment, complex in political and economic terms.

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[605] Braga (1997, p. 17-18).
[606] Interview by author with Saul Raiz, April, 2003.
[607] Braga (1997, p. 40); AND Interview by author with Saul Raiz, April, 2003.
[608] Braga (1997, p. 41); and Lerner (1997, p. 329).
[609] Bueno (2002, p. 379-383).
[610] Bueno (2002, p. 398-401). See Paraná (2002) for a series of interviews to Lula about his life and his role in these strikes and movements to democratize Brazil, among others.
[611] Bueno (2002, p. 380, 382-3).

Given this context, Menezes writes: "Permeated by the democratic opening, Lerner's second term was noted for the reaffirmation of the planning philosophy started in his first administration, with specific and strategic improvements in what can be considered the social arena. "Curitiba for All" was the proposal of his administration. This translated, among others, into the objective of decentralizing urban infrastructure to all neighborhoods in the city. "A technocratic vision of social issues," in the opinion of the political groups in the opposition, which started to question "the technocratic approach imposed by IPPUC.""[612] The "Curitiba for All" slogan was precisely a way of countering these and other critics of Lerner who claimed he had been mayor only of downtown Curitiba during his first tenure.[613]

The constitution of the Integrated Transit Network

During 1980 Lerner's administration opened for service the East-West axis of the express service.[614] Just as with the Boqueirão axis, there is no evidence of the bus operators opposing the implementation of the express bus. Again, the successful precedent reinforced the point that it was convenient for the bus operators to upgrade their bus fleet and switch to the trunk and feeder system. Moreover, each "selective" area had its own fare calculated so as to cover operating and capital costs. Profitability was insured. Finally, the contracts signed in 1974 between the Lerner administration and the bus companies—due to expire in 1981—contemplated the expansion of the express service. More contentious, however, was convincing all 10 operators of adopting an inter-neighborhood route to link the integration terminals along the structural axes.

The idea to establish an inter-neighborhood service belonged to Carlos Ceneviva. Lerner had appointed Ceneviva as president of IPPUC at the beginning of his second mayoral tenure. Ceneviva, however, resigned soon after to pursue graduate studies in France.[615] Ceneviva returned to Curitiba arguing that an inter-

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[612] Menezes (2001, p. 116).
[613] Coelho (1991, p. 198).
[614] URBS (1998, p. 6-7).
[615] Ceneviva (1990, p. 36-38).

neighborhood bus service was needed.[616] His reasoning was that the successful implementation of the Director Plan and its amendments had achieved their main objective—downtown activities had begun to extend along the structural axes. As a result, someone in neighborhood A might not need to go to a destination in downtown, but rather to a point in neighborhood B along a different structural axis. The system forced this person to take an express bus to downtown, descend there and pay a second fare to take a second express bus. Ceneviva reasoned that the solution was to create a circular service that connected neighborhoods without having to go to downtown and paying a second fare. The new service would connect the existing terminals, where passengers already transferred from the feeder routes to the express or feeder lines, along the different structural axis.[617]

The bus companies, however, adamantly opposed this proposal for it blatantly violated the "selective" area principle,[618] which until then had been considered almost sacred. Ceneviva's proposal implied that a bus from one company would be allowed to circulate in the streets of the "selective" area of another company—in fact, of all companies for the route was circular. The problem was worse because the inter-neighborhood route implied that a passenger who paid to an inter-neighborhood operator could transfer for free at a terminal to an express bus owned by a different operator. Hence the second bus company would not receive any revenue.[619] In the express service, on the contrary, the feeder routes belonged to the same company that operated the express bus—as guaranteed by the selective area principle—and all revenue went to the same company. The inter-neighborhood service introduced, therefore, important changes.

Negotiations started with the companies. Planners tried to explain the idea underlying their proposal. For example, while a passenger would pay in the morning to the company that operated the inter-neighborhood service, in the evening that person would pay to the company that operated the express service. Averaging over a day or a week, none of the companies would have lost revenue and, on the

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[616] Lerner (1997, p. 329-330).
[617] Ceneviva (1990, p. 36-38); and Rovani (1990, p. 73-74).
[618] De Oliveira (2000, p. 141).
[619] Interview by author with Carlos Ceneviva, April, 2003.

contrary, possibly even won passengers from the increased catchment area. Hence the distribution of the new revenue was automatic. The bus companies were reluctant to accept this argument but were eventually convinced.[620] In the end, the discussions led to a solution whereby the bus fleet needed to operate the inter-neighborhood service was apportioned to all companies. A given company would get a number of buses proportional to the share of its "selective" area in the total area of Curitiba. Hence, all the bus companies in Curitiba would operate the inter-neighborhood routes. All parties deemed this solution satisfactory. Lerner and the planners wanted the new service, and the operators wanted their fair share of the new cake.

Around the same time Lerner's administration adopted a second change dubbed the "social" fare.[621] As said, at the time each "selective" area had its own fare. This could be unfair to some people who could end up spending in bus services a larger share of their income than others spend. Each area had its own formula to calculate the fare. The formula was the result of both technical and political (or bargaining) factors. Moreover, having different fares complicated the fare integration of the inter-neighborhood routes to the trunk lines, for passengers might be motivated to take the buses of companies with a lower fare.[622] The "social" fare established a single fare for the entire city. The social fare therefore eliminated the fare-related conflicts between companies facilitating fare integration.[623] Further, by giving the flat fare scheme the name "social" fare, Lerner begun to show his concern for social issues—and his genius at marketing public policies.

Because with the flat fare some bus companies could make an even larger profit while others could start losing money, the city had to establish a compensation fund. Planners determined which companies stood to earn more money and which ones would lose. Companies having an even larger profit with the new fare had to deposit this surplus in a bank account. The bank would then transfer to the companies loosing money to compensate them.[624] The compensating system was established

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[620] Interview by author with Carlos Ceneviva, April, 2003.
[621] Dely (1990, p. 16).
[622] Rovani (1990, p. 73-74).
[623] Ceneviva (1999, p. 187).
[624] Rovani (1990, p. 73-74).

and the social fare was successfully implemented.[625] Notice the importance of maintaining the profitability to the bus operators to make the proposal feasible.

The Integrated Transit Network was officially born once the inter-neighborhood routes connected the five structural axes and the "social" fare was established.[626] Since 1980, a user in Curitiba can take a feeder bus in a neighborhood, transfer to a trunk line at a transfer terminal, ride to downtown in it, or go to another terminal and transfer either to a feeder bus or the inter-neighborhood service—all for a single fare.[627] To increase the number of inter-neighborhood lines it was necessary to increase the number of transfer terminals. Just between 1980 and 1982 the Lerner administration built 15 such terminals.[628] Further, given the demand increase, in 1980 the Lerner administration convinced the operators of the North-South axis to use articulated buses, with a capacity for 160 passengers. Figure 10 shows the gradual evolution of the RIT, from its origins in 1974 until 1995.

In 1981 the Lerner administration renewed the contract with the bus companies that it had signed in 1974. This renewal, however, was a mere extension of the 1974 contract. The concessions were extended for 10 years, until September 15th 1991, and the useful life of the buses was extended from 7 to 10 years.[629] The new contracts also allowed for fare changes more frequently than before, probably to respond to the increasing inflation, and apparently recognized a higher return on the capital invested by the operators.[630] All these measures increase bus operators' profitability. As usual, the renewal of the contracts involved no competition and it preserved the "selective" area principle.[631] Bearing in mind the investments in express buses for the Boqueirão and East-West structural axes and the new articulated buses in the North-South axis, it is not surprising that the Lerner administration proceeded in this way for there were at least two incentives to do so. First, months before the

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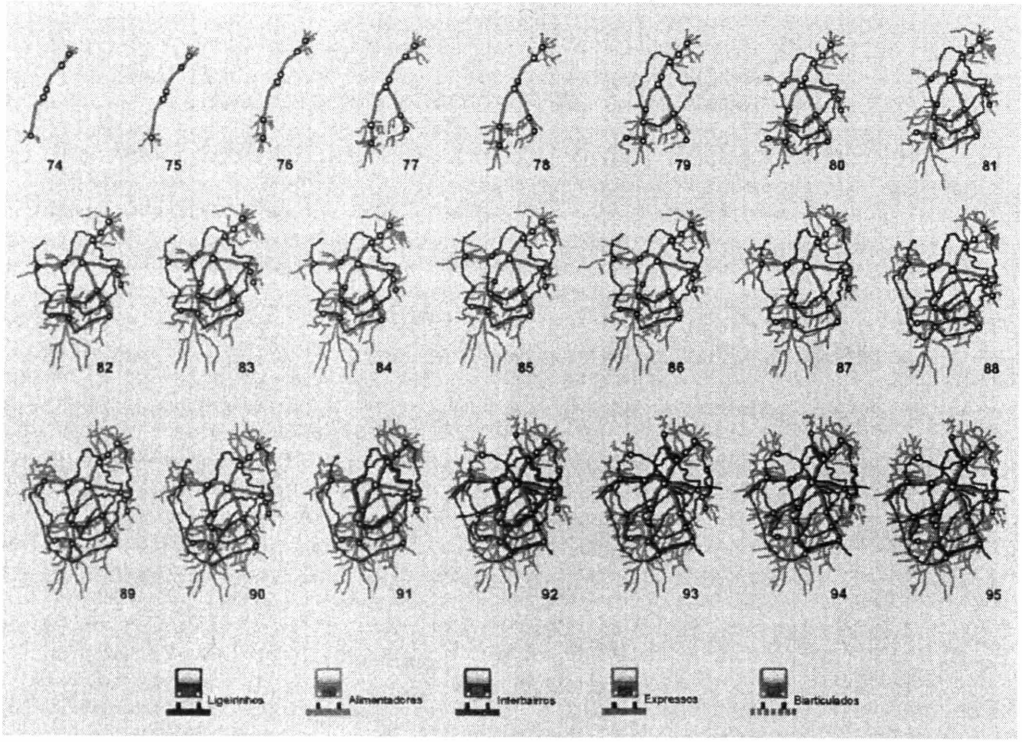
[625] The Lerner administration also undertook during its second term in office the construction of the first stage of a bike-path network (Menezes, 2001, p. 117).
[626] URBS (1998, p. 6).
[627] However, there is still no full fare integration in downtown, mostly because there is no single terminal that encompasses all the routes.
[628] Ceneviva (1999, p. 187).
[629] Urban (1987, p. 48-9); De Oliveira (2000, p. 146); Pereira (1988, p. 62); and "Transporte Urbano de Curitiba evoluiu apesar das dificultades." Diario Popular, December, 23rd, 1981.
[630] Neves (1995, p. 68).

contract renewal, two companies had investment in new express buses for the East-West structural axis. And less than two years before a third company had invested in buses for the Boqueirão axis. Risk was too high for these operators unless there was some assurance that the concession contracts would be extended for a reasonable number of years.

Figure 10. Evolution of the RIT, 1974-95.



Source: URBS.

[631] Urban (1987, p. 48-9); and De Oliveira (2000, p. 146).

A second incentive lied in the "selective" area principle itself, which granted for life an area of the city to each company and thus eliminated all effective competition. It is therefore important to underscore the importance of the "selective" area principle. Intended by its planners in the mid-fifties as a temporary solution, it turned permanent and became the frame for any policy making in mass transport in Curitiba. To this day, even after a strong attempt to dismantle the "selective" areas in the mid-eighties—discussed in Chapter 6—fare box revenue is allocated between companies taking into account the share of the pie each one "owns." Competition *for* the market took place in the fifties when the original areas were established and this eliminated all competition *in* the market for good. In the absence of competitive forces to discipline operators to offer a good service, it is the supervision by the city government to enforce the contracts between the city and the operators that makes the difference.

The role of planners

The existence of a precedent—the North-South axis—facilitated the expansion of the express bus system to Boqueirão and the East-West axes. Operators knew the scheme was profitable, because ridership was high and operating costs were less. Finally, operators had agreed in the 1974 contract to allowing the extension of the express service. The contract gave planners a bargaining tool, even if the contract did not specify which axes or when would be implemented. That is, the contract allowed planners to lower the power of the bus companies. Together with the positive precedent, the three new axes proceeded without major controversies.

Ceneviva took advantage of Lerner's receptiveness to proposals in transport—i.e. Lerner opened a window of opportunity—to put forward the idea of creating the inter-neighborhood route. Planners took the proposal to the operators. Planners interacted with the operators with two aims. One, persuading the operators of the convenience of the new service. Two, figuring out the adaptations to the proposal needed to make it acceptable to the operators. Illustrative of this process is a press article in late 1981 that reported the recent innovations and how they took place against all odds. In that article the bus operators' credit the importance of the

meetings that took place periodically with city agencies.[632] At least in this case, planners did not seem to have employed any conspicuous mechanism to lower the power of the operators. Rather, interaction, persuasion, and adjustments were what made the idea feasible.

This outcome is interesting in light of disproportionate power the "selective" area principle gives to the bus companies. Absent any mechanism to lower this power, the outcome begins to favor disproportionately the bus companies. Specifically, the renewal of the concession contracts is *after* the Boqueirão and East-West axes are scheduled to open. In 1974 when the negotiations for the first North-South axis, the contract renewal coincided with the opening of the new axis and the city administration was able to use this coincidence to lower the power of the operators. But in 1980, it is the operators who have the advantage. Probably in exchange for accepting the additional axes, operators demand contracts with a higher return on the investment. The terms of the 1981 contracts will come to haunt all actors involved in the mid-1980s when the system enters into a crisis.

Land-use planning during Lerner's second term

As seen, Mayor Raiz had tried to tighten the city's grip on land use by enacting changes to the legislation that limited developers' rights particularly along the structural axes.[633] Developers had responded by filing lawsuits and by complaining that IPPUC had excluded them from the rule making process.[634] During Lerner's second term this approach seemingly changed to one more attentive to market forces and to requests from land development interests. These interests were represented by a trade association, the Commercial Association of Paraná (ACP),[635] which lobbied Lerner's administration to change the limitations imposed by the Raiz administration and other limitations included in the original Director Plan. Specifically, the Director Plan established that in the structural axes each square block could have a maximum of three, 63-meter high rises (about 15 floors), separated at least 30 meters from one

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[632] "Transporte Urbano de Curitiba evoluiu apesar das dificultades." Diario Popular, December, 23rd, 1981.
[633] Raiz (1990, p. 58-61); and de Oliveira (2000, p. 153-4).
[634] De Oliveira (2000, p. 154).

another.[636] The Plan called for a cityscape with high rises embedded in parks and gardens.[637]

The busways and the *trinary* roads' success at lowering travel time, however, made very attractive the structural sectors for middle classes, which were willing to pay for the premium location.[638] As a result, land developers wanted a higher density in the structural axes because there was demand willing to live in high rises and because they could extract higher profits from densification. According to de Oliveira, Lerner issued a decree changing land-use criteria along the structural axes on March 25th, 1980. Little or no consultation with affected parties had taken place. On April 10th of that year, ACP and other trade associations met with Lerner and other city officials to lobby a change in the legislation. On April 25th 1980, Lerner issued the decree changing many land use regulations and opening the door for a much higher densification of the structural axes than contained in the original Director Plan.[639]

Lerner's actions have to be understood, however, within the broader context dictated by the growth coalition he is part of. Clearly, interests linked to land development are part of this coalition because they profit from economic growth. Particularly if higher incomes insure customers for apartments in high-rises, which have a higher price than houses—even if the overall density is the same.[640] Lerner allowed IPPUC's planners to depart momentarily from what matters to the growth coalition. But as soon as ACP and other trade associations reacted, he negotiated changes. These trade associations have participated, albeit informally and in an unregulated manner, in the definition of land use controls ever after.[641]

The market responded as expected and construction took place. Today, the structural axes have in certain areas—particularly closer to downtown—quite high

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[635] In Portuguese Associação Comercial do Paraná, I use the Portuguese acronym.
[636] PMC (1966, p. 13).
[637] De Oliveira (2000, p. 154).
[638] See Cervero (1998, p. 285).
[639] De Oliveira (2000, p. 154-156).
[640] See Jaramillo (1994. Ch. 147-155 and 192-196). In Curitiba, the North-South axis has the highest number of residential towers in high densities. Wealthy people live in that axis (Cervero, 1998, p. 285). For the Boqueirão axis, while the density is probably higher than in the other axes there are no high-rises, but only low-height housing.
[641] de Oliveira (2000, p. 161-2).

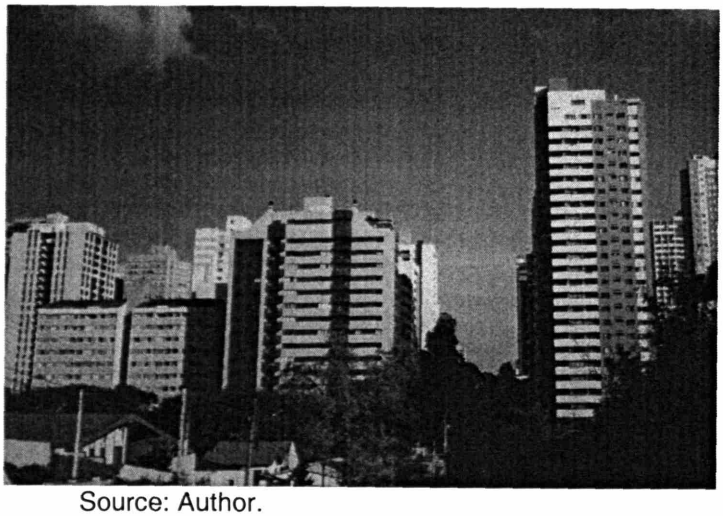
densities (Table 7),[642] which have left little or no space for the parks and gardens originally intended (Figure 11). While the increased density in turn helps support a high-capacity transit system such as the busways,[643] Arzua, a former mayor, laments that the high density contributes to lowering quality of life because of increased noise and air pollution.[644]

Table 7. Residential Densities in Structural Axes and in Low-Density Areas

Zone	Population	Density	
		Per Hectare	Per Acre
High Density	130,700	294	119.0
Medium to High Density	217,300	164	66.4
Medium Density	240,800	76	30.8
Low Density	416,506	63	25.5

Source: Cervero (1998, p. 285).

Figure 11. Actual built up density along North-South Structural Axis



Source: Author.

[642] Cervero (1998, p. 284).
[643] Cervero (1998, p. 282-286).
[644] Arzua (1989, p. 10-11).

Finally, it is worth briefly discussing an innovation in land use that took place years later during Lerner's third term in office, the "buy-up" program.[645] This program originated in the constitutional debates regarding reforming urban legislation at the national level. Lerner gathered support by sending a draft of the proposal to several trade associations and other associations who commented on the proposal.[646] The end result was a program whereby developers can "buy up" up to two extra floors on residential buildings located in the vicinity of the structural axes. Developers have to pay the municipality 75% of the market value of the additional area. The funds go to COHAB, which is in charge of funding housing projects for low-income people. Hence the program is a cross-subsidy between wealthy residents and poor ones.[647]

The role of planners

During Lerner's second term planners tried to act free of interest group pressure. Planners convinced Lerner of enacting land-use legislation that the planners deemed adequate but seemingly without consulting the relevant stakeholders. These stakeholders reacted and ultimately achieved a legislation that favored their interests. While the structural axes enjoy a density higher than originally intended, the market response suggests people approve the higher density. Hence the distribution benefits does not seem to be overly skewed in favor of the land-related interests. The lesson for planners is that it is the interaction between planners, politicians, and stakeholders that allows a city government to adopt policies that benefit legitimate and collective goals. If land-related interests were too powerful in Curitiba, then planners needed to discover ways of reducing the power of those interests. But planners should not have excluded those interests from the process. For example, planners could have interacted also with neighborhood associations and other elements of organized civil society. Bringing in more participants lowers the power of the land-related interests. The participation of a broader range of stakeholder would lead to a balanced

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[645] This program is known as or "*solo-criado*" in Portuguese, which translates literature into created space. I use Cervero's (1998, p. 283) term "buy-up" program.
[646] De Oliveira (2000, p. 160).
[647] Interview by author with Rafael Dely, April 2003.

feedback[648] and possibly to better land-use regulations that ensure an outcome that satisfies collective goals.

Light Rail planning during Lerner's second term

As early as 1965, when Wilheim and his planners drew the first draft of the director plan, planners in Curitiba have been talking about the need for a rail-based system. In that plan, planners argued that at the time, Curitiba did not need a metro line. But projections suggested that by the year 2000 population could reach 3.5 million and demand 60,000 passengers per hour. The city would then need a metro.[649] Neither projection was met. As seen, planners during the Sabbag administration carried out studies and determined that a heavy rail-based solution was not feasible at the time,[650] due to its high cost, high risk, and lack of flexibility.[651] Curitiba then adopted a bus-based strategy to address its mass-transit problem and undertook the North-South axis during the Lerner and Raiz administrations.

During the Raiz administration (1975-79), the idea of a rail-based solution floated again.[652] Through a cooperation agreement with the French government planners from IPPUC had studied in France and seen this country's rail solutions. Planners were impressed by the light rail alternative—or tramway. Through this agreement as well, IPPUC hired Sofretu (French Society of Urban Transport Studies)[653] to study the feasibility of a light rail solution in Curitiba. This study found the light rail project feasible,[654] and defined an alignment for the network.[655] Lerner inherited the project, but never adopted it. Why? Brasileiro claims that it was for financial reasons: "Financial problems were the determining obstacle to furthering the

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[648] For the positive consequences of participatory planning processes see Forester (1999, esp. ch. 5). See also Susskind and Cruikshank (1987) for examples of how land use rules are negotiated in the U.S. setting.
[649] See Serete-Wilheim (1965, p. 208 and 147).
[650] IPPUC (1972, p. 7); Dely (1990, p. 18); and Perón et al. (1975, p. 27-30); see also IPPUC (1969).
[651] Perón et al. (1975, p. 28-29).
[652] Malucelli (1991, p. 264); and Hayakawa (1991, p. 222).
[653] Sofretu has also conducted studies in cities such as Bogotá. Sofretu belongs to the Paris Metro (Brasileiro, 1994, p. 95). Some analysts argue that part of its mandate is to promote French metros abroad. These analysts, therefore, question the objectivity of Sofretu's planning studies.
[654] Brasileiro (1998, p. 482); and Brasileiro (1994, p. 95).
[655] Brasileiro (1998, p. 482); and Malucelli (1991, p. 264).

idea of implementing a light rail system in the capital of Paraná."[656] Planners who participated in the process seem to agree.[657]

While funding certainly plays a role in explaining why the light rail project was not built, it is an insufficient explanation. First, the financial argument is weakened by the loan from the World Bank obtained by Raiz and executed by Lerner.[658] The loan could have freed up resources for starting construction of the first light rail line. Second, the lack of funding became clear only in 1981-82—in the second half of Lerner's term—when Latin America's debt crisis erupted and the Brazilian government could not pay its foreign debt.[659] Lerner could have undertaken the project during the first part of his second term, but instead he ordered more planning studies.

Planners supporting the light rail option—or *bonde,* as it is known in Brazil[660]—developed a series of arguments to justify their pet proposal during Lerner's second term. First, they argued the express bus system in Curitiba was close to being unable to handle the increasing demand. Rail was therefore the only alternative. Taniguchi, the president of IPPUC, said that by 1984 the system would be saturated and vehemently attacked the bus option, "Other cities make a mistake if they copy Curitiba...the solution is the tramway." Taniguchi, however, acknowledged that the tramway had a high cost and that funding it was difficult.[661] Second, planners argued that the bus fleet used abundant quantities of fuel—a scarce and expensive commodity at the time in Brazil after the oil crisis of 1979. The electric train, on the other hand, would save fuel.[662] Third, and related, the user fare would go down as a

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[656] Brasileiro (1998, p. 482, translation by author).
[657] Malucelli (1991, p. 264).
[658] See Mitric (1997) for the evolution of thought at the World Bank regarding the Bank's role in funding heavy rail projects. See also World Bank (2002, ch. 8 and p. 190-1).
[659] Cardoso and Helwege (1992, p. 116-119); and Thorp (ch. 7, in particular p. 219-232).
[660] The word *bonde* originated in Rio de Janeiro. The firm Bond & Share supplied the trains for this city. People in Rio baptized the trams as bondes and the name caught in Brazil (Perón et al, 1975, p. 3).
[661] "Sistema Expresso entra en colapso em 1984, diz IPPUC." Diario do Paraná, January, 8, 1982.
[662] "Um sistema aprovado." Gazeta do Povo, September, 12, 1982.

result of introducing the light rail technology.[663] The cost of the light rail proposal was US$ 494.2 million.[664]

These arguments presented by the planners were not that convincing because Curitiba had already proven that a bus-based option was feasible and flexible enough to accommodate higher demands. Indeed, in 1980 the first articulated buses went into operation;[665] a measure that showed the capacity of the system could be expanded. Equally important was that the *total* cost of the bus alternative was several times lower than the *total* cost for the rail option. Planners were careful to say that the operating cost was lower and that therefore the fare would go down thanks to the rail. Planners, however, seem not to have been explicit about the fare covering only operating costs, but not capital costs for the rail cars. For the bus option, the fare covered both.[666] Moreover, the cost of the civil infrastructure was several times higher for the rail alternative than for the bus alternative. Neither alternative recovered through the fare the cost of the infrastructure.[667]

There was, moreover, opposition to the rail project by the bus operators, who lobbied to delay the decision.[668] To bring them on board, planners argued the gradual introduction of the electric train would ease the impact. Further, planners argued that bus operators would be in charge of the feeder lines, using their old buses.[669] This strategy had been used in Curitiba when introducing new services—the old buses became feeders, thus reducing the capital expenses for the operators and helping them recycle their fleet.[670] The planners' argument did not convince the operators who

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[663] "Não pegue o bonde andando (eis aqui os seus números)." Gazeta do Povo, December 12, 1982; and "Com bondes, passagens ficarão mais baratos." Diario de Paraná, July 17th, 1982.
[664] "Não pegue o bonde andando (eis aqui os seus números)." Gazeta do Povo, December 12, 1982.
[665] URBS (198, p. 7).
[666] "Sistema Expresso entra en colapso em 1984, diz IPPUC." Diario do Paraná, January, 8, 1982. This article also says that the original light rail car was priced at 0.8-1.0 million dollars. Taniguchi recognized that for the project to be feasible, each rail car had to cost only 350,000. Interestingly, the latter value is quite close to the value of an articulated bus in Curitiba.
[667] See Armstrong-Wright (1986) for a comparison of costs across modes.
[668] "Sistema Expresso entra en colapso em 1984, diz IPPUC." Diario do Paraná, January, 8, 1982.
[669] "Com Bondes, passagens ficarão mais baratos." Diario de Paraná, July 17th, 1982.
[670] For example when the inter-neighborhood service was created in 1979 most of the buses used were old express buses. A user commented to the press: "I expected the bus to be more comfortable. In actuality, only two of the ten cars that serve the route are new. The rest were refurbished by the operators, which means they painted them green." (O Estado do Paraná, "Ônibus interbairros, o "melancia" em face de testes," Sept. 9, 1979). Interviews with planners and operators also corroborate

would lose the most profitable lines to the tramway. Further, the opening of the East-West axis prompted in 1981 the extension for 10 years of the concession contracts between the Lerner administration and the operators. Finally, as seen, the bus operators are a critical element of Lerner's pro-growth, pro-business coalition. The rail proposal did not fit within these considerations.

Lerner's decision not to adopt the tramway during his term is therefore not surprising. As a planner who participated in the events said: "Jaime's [Lerner] decision was to continue the busway projects, because they were the most important thing we had to serve the demand we had."[671] In 1982, at the end this term, Lerner declared to the press that while the rail project's plans were ready and the project had support at the federal level, the final decision by the President of Brazil was still pending. Lerner stated it would be up to his successor to achieve the final decision.[672] Yet by this time the debt crisis made this project—and many others[673]—completely unfeasible as Brasileiro says.[674]

The role of planners

The planning community in Curitiba is divided between pro-rail and pro-bus camps. The pro-bus side was able to extend the bus-base system to five axes and create the RIT. The pro-rail camp is less effective at moving forward its proposal. The pro-rail camp is highly influenced by the French in promoting light rail as a feasible solution. It also helped that usually a strong myth accompanies rail.[675] Despite these seemingly favorable conditions, the pro-rail camp cannot show that their proposal was a better

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the point that buses are recycled in Curitiba from one service to the other. For example, some of the old articulated buses can be seen in the inter-neighborhood service and even as feeders to the bi-articulated lines. Some of the fleet in these lines, however, has new buses.

[671] Rocha (1990, p. 22).

[672] "Bonde está voltando a Curitiba." Diario de Paraná, December 14th, 1982.

[673] Menezes (2001, p. 99). Menezes cites a report stating that (2001, p. 99, translation by author): "Between 1966 and 1974 every Brazilian city was offered ridiculously pompous projects: underground, elevated and at grade metros, panoramic cable-cars, ski tracks using artificial snow (and two were built), enormous underground parking lots to "alleviate" downtown traffic...a 1.5 Km-long people mover...innumerous projects to reformulate the downtown roadways through the construction of expressways in highly populated areas, whose cost would be higher than the value of the existing fixed capital in each city, and so on."

[674] In addition, it seems that some in the federal government did not receive well the idea of building light rail instead of heavy rail (Rocha, 1990, p. 22).

[675] See Richmond (1991 and 1998).

solution than the bus rapid transit already in operation. Curitiba had started to improve a bus-based technology to the point where it could effectively compete against rail-based proposals and defeat them. Pro-rail planners try to belittle the bus alternative, but this action runs contrary to the investments the city and the operators are making in expanding this system.

Further, decisional outcomes are ultimately linked to the power of the coalition that supports a plan. If sufficiently strong, the plan will likely be adopted. Pro-rail planners were unable to assemble a sufficiently strong coalition in support of the rail option. One reason was that they were never able to adapt the rail alternative to the political exigencies of Curitiba. Namely, the bus operators needed to be part of the rail alternative. For example, the rail alternative had to cover its operating costs *and* provide the operators with similar profits to the ones they enjoyed at the time—which were high.[676] Rail alternatives rarely cover operating costs. The lack of flexibility of rail options ran against pro-rail planners' objectives; analogously, BRT's flexibility benefited pro-bus planners. Given these conditions, pro-rail planners opted for maintaining their proposal in the political agenda of the city. Lerner was aware of the lack of funding and resorted to delaying the decision on a project he was not fully convinced of, but that some of his closest staff supported. Further, announcing the decision not to adopt the light rail could have had a high political cost Lerner was not willing to incur.

Crisis in the system: the user as a political actor and Lerner's response

Despite Lerner's investments in expanding the express service and the creation of the RIT, the system was entering into a crisis—at least from the point of view of bus users, some of whom demanded a say in the planning process. Three interrelated factors generated a quasi-social movement that demanded changes to the conditions of the public transportation system in Curitiba. First, the end of the Brazilian "miracle" led to an economic crisis in the Brazilian economy at the beginning of the 1980s. The

[676] See next chapter.

crisis decreased income per capita, and increased unemployment and inflation[677] (Table 9 below). Salaries, for example, were readjusted below inflation and below the rate of increase in bus fares,[678] thus making riding a bus unaffordable. The fare became a contentious issue and operators began to decrease the quality of service to protect their profits.

Second, some characteristics of capitalism in developing countries make it difficult for the poorer sections of the population to find adequate housing and related public services.[679] Poor people therefore try to associate to press the state into obtaining recognition of property titles, solutions to their housing problem, and access to public services including transportation.[680] In Curitiba the grassroots movement had these demands among others,[681] notwithstanding the efforts by the city government to provide housing for the poor through its COHAB-CT program.[682] Thirdly, and particular to the Brazilian situation, the military regime was allowing a democratic opening, in part as a result of mobilization by unions and grassroots organizations.[683]

In Curitiba the grassroots movement seeking change in urban and transportation policies had initially two distinct wings. The first was closely linked to the Catholic Church,[684] which was the only space for dissent that the military regime was not repressing.[685] In 1978, the Church organized the Pontifical Commission of Justice and Peace of Paraná (CPJP-PR in Portuguese) to defend human rights and fight the repression practices of the military regime. CPJP-PR also helped organize neighborhood associations in the poor neighborhoods of Curitiba through the use of parishes and other already-existing Church infrastructure such as the Ecclesiastic Grassroots Communities.[686] These neighborhood associations gradually gained

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[677] Bueno (2002, p. 382-3).
[678] Neves (1995, p. 75).
[679] See Jaramillo (1994) for a theoretical discussion of these issues.
[680] Alfonso, Hataya, and Jaramillo (1997, p. 11-14).
[681] See Neves (1995, ch. 2).
[682] Malucelli (1991, p. 266).
[683] Bueno (2002, p. 398-400).
[684] Neves (1995, p. 29-39).
[685] Affonso (1987, p. 23).
[686] Neves (1995, p. 29-39). Affonso (1987, p. 23) suggests that by 1980 there were in Brazil approximately 80,000 Ecclesiastic Grassroots Communities with 2 million people participating in them. The situation in Curitiba is therefore not unique but rather typical to what was happening in Brazil at the time (see Affonso, 1987, ch. 2).

experience at influencing urban and transportation policy and by 1982 constituted the Neighborhood Association Movement of Curitiba and Metropolitan Region (MAB in Portuguese).[687]

The second wing of the grassroots movement in Curitiba was linked to resident associations started in illegal neighborhoods that originally sought state recognition of their land titles. In 1980 these associations grouped into the Council of Representatives of Residents and Friends of the Neighborhoods in Curitiba. The Council of Representatives fought to legalize tenancy and to bring public utilities to the neighborhoods.[688] The environment in Curitiba during Lerner's second term was therefore marked by a constant tension between the grassroots movement, representing bus users, seeking affordable and better transport, on the one hand, and the city and the operators, on the other, seeking a financially sustainable bus system.[689]

Just months after Lerner started his second term in office the grassroots movement began to act. On May 1st 1979—labor day—unions and neighborhood associations organized a demonstration to demand adequate bus service at night and a halt to the increases to the bus fare. On July 8th on that same year, 17 neighborhood associations submitted a letter to Lerner demanding improvements to the bus system, among others. Two thousand people attended. By November 1979 drivers and conductors of buses in Curitiba started a strike to seek a wage increase. Construction and factory workers, and even taxi drivers, soon joined. Negotiations ensued and the agreement called for allowing an increase in the wages for drivers and conductors, but without an increase in the bus fare. Lerner, nonetheless, authorized a fare increase. The bus companies then conditioned any increase in wages to their employees to an increase in the fare. More protest followed.[690]

By June 1981 the grassroots movements managed to organize a petition, with 88,189 signatures, that proposed not only to freeze the bus fare but also to transfer to

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[687] Neves (1995, p. 29-39).
[688] Neves (1995, p. 27-29).
[689] The situation and events in Curitiba are rather similar to those in the city of São Paulo as told by Affonso (1987).
[690] Neves (2002, p. 107-108); Neves (1995, p. 74-76).

state property the bus operations.[691] This petition forced Lerner to pay closer attention to the movement, which was advised by CPJP-PR. Lerner agreed to meet with representatives of the grassroots movement. The representatives voiced four petitions on behalf of the movement. First, they requested freezing the bus fares. Second, they demanded state ownership of bus operations. Third, they requested increasing the fleet size to increase frequency particularly in the feeder service. Finally, the movement requested a seat in the Transportation Municipal Council (MTC).[692]

MTC had been created in December of 1966,[693] during the Arzua administration, and it is conspicuously absent until now in my account of Curitiba's transportation history. This is probably because MTC had no user representative—only city government agencies, the City Council, business associations, and the bus operators had seats.[694] MTC had two main tasks, first, to supervise the performance of the bus operators, and second, to help the mayor determine the fare policy.[695] As seen, the Lerner and Raiz administrations needed the help of the bus operators in order to implement their plans and this turned MTC into a "yes boy" for the policies the administration wanted and that needed to be convenient for the operators. While MTC handled information on costs and fares, bus users and the public at large were excluded from seeing it, thus generating a power imbalance.

Lerner met with the representatives of the grassroots movement in July of 1981 to discuss their petitions. Lerner argued that the situation was complex and much of it was beyond his control[696]—it was the federal government's policies that were creating the inflation and the decreasing wages.[697] Further, the increases in fuel prices, a critical component in the cost structure, were the result of the second oil embargo. In addition, Lerner asserted that the city's coffers could not afford to purchase the bus fleet from the current owners. He agreed, however, that it might be possible to revise

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[691] Neves (1995, p. 75-77); Brasileiro (1994, p. 91); and de Souza (1999, p. 274).
[692] Neves (1995, p. 75-77); and Brasileiro (1994, p. 91).
[693] Neves (2002, p. 106). Brasileiro (1998, p. 480; and 1994, p. 91) says that this council was created in 1973.
[694] Brasileiro (1998, p. 480); and Brasileiro (1994, p. 91).
[695] Neves (2002, p. 106).
[696] Neves (1995, p. 78).
[697] Bueno (2002, p. 398-400).

some elements of the fare structure and agreed to carry out some studies.[698] In 1981 the federal government had transferred the responsibility to set bus fares to the mayors, and had instructed them to carry out studies of the true costs of bus transportation and to transfer any saving to the user.[699] In the end this mobilization by the grassroots movement achieved some improvements in the level of service—higher bus frequency and more routes. The fares, while not frozen, did not increase as fast as before for some time.[700]

Lerner also agreed with the grassroots movement to give a seat in MTC to someone from the general public that could represent the user. The grassroots movement agreed the representative had to come from CPJP-PR. Lerner, however, did not act on the appointment. By March 1982 the grassroots movement sent a letter to Lerner emphasizing the need to curtail the increase in fares. The expenditure by most users exceeded 6% of the minimum wage, which was the maximum allowed by Brazilian law.[701] The letter also reminded Lerner of appointing the grassroots representative to the Transportation Municipal Council.[702]

Lerner, however, did not act and eventually left office in March 1983 without appointing the grassroots representative to the Council.[703] Most likely, the pressure exerted by the grassroots movement and the neighborhood associations was not enough to counteract two powerful incentives. First, the bus operators strongly opposed the presence of a grassroots representative in the Council[704] and the operators and Lerner were *de facto* allies. Second, the operators—and probably Lerner—did not want the broader public finding out the items in the cost structure that determined the fare. As seen above, this cost structure was established in the early

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[698] Neves (1995, p. 78).
[699] Affonso (1987, p. 60).
[700] Brasileiro (1994, p. 91).
[701] Neves (1995, p. 78-80). The situation was similar all over Brazil and the government did not enforce the legislation. The requirement to have the expenditure in public transit be less than 6% of the minimum wage was established by President Getulio Vargas in 1938 (Affonso, 1987, p. 60). The *vale transporte* policy enacted in 1985 (Neves, 1995, p. 91) ordered employers to subsidize the bus fares for their employees in order to satisfy the requirement that the fare be less than 6% of the minimum wage (World Bank, 2002, p. xvi).
[702] Neves (1995, p. 78-80).
[703] Neves (1995, p. 78-79).
[704] Neves (1995, p. 79).

1960s and had been slightly modified by the 1981 contracts. The cost structure amply favored the operators' interests,[705] as will be found out during the Requião administration—detailed below.

The role of planners

During Lerner's second tenure several reasons tilted the balance in favor of the bus companies, which were able to inflate the fare and hence hurt the user. First and foremost, the user was politically absent and was not empowered to affect the way the fare was set. MTC was a "yes boy" that did not include the user among its members. Second, and related, there was a lack of technical knowledge. Planners used mostly to physical planning now faced issues for which they did not have the required knowledge. Namely, planners did not know how to estimate the true operational cost of buses and design ways of lowering the fare without eliminating operators' profitability. In addition, MAB and other grassroots associations that demanded changes did not have either the required knowledge to establish a solution. While planners might have interacted with these stakeholders, the interaction did not enrich the process at this time because of this lack of knowledge. Third, MTC did not gather the required information on operating costs for fare-setting purposes. As a result, planners did not have this information. Fourth, Lerner's agenda of finishing the expansion of the express service to three new structural axes and of establishing the RIT also ran against introducing changes to the fare structure. More so at a time when the operators were making important investments in new rolling stock.

Seen differently, these four reasons curtailed the efforts of Lerner's government of achieving an outcome that satisfied collective goals for the most part and not those of particular stakeholders. While the RIT and the busways benefited both the user and the bus companies there was a power imbalance that favored the bus companies. The bus companies did not capture the city government, but Lerner's policies tend to favor them disproportionately, as future events will prove. Yet it is only an economic crisis what began to unveil the real situation. To restore the equilibrium

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[705] Urban (1987, p. 48).

and bring about policies that benefit collective goals the government of Curitiba will have to reduce the power of the bus companies and gain knowledge. The next administrations in Curitiba will slowly achieve this outcome.

Financing the implementation of the Director Plan and the RIT

The original Preliminary Plan contemplated works so expensive that its own crafters deemed most of the plan financially infeasible. The Director Plan, a modified version of the Preliminary Plan, contemplated simpler projects and was therefore more affordable. The string of changes that took place during Lerner's first administration lowered even more the cost of implementing the plan. Thanks to the forces activated once the plan was in the political agenda of the city, and thanks to planners able to figure out adaptations to the plan, the cost went down. The prime example is the *Trinary* road concept. On the other hand, Lerner was not afraid of private participation where it was feasible and was also good at raising matching funds from federal and state sources. The combination of these two factors made the implementation of the Director Plan financially feasible.

To finance the implementation of the director plan and what became the RIT, the Lerner and Raiz administration used a combination of sources, including local, federal, and private. This follows Lerner's idea of finding a "shared responsibility equation"—analyzed above—in which both the private and public sectors participate. But there was a bit more, particularly coming from the federal level of government. In general, the private sector represented by the bus companies supplied the new buses—Curitiba is one of a few Brazilian cities that has never had a city-owned bus company.[706] Often, the city government helped the operators obtain loans from BNDES, a development bank. These loans had subsidized interest rates and favorable conditions.[707] The city government, in turn, was responsible for financing the civil work construction—roadwork, bus stops later on bus stations, sidewalks—and maintenance.

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[706] Brasileiro (1999, p. 461).
[707] De Oliveira (2000, p 143).

During his first administration, Lerner was able to finance these and other public works in part with tax revenue, but mostly with transfers from the federal government, and crucially with loans from federal agencies (Table 8). Lerner was able to gather federal support for two main reasons. First, the Brazilian government was pursuing a strong development agenda by promoting industrialization and fast economic growth. Brazilian cities had to be adapted to this new reality and urban planning was seen as the way to achieve this. "Planners were to prepare the cities for the industrialization process, [the latter] understood as equaling development and modernization."[708]

Second, the Lerner administration was able to show results earlier on—the pedestrianization of XV Street—which allowed it to market an image of being a city were urban planning could show results.[709] This was just what the kind of showcase example the military government was looking for,[710] which coupled to Lerner's ability at marketing Curitiba, unleashed a strong financial support from the federal government[711] (Table 8). Francisca Rischbieter, one of the main planners in Curitiba, summarizes the results of this approach by Lerner: "It was fantastic, we just had to go and look for funds. And Curitiba had a credibility that no other city in Brazil had. We were in touch with the World Bank and were the only ones that showed how the money was spent. We were therefore preferred sons, preferential customers [of the federal banks and funding agencies]."[712]

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[708] Menezes (2001, p. 34-36, and p. 93-94, quote from p. 34).
[709] Ficinski (1990, p. 20).
[710] Menezes (2001, p. 93).
[711] Ficinski (1990, p. 20).
[712] F. Rischbieter (1990, p. 7).

Table 8. Composition and evolution of the sources of revenue for the city of Curitiba, 1971-74

Source of Funding/Year	1971	1972	1973	1974
Composition of the city's total revenue				
Tax revenue	39.9%	38.5%	31.5%	35.5%
Transfers	44.2%	50.1%	29.6%	36.9%
Loans	6.9%	3.0%	31.7%	21.0%
Total	100.0%	100.0%	100.0%	100.0%
Evolution of the city's revenue, 1971=100				
Tax revenue	100	124.9	196.0	232.3
Transfers	100	147.0	166.6	218.1
Loans	100	57.3	1146.6	800.0
Total	100	129.7	248.4	261.4

Source: Coelho et al. (1975, Table 17, and calculations by author).

This approach was deepened during Raiz's tenure as mayor, building on Curitiba's increasing reputation within Brazil as a city where planning was possible.[713] According to Ficinski, who headed IPPUC during Raiz's tenure, Raiz was able to increase the share of subsidies from the federal government that Curitiba did not have to pay back.[714] Coincidentally, Karlos Rischbieter—the first sponsor of the new Director Plan—was president of the Bank of Brazil (1977-79), and Finance minister (1979-80).[715] Because of the nature of these positions he must have participated in the decisions to grant subsidies and loans to Curitiba. The Raiz administration also planned the construction of three new structural axes, East, West, and Boqueirão, and sought funds with the World Bank for the first two. According to Raiz, he sold Curitiba's overall urban project to the World Bank by showing them that it would be a model for other cities and that it would help control urban growth by, among others, avoiding migration from the rural areas.[716]

It would be Raiz's successor, Jaime Lerner, who received most of this loan and opened the East-West axes to the public. But during Lerner's second term the Brazilian economic miracle came to an end and income per capita begun to decrease—the economy shrunk by 2.5% in 1983,[717] after entering into a recession in 1981[718] (Table 9). City finances begun to deteriorate and this trend peaked at the end

[713] See Rocha (1990, p. 19).
[714] Ficinski (1990, p. 20).
[715] K. Rischbieter (1990, p. 13).
[716] Raiz (1990, p. 59-60). See also Neves (2002, p. 103)
[717] Bueno (2002, p. 383).
[718] Neves (1995, p. 25).

of the 1980s—the years the opposition to Lerner was in office. Tax revenue did not grow as fast, and debt payments begun to absorb an increasing share of the total budget.

Table 9. Average Annual Rates of Growth of Gross Domestic Product, Income per Capita, and Average Annual Inflation Rate in Brazil (1970-1990)

Indicator	1970-80	1980-85	1985-90	Average 1980-90
GDP	8.1%	1.3%	1.9%	1.6%
Income per capita	5.5%	-0.8%	0.0%	-0.4%
Annual Inflation	37%	145.5%	653.8%	330.2%

Sources: For 1970-80 data Astorga and Fitzgerald (1998, p. 337, 373, 352, and calculations by author); all other figures from ECLAC (2002, p. 68, 69 and 94).

Finally, of the 12 years between 1971 and 1983—the Lerner and Raiz administrations—10 had a good or relatively good financial situation. These were the years during which the first physical transformation of Curitiba took place. After 1981 there is little built in Curitiba until the beginning of the 1990s when the financial situation improves again, as I detail below. This suggests that a window of opportunity for a plan can also be defined in economic and financial terms. During these windows of opportunity, there are sufficient resources or those resources can materialize or the plan can be adapted to fit the available resources. The effectiveness of planners is therefore higher during these windows for the solutions they craft have a higher chance of being affordable. More importantly, when the economy is buoyant the nature of the most salient problems to solve might be different than when the economy is in a recession. In Curitiba the problems found solutions that were mostly physical in nature—building segregated lanes for buses, shelters, and promoting development along the structural axis. Most of the planners in the account up to now had training that allowed them to think solutions in that regard. But when the recession started, the nature of the problems changed. In Curitiba it was the highly nebulous issue of fare structure that became relevant.[719]

[719] U.S. history offers a similar example. During the 1950s and 1960s cities invested heavily in urban highways and other expensive projects. In the 1970s the economic situation was not as good and planners shifted toward policies that emphasized the operations and maintenance of the system. See Pas (1986, p. 50-53); see also Altshuler and Luberoff (2003, esp. ch. 1 and 2).

Chapter 6

The Opposition to Jaime Lerner in Office

In the period between 1971 and time of this writing in 2004, Lerner's political group had only been out of office for approximately six years, between 1983 and 1989. Two mayors, Mauricio Fruet and Roberto Requião, were in office during this period. They governed during a difficult period for Curitiba and for Brazil. Inflation was very high, city tax revenue was going down, and the city's bus transit system was in disarray. The problems seemed evident, but solutions were missing. Civil society came up with a better understanding of the problem and a few new solutions. Thanks to this in part, planners and politicians were able to put forward solutions that addressed the crisis in the system. But Requião had a very different style to Lerner and was unable to form an alliance with the operators to sustain his policies. Conflict between Requião and the operators resumed and by the end of the period, the system was still in poor shape.

The appointment of Mauricio Fruet as Mayor of Curitiba

In 1980 the president of Brazil, General João Figueiredo, authorized the realization of direct elections for state governors in 1982.[720] As a result of those elections, Ney Braga's political machine, represented by Saul Raiz, lost the elections to José Richa, from the Party of the Brazilian Democratic Movement (PMDB in Portuguese).[721] The military government, however, did not allow direct elections for mayors of state capitals—these were to take place starting in 1985. Governors, therefore, were to appoint the mayors of state capitals.[722] Aware of this responsibility, the PMDB soon after winning the elections started to prepare a plan for the future mayor, without knowing who it would be.[723] Governor-elect Richa wanted to introduce some democratic taste to the appointment of Curitiba's mayor. He found out which members

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[720] Bueno (2002, p. 399).
[721] De Novaes (1997, p. 154); and Menezes (2001, p. 121).
[722] Graham and Jacobi (2002, p. 304).
[723] Pereira (1988, p. 31).

of his party were interested in being mayor and assembled a short list. With the help of a radio station carried out a survey to see which person in the short list had more support. The population surveyed favored councilman Mauricio Fruet, and Richa appointed him mayor of Curitiba.[724] Both took office on March 15th, 1983. Fruet established as his administration's motto the sentence "Participatory Curitiba,"[725] to reinforce the democratic opening of the Brazilian political system and to contrast his administration with Lerner's.[726] Fruet appointed Alcidino Pereira as President of IPPUC.[727] Fruet because of the economic crisis would face a city treasury with fewer resources than his predecessors.[728]

The Fruet administration drew its policies using the input from some communities and aware that the grassroots movement in Curitiba had contributed to the triumph of the PMDB in the election. In transportation in particular the administration wanted to rationalize the cost of bus service by eliminating all subjective factors in determining the cost structure and the resulting fare. To achieve this objective, the plan called for transparency both in planning and in managing the bus system. To achieve the latter, the plan called for allowing members of the community to be part of the Transportation Municipal Council. Finally, they wanted to create a city owned company to manage and coordinate the public transport system.[729]

Planners were also aware that the bus system of Curitiba, despite being a reference among Brazilian cities, was in disarray because of insufficient bus frequency, too few buses and the existing ones in poor shape, and increased costs and fares.[730] In addition, the decreasing income of bus users translated into social tension. According to Pereira's account, planners came up with two alternatives to solve these problems and presented them to Mayor Fruet. The first option implied the

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[724] Richa (1997, p. 158, 165-6).
[725] In Portuguese "Curitiba Participativa" (Neves, 2002, p. 110).
[726] Akel (1991, p. 214-215). Fruet held weekly public hearings in the neighborhoods of Curitiba. The meetings were held on Wednesdays and Fruet took with him his cabinet. The idea was to get input from the community and try to detect problems (Akel, 1992, p. 214).
[727] Pereira (1988, p. 3).
[728] Malucelli (1991, p. 267).
[729] Pereira (1988, p. 36).
[730] Urban (1987, p. 48).

city of Curitiba assuming in its entirety the bus transit system, which implied ignoring the existing contracts and assuming the "responsibility for all negative consequences." The second alternative called for "gradual change, step by step, based on real data obtained through controls [to the operators] to determine the true cost" of providing bus service.[731] Unsurprisingly, Mayor Fruet chose the second alternative. The account by Pereira—who headed IPPUC at the time—seems to over emphasize the role of planners and suggest the process was "rational" in that the problem was diagnosed, planners figured out solutions, and the decision-maker chose an alternative. Pereira, however, is leaving out the crucial role that the neighborhood associations, and in particular MAB played in this story.

Fruet's response to the Neighborhood Associations

As seen, the grassroots movement in Curitiba had two wings, the Neighborhood Association Movement of Curitiba and Metropolitan Region (MAB in Portuguese), and the Council of Representatives of Residents and Friends of the Neighborhoods in Curitiba.[732] With the 1982 elections for governor looming, the political parties sought to influence these grassroots movement, finding a fertile ground in the Council of Representatives. Tensions soon developed within the Council of Representatives and it split into a wing favoring the nascent Workers Party and another favoring the also newly created Party of the Brazilian Democratic Movement (PMDB in Portuguese).[733] Roberto Requião, a young lawyer, who had advised both the Council of Representatives and the Movement of Neighborhood Associations, headed the second wing.[734] Requião was also prominent in the PDMB in Curitiba and was elected to the state assembly in 1982, only to be elected Curitiba's mayor in 1985.[735] While the PDMB incorporated part of the agenda of the neighborhood associations into its

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[731] Both quotes from Pereira (1988, p. 63).
[732] Neves (1995, p. 29-39).
[733] During most of the dictatorship the military regime had allowed only two parties, ARENA and MDB. ARENA, or National Revolutionary Alliance, was the official party. MDB, or Brazilian Democratic Movement, was the opposition (see Bueno (2002, ch. 34). With the democratic opening these two parties were dismantled and other parties were allowed to exist. MDB was transformed into the PMDB.
[734] Neves (1995, p. 41-42).
[735] Requião (1997, p. 249).

own political agenda, a main outcome was that this wing of the movement became less active as a result of its participation in party politics.

Therefore, MAB—which remained apart from this politicization—became the flag bearer of the neighborhood grassroots movement.[736] MAB sought mechanisms to participate in the decision making process instead of simply continuing with a strictly confrontational approach as the one followed before the elections—during Jaime Lerner's tenure.[737] One of MAB's first decisions was to institute a Transportation Commission. This allowed MAB to qualify its members to understand the jargon of transportation planners and bus operators and to eventually figure out solutions on its own.[738] This began to slowly change the balance of power in favor of MAB, because the state and the operators began to lose their monopoly on information and knowledge.[739] Because MAB was independent of the PMDB and Mayor Fruet, it continued to demand changes to the transportation situation in Curitiba. In March 1983—one week into Fruet's term—MAB held a neighborhood conference to analyze the situation and draw a list of petitions to the mayor. In May 1983, MAB organized a demonstration—15,000 people showed up—to present to the mayor its list of petitions. Fruet then acceded to open up spaces for the grassroots movement in the discussions for setting the fare.[740]

In June 1983, the Fruet administration introduced three timid changes to the cost structure trying to reduce the rate of increase of the fares. First, the way some of the labor costs were taken into account in the cost structure was modified. Second, the useful life of bus tires was increased from 55,000 Km (34,375 mi.) to 108,000 (67,500 mi.). Finally, the existing cost structure allowed for part of the depreciation of the buses to be considered a contingency. The administration eliminated this part of the depreciation[741]—although depreciation as such continued to be recognized

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[736] Neves (1995, p. 80).
[737] Neves (1995, p. 40).
[738] Garcia (1990, p. 101); and Neves (1995, p. 80-81).
[739] Neves (1995, p. 80-81).
[740] Neves (2002, p. 111); and Neves (1995, p. 82).
[741] Pereira (1988, p. 63).

elsewhere in the cost structure. Fruet then authorized a fare increase for the semester July-December of 1983.[742]

Fruet and his planners did not discuss with MAB the change to the cost structure and the resulting fare increase. Fruet, therefore, broke his agreement to allow MAB to participate. MAB interpreted this as a sign that the operators were highly influential even with a PMDB administration, which supposedly was nearer the grassroots movement.[743] Fruet argued that the 1981 contracts signed by the Lerner administration with the operators did not allow him to act otherwise. MAB responded by arguing that the cost structure used to determine the fare was inflated for at least two reasons. First, the maintenance personnel cost was above the one actually incurred by the operators. Second, the contracts specified that the contingency item was to be used for expanding the service, but this was not taking place. Hence, the operators were pocketing this part of the fare. The head of the Department of Public Utilities accepted MAB's comments, but argued that the decision was not technical but political.[744]

MAB then followed a two-pronged attack. First, MAB questioned the qualifications of the personnel of the Department of Public Utilities who where in charge of studying fare changes.[745] This action mobilized the bus operators who, on the one hand, defended the qualifications of the personnel at the Department of Public Utilities, and on the other, mobilized their employees to press the City Council and the mayor to accept the fare increase. Interestingly, one city councilor, member of Lerner's political party, had been a bus driver and argued that not increasing the fare could cost 30,000 jobs.[746] The second part of MAB's attack was to go directly to Mayor Fruet and remind him of the agreement he had reached with MAB in May. MAB also demanded the institution of a commission to verify the true costs incurred by the bus operators. MAB argued that the commission was to have representatives of the mayor's office, the bus operators, and the neighborhood associations or MAB. To

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[742] Pereira (1988, p. 63); and Neves (1995, p. 82).
[743] Neves (1995, p. 82).
[744] Neves (1995, p. 84).
[745] Neves (1995, p. 83).
[746] Neves (1995, p. 83).

back its claim, MAB showed that between 1979 and 1983 bus fares had gone up 3,338% while the minimum wage had gone up only 2,129%. MAB also showed estimates that indicated that 100,000 users had stopped using the bus service because they could not afford traveling by bus anymore.[747]

The Fruet administration's response was to enact a series of measures to improve the control and supervision of bus operations trying to obtain better information on the true costs of operating the buses. First were measures to avoid operators from saying they had transported fewer passengers than in reality. Second, the administration requested operators to show receipts and payrolls to prove their expenses. Third, the administration reactivated the office in charge of controlling schedules and frequencies.[748] While Fruet had acted, MAB's request to form a multiparty commission was not met. Fruet also started negotiations with the bus operators for the fare increase due in January of 1984. In November the mayor announced a fare of 126.53 cruzeiros (Cr$), while the operators demanded Cr$ 145.00. MAB and others including a few city councilors proposed Cr$ 100.00. The range of differences in the proposed fares suggests that Fruet's measures to gather better information on the operating costs had still not rendered benefits. Because MAB managed to the take the polemic for the first time to the City Council, it was able to present its reasons for believing the operating costs were overestimated. MAB again proposed the creation of the multiparty commission and added this time that the contracts signed in 1981 should be cancelled.[749]

But again Fruet did not act on the creation of the commission, and instead delayed the announcement of the new fare of Cr$ 125, which the operators had accepted. Once Fruet announced the new fare, MAB and even some councilors protested Fruet's approach. The councilors belonging to Fruet's party demanded the cancellation of the contracts and the nationalization of the bus fleet. Further, Roberto Requião, a PMDB member of the state assembly, agreed with MAB that the fares were inflated and demanded better supervision and a discussion of the possibilities to

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[747] Neves (1995, p. 85).
[748] Pereira (1988, p. 63).
[749] Neves (1995, p. 84-85).

nationalize the bus fleet. Facing this pressure, Fruet's administration ordered operators to reduce the frequency of service. With more passengers for every bus trip there was no need to readjust the fare as frequently. However, this lowered the level of service and bus users criticized the measure, which the administration then abandoned.[750]

The Fruet administration was feeling the political costs of the polemic and was in need of measures.[751] In February 1984 the administration created a joint commission between planners from IPPUC and those of the Department of Public Utilities.[752] By March this joint commission found that the cost structure was inflated and that the fare could be lower[753]—what MAB had been claiming all along. The joint commission decided to try to change the fare structure towards one that reflected the true costs,[754] but the contracts signed in 1981 between the operators and the city government did not allow this change. In fact, the operators had the power to determine the cost structure, which was then approved by the Municipal Transport Council and the city mayor.[755] A partial solution, therefore, was to amend or cancel the contracts, but the latter only took place during the Requião administration.

By May 1984, MAB's efforts to strengthen its capacity had paid off for MAB was able to submit a new cost structure that allowed lowering the bus fare.[756] Members of MAB had attended several conferences and seminars, including one early in 1984 titled "Mass Transit and Popular Participation." This last seminar was also attended by several politicians and by planners from different municipalities in Brazil, including the head of the Planning Department of the city of Diadema (São Paulo), Amir Khair.[757] It was Amir Khair who helped MAB design a new cost structure that could lower the fare and still be profitable for the operators.[758] MAB also joined efforts with other grassroots and union leaders, and with some legislators to file a

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[750] Neves (1995, p. 86-87).
[751] Pereira (1988, p. 64).
[752] Pereira (1988, p. 63).
[753] Neves (1995, p. 87).
[754] Pereira (1988, p. 63).
[755] Neves (1988, p. 68).
[756] Neves (1995, p. 87-88).
[757] Garcia (1990, p. 179).
[758] Neves (1995, p. 87-88).

lawsuit seeking the cancellation of the 1981 contracts between the city and the operators.[759]

Facing these strong actions, Fruet issued in June 1984 the decree creating a Commission to verify the costs of bus operations.[760] Representatives of MAB were allowed to participate in the Commission. Other participants were delegates from IPPUC, the Department of Public Utilities and other city agencies, the Catholic Church, 2 city councilors (one for the party in office and one for the opposition), and a retail association, among others.[761] For the first time in Curitiba the method to set the fare was discussed in public.[762] The Commission reviewed the expenses incurred by the operators in the 18-month period before July 1984. The Commission found that indeed the costs were inflated.[763] Examples of the inflated costs were:

- The distance logged by the bus fleet was exaggerated by 8,000 km per day.[764] The actual number of passengers carried was not known, but an estimate was used to calculate the fare.[765] If operators underestimate the number of passengers, and overestimate the distance logged by the fleet, the apparent costs are higher than in actuality.
- The cost structure continued to recognize a depreciation cost—or repayment to capital—even on buses that were fully depreciated.
- The cost structure used retail prices for spare parts, but operators bought these pieces in bulk, hence achieving prices 16% lower than in the estimate used to set the fare.
- Administrative costs were inflated by 60% above the true value, and personnel costs by 15%.[766]

The operators, although officially excluded from the Commission, found out about the results and proceeded to craft their own report and managed to get the

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[759] Neves (1995, p. 90).
[760] Neves (1995, p. 88).
[761] Pereira (1988, p. 64-5); Brasileiro (1994, p. 92); and Garcia (1990, p. 180).
[762] Brasileiro (1994, p. 92).
[763] Urban (1987, p. 56); Garcia (1990, p. 180); and Neves (1995, p. 89).
[764] Garcia (1990, p. 180).
[765] Urban (1987, p. 56).

Commission to vote on which of the two reports, the Commission's or theirs, would be the official one. In a first vote the report by the Commission won. The operators then requested a second vote. This time, the councilor of the party in office—PMDB—changed his vote in favor of the operator's report.[767] Together with him, the councilor of the party in opposition, all the representatives of the city government, and the representative of the retail association cast the other votes in favor of the operator's report.[768] The final report, issued in November of 1984, recognized some cost inflation and, interestingly, suggested to adopt a methodology similar to the one proposed by the joint commission of planners from IPPUC and the Department of Public Utilities.[769] While the cost structure was somewhat modified and brought the estimated cost closer to the true cost,[770] it still favored the operators' interests and more changes would be needed later on.

The issuing of the report and some additional pressure by MAB and other grassroots organizations had other consequences. First, Fruet agreed to allow the grassroots movement, including MAB, to have its own people supervising the bus operations.[771] Second, old poor people, some of the unemployed, and some policemen were to receive free passes to ride in buses. MAB was to administer the distribution of the 8,000 daily passes for the unemployed.[772] Finally, MAB and other grassroots organizations used the momentum created by the Commission's report to lobby their inclusion in the Transportation Municipal Council. In June 1985 Mayor Fruet proposed to the City Council this change,[773] which was finally approved in September of 1985.[774] It had taken over 4 years of mobilization and learning for the grassroots movement to defeat the resistance by the operators, who feared sharing cost information with bus users.

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[766] All information on bullet points from Urban (1987, p. 56).
[767] Interestingly, around the time of these events the head of the City Council was the largest bus operator in Curitiba (Neves, 2002, p. 106); and (de Oliveira, 2000, p. 151-2).
[768] Garcia (1990, p. 181).
[769] Pereira (1988, p. 65).
[770] Pereira (1998, p. 66); and Pereira (1984; p. 18).
[771] Neves (1995, p. 90).
[772] Pereira (1988, p. 64).
[773] Neves (1995, p. 91).
[774] Pereira (1988, p. 65).

In sum, by this point the recession, the resulting fall in income, and the ever-increasing fare prompted the user to mobilize via MAB to seek changes to the fare-setting mechanism. Planners, however, lack the knowledge to effectively address this problem. The alternative solutions planners present to Mayor Fruet are disappointing. Planners at IPPUC continue to focus on physical issues even when planning new bus services.[775] Interestingly, it was MAB, the main representative of the bus user, the actor able to solve the lack of technical capacity. MAB was the one that discovered that the problem was the inflated cost structure. Equally important, MAB proposed a new cost structure that lowered the fare while recognizing operators a return on the investment. Put differently, a key stakeholder—the user—was absent from the process and hence the interaction between planners, politicians, and stakeholders was incomplete. The effects of the interaction on the plans and policies were inherently biased against the user and in favor of the operators. Further, absent the user, the need to have strong technical capacity regarding how to calculate the fare was not apparent to politicians and planners. Bus operators, on the other hand, knew how to take advantage of the situation.

The election of Roberto Requião as mayor of Curitiba

1984 was the year civil society mobilized throughout Brazil to demand direct elections for president. These protests and demonstrations brought to an end the military regime, which acceded to having congress elect a civilian president in January of 1985.[776] The new civilian-led government authorized elections for mayors of state capitals to be held by the end of that year, for the 1986-89 period.[777] In Curitiba,

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[775] For an example of the emphasis on physical issues and not the cost structure of bus services see IPPUC (1984, p. 4).

[776] Bueno (2002, p. 396-8).

[777] Willis, Garman, and Haggard (1998, p. 11-12); and (Graham and Jacobi (2002, p.304). It is likely that this mayoral period went until some date, probably March 15th, 1989, or even 1990. Brasileiro (1994, p. 92) reports that Requião's term was of 4 years, but it lasted less. The new Constitution of Brazil, enacted in October of 1988 established in a "transition" article that the 1986-89 mayoral period would finish on January 1st, 1989, thus shortening the term. The need to have this in a "transition" article—an article that is valid only once, during the transition from one constitution to another—suggests that the mayoral term originally was scheduled to finish at a different date. The constitution also established that the president of Brazil, the governors of the states, and the city mayors would take office on January 1st of the year after their election. (See Constituição da República Federativa do Brasil, arts. 28, 29, 82, and transitional article no. 2).

Jaime Lerner and Roberto Requião de Mello e Silva were candidates for mayor. Lerner campaigned on his record as successful two-time mayor and as a technician not involved in politics as such.[778] For his part, Requião, a lawyer with graduate studies in city planning,[779] argued in his campaign that Lerner's policies had paid attention only to downtown while abandoning the periphery, where the poor lived.[780] As seen, Requião had been involved with the grassroots movement that sought changes to the bus system and as a state legislator had requested the nationalization of the city's bus fleet.[781] Requião also linked Lerner to the bus operators and to the inflated fare unveiled by MAB.[782] Requião won the election with 43.7% of the vote, supported primarily by the lower classes "who did not know about the work of Jaime Lerner."[783] Lerner got 40.1% of the vote.[784][785]

Requião was the son of Wallace de Mello e Silva, who had been appointed mayor of Curitiba in the early 1950s and had lost in 1954 the election for mayor to Ney Braga—the starter what became Lerner's political group. Wallace was of the opinion that the bus operators charged too much and offered too little, and had a political fight with them. Requião says in this regard "I grew up seeing my father's fight against those interests and his desire to change the situation."[786] Because of this example and because of the political situation at the time in Curitiba (and in most Brazilian cities[787]), Requião structured part of his agenda around this topic seeking to improve the transport system.[788] Specifically, Requião wanted to cancel the contracts signed between the bus operators and the city in 1981[789] during Lerner's second term

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[778] De Oliveira (2000, p. 57-8).
[779] Requião (1997, p. 251).
[780] Neves (1995, p. 91).
[781] De Oliveira (2000, p. 144-5).
[782] Neves (1995, p. 91).
[783] Paz (1990, p. 7).
[784] Lerner left Curitiba to do consulting around Brazil, including Rio de Janeiro. In Rio Lerner developed the tube station, which that city never adopted. Curitiba adopted the tube station when Lerner was mayor for the third time.
[785] Lerner (1997, p. 336).
[786] Requião (1997, p. 250-1).
[787] Affonso (1987, ch. 1).
[788] Brasileiro (1998, p. 480); and Brasileiro (1994, p. 92).
[789] Neves (1995, p. 92).

in office. Requião also wanted to lower bus fares by changing the methodology for estimating bus-operating costs and to create a city-owned bus fleet.[790]

Finally, it is important to point out that during Requião's term the grassroots movement, including MAB, receded in its demand to lower bus fares.[791] In 1986 the federal government enacted a plan to curb inflation, which changed the currency and froze prices, including bus fares at the same time that salaries were adjusted upward.[792] While the plan did not lower the inflation rate (see Table 9, above) by raising salaries it lowered the pressure of the fare as a political issue. More importantly, in 1985 the Brazilian government enacted the "v*ale transporte*" policy,[793] through which employers subsidize the bus fares for their employees.[794] As long as a user is formally employed, therefore, the bus fare matters little and this eliminates the incentive for political mobilization. Further, Requião decided to enlarge MTC from 13 to 225 members, including all of the City Council, and representatives of political parties, civil society, etc. MTC met few times, for rarely sufficient members gathered to achieve a valid quorum. Also, by increasing the size to 225, the incidence of the organizations representing the user—only three seats in the council—was minimal.[795] Despite this lack of political pressure, Requião had an agenda and called his team at URBS, under Stênio Sales, to spearhead the effort and enact the changes he wanted in Curitiba's bus system. Under Requião, consequently, IPPUC saw a dramatic change of fate; from being a powerful agency under Lerner, Requião transferred many of IPPUC's functions and personnel to other agencies. Further, IPPUC's Deliberative Council did not meet once during Requião tenure.[796]

A distance-based payment and a city-owned bus fleet

Mayor Requião had two broad objectives in transport: to change the system that determined the fare, and to gradually establish a city-owned bus fleet. To achieve these objectives Requião needed to cancel the contracts with the operators. Given

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[790] Interview to planners who worked for Requião.
[791] Neves (1995, p. 91).
[792] Bueno (2002, p. 404-5).
[793] Neves (1995, p. 91).
[794] World Bank (2002, p. xvi); and HFA (2000, p. 189).
[795] Neves (1995, p. 97).

the events of the mid-1980s, Requião had figured out that these were in his view the right policies. It is impossible to deny, therefore, the role that MAB and the grassroots movement played in shaping Requião's agenda. Requião started by strengthening URBS' role in managing and administering the public transport system through a decree issued in March 1986.[797] URBS then started learning about operating the bus system, its costs, scheduling, etc. Planners at URBS had several advantages vis-à-vis the planners in previous years. For one, they had the reports of the Commission to verify the costs of bus operations, which showed the costs were inflated and suggested ways of lowering the fare. For another, MAB and other grassroots organizations had people supervising the operations of the bus fleet in real time. These supervisors provided the evidence Requião needed to implement elements of his agenda such as canceling the contracts. The supervisors, for example, found that operators "manipulated data and hid from authorities information on what buses were [illegally] circulating even though their useful life had expired."[798]

Requião then hired lawyer Geraldo Ataliba to render an opinion regarding the validity of the 1981 contracts between the city government and the bus operators. That contract had been issued without a competitive bid—it was just an extension of the 1974 contracts, with some modifications. Ataliba issued his opinion in September of 1986 concluding that the mayor could cancel these contracts because of the lack of a competitive bid. Requião then announced his intentions to proceed in that manner. Operators probably were expecting this,[799] more so given the tense relationships between them and the mayor. Relations between the city government and the operators were tense, as usual, around fare issues. But during Requião's tenure they reached a peak. During 1986 the operators had demanded a fare increase and Requião had denied it arguing that the fare was inflated. The operators responded by saying that Mayor Fruet—of the same party as Requião—had changed the cost structure and that Requião had to respect this and the 1981 contracts.[800]

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[796] De Oliveira (2000, p. 104).
[797] URBS (1992?, p. 14).
[798] De Oliveira (2000, p. 145).
[799] Neves (1995, p. 91-2); and de Oliveira (2000, p. 148).
[800] De Oliveira (2000, p. 147).

According to the planners involved in these events, Mayor Requião set January 31st, 1987 as the date when he would enact the changes he intended. Planners at URBS had two months to polish the proposals by figuring out the rationale and the arguments needed to convince the operators, and conduct the negotiations with them. First, Requião wanted to change the cost structure and pay the operators according to the distance logged by the buses.[801] Planners analyzed the situation and discovered that the problem went beyond including certain items in the cost structure—incentives and risk played a larger role probably. At the time in Curitiba, each user paid a fare that went directly to the fare box inside each bus. In the absence of subsidies to private operators who want to maximize profits, this system generates several incentives that can lower the level of service. For one, operators have an incentive to maximize the number of passengers per bus-trip by lowering the frequency of service. For another, operators do not have an incentive to provide service during periods of low demand, such as at night[802] and in newly developed areas. If left unregulated, operators will oversupply in profitable areas and undersupply in non-profitable areas—areas where there is a population that nonetheless needs service. In short, under this system, operators assume the demand risk for their business and hence their behavior in order to maximize profits.

Requião and his planners figured that a solution was to transfer the demand risk to the city government. With a lower risk, the fare can be lower. To transfer the demand risk to the city, two interrelated changes had to be introduced. First, the operators would be paid according to the distance logged by the bus fleet—a figure independent of ridership. Second, the fare box would have to go to the city, known in Curitiba as *receita pública* or public fare box. At the time, users paid the fare upon boarding the bus, so with the change the operators would have to deposit every day the day's revenue in a government bank account. The city government would pay, in turn, every 10 days to the operators. By transferring the demand risk to the city the incentives to operators radically change. Now the incentive is to comply with the

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[801] During his first week in office, Requião announced these measures (de Oliveira, 2000, p. 146-7).
[802] Notice that one of the first demands made by users—during the demonstrations held on May 1st 1979, during Lerner's second term—was to have adequate service at night.

schedules set by the city because revenue is contingent on logging distance and not on carrying passengers. If the city instructs an operator to supply an area with scant demand or at night, the operator has the incentive to comply by logging kilometers and getting paid by the city.

Requião's second objective, to create a city-owned bus fleet, originated in his left-of-the-center ideology that preached that public services should to be government owned. Requião, however, agreed that the operation of these services, such as transit, could be done privately. Requião and his planners, as well as MAB had done before, figured that the cost structure that determined the fare had several elements that remunerated the capital invested by the operators in the buses. By the end of the useful life of the bus, therefore, users had actually paid for the buses. As a result, they reasoned, by the end of the useful life of the buses it is the bus users who should own the fleet—or the city on their behalf. Therefore, the city should be the one that purchases the fleet and asks the private sector to operate it. According to some planners, this has the additional advantage that if desired, the fare can be lowered if no return on capital is included. For this to happen, however, the city government has to have other sources of funding beyond the fare to fund the acquisition of the fleet—something that did not happen in Curitiba.

On January 20, 1987, Mayor Requião convoked the representatives of the bus operators to negotiate these and other changes to the bus system in Curitiba. Representing the city, planners from URBS, such as Garrone Reck,[803] João Carlos Cascaes, Germinal Pocá, and Assis Correia, headed by Stênio Sales Jacob. Representing the operators Dante Franceschi and João Xavier Simões from the Association of Bus Operators of Curitiba (Sindicato das Empresas de Transporte de Passageiros de Curitiba).[804] In the agenda: the public fare box, the payment per kilometer logged, changing the cost structure that determined the fare, the gradual implementation of the public fleet, the elimination of the "selective" area principle, and

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[803] Garrone Reck will years later be one of the key transportation planners in the planning and design of TransMilenio in Bogotá. In Bogotá the payments per distance logged became an important element to achieve the change desired by Mayor Enrique Peñalosa.

the cancellation of the existing contracts.[805] The negotiations were difficult but planners wanted to reach a consensual agreement with the representatives of the operators. Planners now had several advantages vis-à-vis previous attempts to change the system. For one, as seen planners had better information on the actual costs of operating the fleet and this allowed them to negotiate changes to the cost structure. For another, the changes Requião wanted had several carrots embedded in them together with a big stick. The stick was the legally feasible threat of canceling the contracts and leaving the operators out of the business if they did not agree to the other changes. The carrots where in the lower risk the operators would face and in the possibilities of freeing capital if the city owned the bus fleet.

The representatives of the operators had to convince their constituents about the need to accept these radical changes. They used the argument that the existing system, which assigned all the demand risk to the operators, but left the responsibility for setting the fare in the hands of the governments was not convenient for them. Setting the fare could always be a political issue. By transferring the demand risk to the city and accepting the payment per kilometer logged, this potentially contentious issue would be solely the city's responsibility—at least in theory. The operators would receive a payment that covered costs, regardless of the actual fare or actual demand. This payment, moreover, would adjust—in theory—automatically if the cost of the supplies increased above a certain threshold. Regarding the public bus fleet, it was initially appealing since as one operator told me: "Our real business is to operate buses, not to own them. If the city puts the capital, we can put our own capital in certificates of deposit, continue doing what we know and get paid for it."

On January 30, in the midst of the negotiations, Requião issued two decrees. The first decree canceled the 1981 contracts and the 9 companies ceased to be concessionaires of the city government. The second decree turned URBS into the sole concessionaire of the city government for the provision of bus transport

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[804] "Ata da reunião de negociação do novo sistema institucional do transporte coletivo do Municipio de Curitiba," January 31st, 1987. (Minutes of the meetings to negotiate the new institutional system of mass transit of the Municipality of Curitiba).

[805] Neves (1995, p. 93); and de Oliveira (2000, p. 148).

services.[806] The decrees turned the companies into "permissionaires." The city argued that a concession contract with a private company is difficult to supervise and modify, even if the concessionaire does not perform as expected. Because URBS is a city-owned company the mayor can modify the concession agreement as needed. In turn, with a "permission" contract it is easy to supervise the bus companies, modify it if necessary, and if a company does not comply, the permission contract can be canceled more easily than the concession one.[807] The second decree also canceled the "selective" areas[808]—yet the "selective" area principle remained intact in determining the allocation of service among bus companies. This decree also established that at the end of the useful life, the city would own the buses, and established that URBS was to start audits of the operators.[809] Finally, the decrees eliminated IPPUC's role in planning and managing the transit system, leaving this responsibility solely in the hands of URBS.[810]

Probably thanks to these decrees, the negotiations between URBS and the bus operators could not reach an agreement on all issues of interest. On January 31st—one day after the decree—the attendants to the negotiations signed a consensual agreement regarding the "adoption of the payments per kilometer logged; the public fare box; the gradual introduction of the public bus fleet and the elimination of the selective area."[811] The same agreement established February of 1987 as a transition month and the payment per distance to start on the 1st of March of 1987. Further, the agreement determined the value of the bus fleet and established a mechanism for transferring the buses once their useful life expired. The issue on which URBS and the operators did not reach agreement was the value that the city would pay the operators for each kilometer logged—URBS would determine this value later on.

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[806] URBS (1998, p. 8); and Neves (1995, p. 93-95). The decrees were No. 44 and 45 of January 30, 1987.
[807] Urban (1987, p. 58).
[808] URBS (1998, p. 8).
[809] URBS (1998, p. 8-9).
[810] Brasileiro (1998, p. 481); and Brasileiro (1994, p. 92).
[811] "Ata da reunião de negociação do novo sistema institucional do transporte coletivo do Municipio de Curitiba," January 31st, 1987. (Minutes of the meetings to negotiate the new institutional system of mass transit of the Municipality of Curitiba).

It is important to underscore one thing. The bus companies were turned into "permissionaires" again without a competitive bid. Given the circumstances and given that the reason to cancel the 1981 contracts was precisely that there had not been a competitive bid, one could argue that the permissions ought to have been assigned through a competitive process. The reason there was no competitive bid rests again on the "selective" area principle, which gave a disproportionate amount of power to the operators. Although canceled by the decree, the "selective" area principle was used to assign the new pie among the operators. Whereas the old pie was measured in terms of area of the city and each company got a slice of the total demand in that way, with the changes the pie was measured in kilometers or distance but the shares remained the same. As an operator told me, "If a company had 15% of Curitiba's area before, it got 15% of the total kilometers logged by the fleet." Further, several planners confirmed to me that even today any new service is assigned taking into account the "selective" area principle. Specifically, whenever there is a new bus route, URBS calls the operator in the respective "selective" area and offers it the service. If the operator rejects the proposal, then another operator is called—"seeking to maintain the equilibrium among the operators."

The role of planners

MAB had been successful at putting the fare issue on the political agenda. But this civil society movement had gone farther by providing even detailed diagnostics and possible solutions. Requião's objectives as mayor—to lower the bus fare and to create a city-owned bus fleet—were therefore partially influenced by MAB. Thanks to MAB's work, moreover, Requião's planners had better information and knowledge regarding the distortions in the fare-setting structure. Planners now had the knowledge they needed to figure out new solutions—in the end, the conflict protracted in time in part due to an absence of feasible solutions. Incentives and risk allocation where at the root of the problem in Curitiba and hence Mayor Requião and his planners proposed the payment per distance logged and the public fare box.

Therefore, the interaction among planners, stakeholders—both operators and MAB—and politicians eventually led to a new understanding of the problem and more

importantly to solutions that were politically feasible. Solutions that contrary to previous ones escaped from the realm of "physical" planning by centering on economic and behavioral aspects. This interaction among actors was more balanced than in previous instances for it included MAB, who albeit imperfectly represented the bus user. For political reasons, however, MAB's participation in the process was not constant. But before MAB's involvement only planners, politicians, and bus operators participated. Hence the solutions inherently favored the operators' interests who were more powerful. MAB and the grassroots movement altered the equation by mobilizing to introduce users' interests in the process.

In short, the interaction among actors increased the extent to which government policies reflected collective goals and not those of a particular stakeholder. Notice, however, that the interaction took many forms, including the mobilization of MAB to force other actors to hear its concerns. The extent to which policies reflected collective goals increased because, first, MAB's effort and participation in the process brought about the missing actor, the user; MAB also helped generate the missing knowledge. Second, with better knowledge the planners were able to reduce the power of the bus companies. The companies no longer enjoyed the advantage of being the only ones who knew the costs of operating a bus. Further, because the city would pay the bus companies per distance logged, the companies were no longer interested in how the city sets the fare. Bus companies no longer have to mobilize to obtain a desired fare level. Bus companies now have to negotiate with URBS who knows their costs. In the end, the process led to an outcome were costs and benefits were better distributed—and that did not favor disproportionately the bus companies.

The aftermath: success then turmoil

The changes introduced by the Requião administration were initially well received by the bus companies and by bus riders. Operators complied with the order to deposit the daily revenue in URBS' bank account; in turn, URBS complied with paying the operators every 10 days. Also, compliance with schedules and frequencies

increased[812] and it is currently estimated to be around 99.6%.[813] Because of this success, several cities in Brazil, including São Paulo, copied the idea of paying the operators per kilometer logged and of having the fare box go to the city government.[814] In fact, this innovation would prove key in Bogotá for the implementation of the TransMilenio project. Furthermore, the operators initially liked the idea of the public bus fleet. Before these measures were introduced only 14 articulated buses were rolling on the streets of Curitiba. While the first articulated bused had been introduced in the North-South and Boqueirão axes in 1980,[815] bus operators had been reluctant to invest in this high-capacity bus, probably because they cost 50% more than the express buses.[816] The city government, on the other hand, was willing to purchase the buses. Through the public bus fleet program the city bought 88 new articulated buses for the bus companies to operate.[817] The number of passengers using the system also increased (Table 10). Finally, according to several sources, Curitiba had at the time one of the lowest bus fares of Brazil (Table 10).

Table 10. Impact of distance-based payment and public fleet

Item	1986, March Before Measure	1987, March First month of Measure	1988, May Over a year after measure
Weekday passengers	889,600	956,300	1,027,000
Operational bus fleet	943	997	1,074
Kilometers logged by bus fleet on a weekday	211,500	234,200	249,800
Fare in Curitiba	1.4	2.6	25.0
Fare in São Paulo	1.5	5.0	50.0

Sources: Statistics compiled by URBS and supplied to author by Stênio Sales.

The Requião administration, however, did not have all the required funding to undertake the public fleet idea. Therefore, to finance the acquisition of buses for the public fleet, the Requião administration established that a percentage of the fare paid by users would go to a fund for this purpose.[818] The remainder of the fare would go to paying the operators for the kilometers logged. By the second semester of 1987

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[812] Urban (1987, p. 59).
[813] Interviews by author with Euclides Rovani, Director of Mass Transit, URBS, April 2002 and 2003.
[814] Brasileiro (1998, p. 481). Golub and Hook (2003, p. 14) report that São Paulo in the mid 1990s abandoned the per km payment and reintroduced the per passenger payment.
[815] URBS (1998, p. 7).
[816] Estimation based on Ceneviva (2000, p. 190).
[817] Brasileiro (1994, p. 193; and 1998, p. 481); and de Souza (1999, p. 151). Each city-owned bus had the words "People's Property" painted on the side.

tension began to develop between the operators and the administration. Operators claimed the administration was not adjusting the value of the kilometer logged to keep pace with inflation—which was still high at the time. Soon the mismatch was of 23%. The Requião administration, moreover, had increased the share of the fare that went to the public fleet from 5.8% initially to 10% by December 1st, 1987 and then to 15% one week later. This hampered the ability of the city government to increase the payment per kilometer logged.

Franceschi, on behalf of the operators as head of their trade association, announced that the financial condition of the operators was dire and even proposed the city government to take over their business. Soon the operators filed a lawsuit to get the city to readjust the value of the kilometer.[819] In May 1988, a judge ruled in favor of the operators ordering a 16% adjustment to the value they received per kilometer logged. So as not to increase the fare, the judge ordered to lower the share of the fare destined to the public fleet.[820]

Requião counter attacked by filing an appeal and won.[821] The administration continued to increase the share of the fare destined to the public fleet and by August, 1988, it was 18.2%.[822] A second lawsuit filed by Requião sought to confiscate 105 buses whose useful life had expired and according to the new rules belonged to the city. Requião again won.[823] What followed was a lengthy legal battle of lawsuits, counter-lawsuits, and appeals. Further, Requião at one point claimed the operators wanted to bribe him to stop his actions. The operators filed a lawsuit claiming slander. Finally, given the inflationary environment and that finally judge rulings favored the operators, Requião decided to decrease the share of the fare that went to the public fleet by 90% in order to keep the fare constant. While not canceled, the public fleet had no funding to continue buying buses by the end of 1988.[824]

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[818] Urban (1987, p. 61-2).
[819] Interview by author with Dante Franceschi, April, 2002.
[820] "Justiça freia frota pública in Curitiba," Gazeta do Povo, May, 4th, 1988.
[821] De Oliveira (2000, p. 146-8).
[822] Brasileiro (1994, p. 93).
[823] De Oliveira (2000, p. 146-8).
[824] Neves (1995, p. 98); and de Oliveira (2000, p. 149).

These events had profound political repercussions within the operators. First, while the idea of the public fleet had been appealing to them, as discussed above, the uncertainty around how any administration in office would behave made the idea too risky for them. For one, as simple operators not owning any bus, they could be fired and changed for new ones almost at any point. For another, if the administration decided not to readjust the value of the kilometer logged, it could put them out of business. The operators, therefore, needed to oppose the idea of the publicly owned bus fleet and force a change in policy towards one where the operators owned the fleet. The payment per kilometer logged was something they wanted, so they sought to keep it in place.

Second, de Oliveira argues that the events during the Requião administration showed the operators that their trade association, the Association of Bus Operators of Curitiba, had to become politically proactive to achieve the power needed to increase their influence on the city's public policy. Until those events, this trade association had been reactive to the policies initiated by the city government. The trade association, moreover, was not as strong because of the selective area scheme. Under it, any policy initiative by the government typically affected one or two "owners" of "selective" areas but not necessarily the rest of the operators. This facilitated the negotiations for implementing the express bus, for example. But now the operators concluded they needed a trade association with political strength that could assemble a winning coalition in the City Council. The objective of having such a coalition were to protect the interests of the operators, particularly against any effort to transfer the property of the bus fleet to the city government, and to represent other business sectors.[825] De Oliveira concludes: "This coalition in the City Council, identified as "Pro-City," then transformed itself into the most important political force in the City Council."[826] Interviews with operators also reveal that their trade association finances political campaigns.

In sum, Requião was unable to assemble a coalition, let alone an alliance, as the one Lerner had with the business sector in Curitiba. Further, Requião's actions

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[825] De Oliveira (2000, p. 152).
[826] De Oliveira (2000, p. 152).

also alienated the grassroots movement, which felt excluded from the decisions to set the fare, and which considered the enlargement of MTC to over 200 members a way of diminishing their influence. For Garcia, Requião tried to de-articulate the grassroots movement as soon as he saw them dangerous for his own objectives.[827] It is therefore not surprising that Lerner went on to win the next elections. More interesting is that Lerner's political group has held since then the mayor's office—almost 16 years, thus establishing itself as the hegemonic political force in Curitiba.[828] For his part, and despite his political troubles and style of government in Curitiba, Requião went on to be elected governor of Paraná in 1990, for the 1991-95 period, and then Federal Senator for two terms. In 2002 he won again the governor's office, and not surprisingly, in his agenda figures the idea of lowering the fare for metropolitan bus services in Curitiba.[829] This policy will again put him in conflict with Curitiba's bus operators and with Curitiba's mayor, Cassio Taniguchi of Lerner's group. A planner that worked for Requião in the 1980s and who is now again in his team told me "I have already watched this movie..."

The role of planners

Planners are conspicuously absent in this part of the account; instead, lawyers become the main advisors to Mayor Requião. The planning team ceases to be a mediator between the mayor and the bus companies—the courts take over that function. Absent the planning team to mediate between the mayor and the bus companies the conflict escalates. Planners cannot lower power differentials. In this case, Mayor Requião seems too powerful and planners should have tried to reduce the mayor's power vis-à-vis the companies. Yet Requião's power only alienates the

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[827] Garcia (1990, p. 219-255); Neves (1995) agrees with this assessment.

[828] Samek (1996, p. 15).

[829] As governor, Requião has jurisdiction over the trips that between Curitiba and the surrounding municipalities in the metropolitan area. In the 1990s, when Lerner was governor and the mayor was part of his group, they enacted policies to integrate the surrounding municipalities to Curitiba's RIT. While this enlarged the service area and benefited some users, it also had the consequence of increasing the fare. According to an operator, if there was no integration, the fare could be 35% lower for trips within Curitiba. This operator recommends having a fare scheme whereby users pay proportional to the distance they travel—but this change could hurt the poor who live in the suburbs and benefit the wealthy who live close to downtown. Requião's team argues that with the integration the fare is also inflated for the metropolitan user. To determine this, Requião's administration

bus companies, which resort to the courts to try to balance the power differential. Planners cannot mediate because there is little or no interaction between planners, stakeholders, and politicians. Absent the interaction, planners obtain no feedback and cannot figure out solutions to fund the public fleet program under high-inflation conditions. The events, therefore, illustrate the importance of having a capable government *and* interaction among actors. The mayor seems powerful but absent the interaction his pet policy is not adopted. Paradoxically, operators initially supported the public fleet plan. But absent the interaction and the necessary adjustments to details in the fleet's plans the bus operators end up building a strong coalition against the public fleet and against Requião's movement—which has not been in office in Curitiba since those events.

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contracted for the first time the performing of an origin destination survey. The results of these studies will be ready in 2004.

Chapter 7

Lerner's movement back in office: Revamping the RIT

In 1989 Jaime Lerner became Curitiba's mayor for the third time. This time, however, he was elected and not appointed as in the previous two occasions. The conflict between the opposition to Lerner and the bus operators probably contributed to Lerner's easy triumph. Lerner had an agenda that included city beautification and marketing the city's image domestically and internationally. In transport, a light rail proposal gets again in the agenda, only to be defeated by the revamping of the bus-based RIT. It was this transformation of the RIT—which took place in the first half of the 1990s—that turned bus rapid transit into valid alternative to light rail. After this, Curitiba's bus transit system will be replicated with adaptations by cities such as Quito and Bogotá in the second half of the 1990s.

The Election of Jaime Lerner as mayor of Curitiba

During Requião's term, Jaime Lerner spent most of his time in Rio de Janeiro, helping Governor Leonel Brizola, and eventually joined Brizola's Partido Democrático Trabalhista (PDT).[830] Because Lerner was not officially a resident of Curitiba, his party[831] initially did not choose him as candidate for the 1988 election. However, the new Brazilian Constitution enacted in October of 1988, changed the rules,[832] making Lerner's candidacy legally feasible. Requião's party, the PMDB, responded by filing a lawsuit against Lerner's candidacy, but the judiciary cleared the way for Lerner. As a result, Lerner started his campaign only 12 days before the elections. Having so little time, Lerner's campaign could print few materials, but resorted to slogans such as "This time, yes," and "Jaime Lerner, for sure,"[833] that could ring with people. Supporters also carried heart-shaped stickers and advertisements. The hearts made direct reference to Lerner's campaign in 1985, when his slogan was "Curitiban

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[830] Lerner (1997, p. 336),
[831] Democratic Workers Party.
[832] See Brazil's Constitution, transition article No. 5.
[833] In Portuguese these slogans were, respectively, "Agora sim," and "Jaime Lerner, com certeza."

heart."[834] Finally, the campaign promoted Lerner as an experienced technician and not as a party politician. Lerner won with 48.6% of the vote. Mauricio Fruet of the PMDB—a former mayor supported by Requião—was the first runner up with only 29.5% of the vote.[835]

Lerner was lucky to find that congress had enacted a tax reform that allowed cities to increase tax revenue as of 1989—Lerner's first year in office. With ample funding and with little need to modify the Director Plan's guidelines for Curitiba's urban growth, Lerner adopted an agenda that emphasized city beautification and the environment. Lerner undertook during his third term works that made Curitiba internationally famous. These include the Botanical gardens, the Wire Opera, the 24-hour Street,[836] the Free University for the Environment, the "Garbage That Is Not Garbage program," the "Garbage Purchase program," [837] and the upgrade to the RIT with the introduction of the "Speedy service" and the tube stations.[838] Lerner also stepped up his efforts to market his policies to the population and to market the Curitiba within Brazil and abroad to attract investment to the city.[839]

The end of the fight between the city and the operators

Days before taking office, Lerner was asked about Requião's policy to change the contracts with the bus operators from concessions to permissions. Lerner replied: "In Rio de Janeiro, where I worked for three and a half years on the transportation system, bus operators want permissions and not concessions. Therefore, I am not

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[834] Paz (1990, ch.1). In Portuguese the slogan is "Coração curitibano." Paz also reports that after Lerner lost the 1985 election, some supporters created a sticker with a broken heart and the phrase "Curitiba: you lost."
[835] Paz (1990, p. 15).
[836] De Oliveira (2000, p. 59-60).
[837] Rabinovitch and Leitman (1996, p. 50-53). The Free University for the Environment "offers practical short courses at no cost for homemakers, building superintendents, shopkeepers and other to teach the environmental implications of the daily routines of even the most commonplace jobs. The courses, taught by people who have completed an appropriate training program, are a prerequisite for licenses to work at some jobs, such as taxi driving, but many people take them voluntarily." (Rabinovitch and Leitman, 1996, p. 50). The "Garbage That Is Not Garbage program" promotes a voluntary separation of solid waste for recycling purposes. "The Garbage purchase program," designed specifically for low-income areas, helps to clean up sites that are difficult for the conventional waste-management system to serve. Poor families can exchange filled garbage bags for bus tokens, parcels of surplus food, and children's school notebooks." (Rabinovitch and Leitman, 1996, p. 52-3).
[838] URBS (1998, p. 9-10); and Ceneviva (1999, p. 187-9).
[839] Sánchez-Garcia (1997, p. 56); and Sánchez-Garcia and Torres Ribeiro (1997, p. 107).

worried at all about managing again the transit system I created."[840] Lerner, however, found the system highly deteriorated due to the fight between the operators and the city government. Operators had under-invested in maintenance and bus renewal was lagging. Service to the user was poor.[841] One of Lerner's first moves was therefore to adjust the fare upwards and update the value paid to the operators per kilometer logged. Lerner and his planners also changed the tone of the interaction with the operators: "While others treat the operators as thugs, we treat them as entrepreneurs," a planner told me. The operators also wanted to improve the relations with the new mayor. By the end of the Requião administration, a judge had finally ruled in favor of the operators, ordering the city government to compensate the operators for the unpaid amounts.[842] According to Dante Franceschi, one of the operators, the value of this debt was 30 million dollars or 450 new buses. The operators decided not to recover this value as a sign of their will to improve the relations with the new mayor.[843] While not in a notarized document, it is clear that this starts an alliance between the new mayor and the operators.

This alliance was reinforced by three events. First, Lerner did not like the idea of having a city-owned bus fleet. The operators did not like the public idea either. In October of 1990 the City Council cancelled this initiative by issuing a city law to replace Requião's decree 45 of 1987.[844] The new law, just as the decree, established URBS as the sole concessionaire of the bus routes of Curitiba. The law also allows URBS to delegate through permissions the provision of bus services. The law, however, eliminated the idea of a publicly owned bus-fleet.[845] Second, Brazil's new constitution protects investors in that if the conditions of a contract between the government and a private party changes, the government has to compensate the private party. This provision lowered the risk for the operators, who now had

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[840] Biography of Jaime Lerner, No date, no author, mimeographed, Public Library of Paraná.
[841] Neves (1995, p. 58). Press accounts at the time corroborate that the level of service was low.
[842] De Oliveira (2000, p. 149).
[843] Neves (1995, p. 58-9).
[844] Neves (1995, p. 99-100).
[845] URBS (1998, p. 9).

constitutional backing.[846] Finally, in May of 1989 Lerner changed the composition of MTC by decreasing its membership to 17, lowering the user representatives from 3 to 1, and by having the remaining councilors come from within the administration and the business sector. The mayor of Curitiba, moreover, would be the president of this council and only one entitled to convoke a meeting.[847] The alliance controlled MTC because most of its members were from the growth coalition to which Lerner and the bus operators belong.

As a result of the alliance, planners at URBS, the regulatory agency, and the bus operators understand that if they want to be successful they need one another. A planner at URBS told me: "URBS has an excellent relationship with the operators because this is essential for URBS' success." And an operator told me in this regard: "Having a good relationship with URBS is essential for us, because this is a partnership between URBS and the operators." Another operator rounded up by saying: "Thanks be to God for having given us a very well managed and efficient government represented by URBS." Lerner's planners at URBS, therefore, understand that the RIT needs to have a collaborative relationship between them and the operators. This does not preclude innovative policies from being adopted. Quite contrary, this is the period when the RIT got revamped and Curitiba achieved world recognition. Notice, however, that the bus rider is again not a direct participant in the planning process. The user is no longer motivated to participate because employers subsidize their employees fare[848] and because the level of service is high.

Revamping the RIT: Bi-articulated buses and tube stations in lieu of light rail

Lerner's election to the mayor's office opened a window of opportunity for planners at IPPUC—an agency that had been ignored and weakened by Mayors Fruet and Requião.[849] A planner who worked at the time at IPPUC told me: "Mayors always want a project or policy that shakes the local political system, that transforms the city

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[846] Interview by author with Dante Franceschi, April, 2002. See also Brazil's Constitution, arts. 5 and 170-181, esp. art. 175.
[847] Neves (1995, p. 99-100).
[848] Neves (1995, p. 91); see also HFA (2000, p. 189).
[849] De Oliveira (2000, p. 105); and Rocha (1990, p. 24-25).

and leaves a mark." Aware of this, some planners at IPPUC bet on the light rail project to recover the Institute's prestige and its place in the city government.[850] Lerner had appointed Taniguchi as president of IPPUC—Taniguichi's second tour in this position. Taniguichi was a staunch supporter of the idea of building a light rail line in Curitiba. Taniguchi assembled an in-house team that carried out the preliminary studies for the rail line.[851]

The main study, rather simple and again without using standard techniques such as origin destination surveys, concluded that light rail was needed in Curitiba. Planners argued that passenger traffic on the RIT had increased 12 times in 15 years (Table 11) and that despite the RIT providing an "exemplar" service, the North-South axis was about to become saturated.[852] The study stated: "It is no longer feasible to improve further the current solution, using buses...Of the possible alternatives, the metro solution, elevated or underground, is not feasible because of the very high cost and the long implementation time, in addition of being recommended for demands above 35,000 passengers per hour per direction."[853] The study then concluded:

> Curitiba wants to innovate once again when opting for the at-grade solution that best serves current and future demand: the Modern Bonde (tramway) or LVR, light vehicle over rails. In addition to having a cost 10 times lower than a metro, it adapts to the city scale and is entirely compatible with the existing system, both in this stage and in future ones. Its capacity to transport people, between 300 to 400 passengers per car, guarantees that demand will be served for the next 30 years.[854]

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[850] Interviews to planners at IPPUC, 2002. Rocha (1990, p. 20) argues that IPPUC began to lose influence during Lerner's second term in office in 1979. He argues that the heads of other city agencies disliked the extreme influence IPPUC had enjoyed during the last two terms. "When Jaime [Lerner] returned to office in 1979 he was unable to guarantee IPPUC the strength it used to have within the municipality." Rocha (1990, p. 23) also argues that planners at IPPUC were victims of their own success and began to be afraid of making mistakes and proposing potentially erred policies. This is an interesting contrast with IPPUC's first years when a trial-and-error approach was the norm as seen.
[851] Brasileiro (1998, p. 483); and Brasileiro (1994, p. 96).
[852] IPPUC (1990a, p. 6).
[853] IPPUC (1990a, p. 8).
[854] IPPUC (1990a, p. 9).

Table 11. Trips on RIT and Total Trips by bus in Curitiba

Year	Weekday trips		Rate of Growth		RIT share of total demand
	RIT	City Total	RIT	City Total	
1974	54,038	677,019			8%
1975	84,654	689,953	56.7%	1.9%	12%
1976	104,468	694,040	23.4%	0.6%	15%
1977	225,171	702,000	115.5%	1.1%	32%
1978	231,995	734,325	3.0%	4.6%	32%
1979	248,726	737,217	7.2%	0.4%	34%
1980	280,529	757,887	12.8%	2.8%	37%
1981	294,347	711,982	4.9%	-6.1%	41%
1982	391,848	773,852	33.1%	8.7%	51%
1983	354,893	791,176	-9.4%	2.2%	45%
1984	396,000	813,789	11.6%	2.9%	49%
1985	394,728	815,708	-0.3%	0.2%	48%
1986	443,530	897,089	12.4%	10.0%	49%
1987	483,688	965,492	9.1%	7.6%	50%
1988	510,278	983,044	5.5%	1.8%	52%
1989	570,271	1,056,057	11.8%	7.4%	54%
1990	800,377	1,194,688	40.4%	13.1%	67%
1991	907,088	1,315,103	13.3%	10.1%	69%
1992	1,106,042	1,509,177	21.9%	14.8%	73%
1993	1,240,537	1,538,541	12.2%	1.9%	81%
1994	1,268,052	1,537,814	2.2%	0.0%	82%
1995	1,424,426	1,713,450	12.3%	11.4%	83%
1996	1,459,294	1,723,878	2.4%	0.6%	85%
1997	1,730,000	2,135,802	18.6%	23.9%	81%

Note: Figures are for trips where the passenger paid a fare. Because the RIT allows free transfer between lines, the actual number of trips is higher than shown.
In 1996 the RIT was extended to the metropolitan region. Figures are for the Curitiba part of the RIT and not for the total for the metropolitan system.
Sources: All data on ridership from URBS (1998), except 1980 data from IPPUC (1990a). Rates of growth and share of RIT come from calculations by author.

In other studies and publications, IPPUC continued to make the case for the light rail option on the North-South Axis.[855] Even planners at URBS agreed with this assessment: "We have to go one step ahead: either we do the tramway or we do something else, elevated or underground. Something has to be done in the short range."[856] This first line was to be 18.4 km in length, with 2 terminals, 5 integration stations, and 23 intermediate stations. The cost was estimated at US$ 208.5

[855] IPPUC (1990b and 1990c).
[856] Rovani (1990, p. 80-1); see also Hayakawa (1991, p. 222).

million.[857] Planners were aware that because of the size of the investment the city government would have to seek additional funding from state and federal agencies, and even from international development banks.[858] By the end of 1990, IPPUC had several studies that further defined the main elements of the light rail project for example by establishing that it would be procured through a turnkey contract and that parts of the alignment in downtown would be underground.[859]

The in-house team at IPPUC also tried to gather political support for its project by holding hearings and meetings with interested parties—business associations and the Contractors Association, among others, as well as neighborhood groups. The planners also met with the bus operators and agreed to have them become the operators of the new light rail system.[860] Whether this was enough to bring the operators into the coalition of support for the project is not clear, but it was probably not enough. In the end, operators did not necessarily know about rail technology and the learning curve could prove expensive. Further, with the payment per kilometer and the new alliance with the Lerner administration, risk had gone down and profits up for the bus operators.

But times had changed for IPPUC. From being the agency that supplied all the members of Lerner's first cabinet and enjoying a high level of control over other city agencies, IPPUC was now just one more agency. URBS and the Municipal Secretariat of the Environment were better endowed both in terms of funding and personnel.[861] Lerner had appointed Carlos Ceneviva to head URBS—the agency in charge of the RIT. In his first days in office, Ceneviva went around the city and traveled extensively on the RIT to see what measures could be undertaken. He noticed that users were loosing a lot of time because the busways were close to being saturated. Ceneviva had the idea to create a new bus service he called direct service, because it would stop only every 3-km—and not every 0.5-km as the express service did on the busway. The direct service, however, would not use the busways, because

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[857] IPPUC (1990b, p. 68). The pre-feasibility study estimates the cost to be US$ 239.7 million (IPPUC, 1990c, p. 10).
[858] IPPUC (1990b, p. 68).
[859] See IPPUC-Protran (1990a and 1990b).
[860] Brasileiro (1998, p. 483); Brasileiro (1994, p. 96).

this would only complicate the operations of the express buses. Instead, the direct service would use the two other roads of the *trinary* road system. These buses would run on the high-speed roads, parallel to the busways, used until then only by cars, trucks, and some conventional buses.[862] Further, because of the long distance between stops, the buses would have to occasionally stop at integration terminals to transfer passengers to the express and inter-neighborhood services.[863]

Ceneviva presented the idea to fellow planners, and got a cold reception. As Ceneviva described the situation: "Planners had turned into a dogma the idea that buses go in the busway, and cars and trucks go in the normal street. My idea implied breaking this dogma."[864] Ceneviva started to convince his fellow planners about the convenience of his idea, making some progress. Ceneviva also presented the idea to Mayor Lerner. Lerner liked it immediately and added "Fantastic, I can use the tube stations." Lerner had developed the tube station concept around 1984 when he was, together with Ceneviva, developing some transport plans for Rio de Janeiro. Back then Lerner drew on a piece of paper the cylindrical-shaped station and a bus by it and showed it to Ceneviva, "What do you think?" Ceneviva liked the idea. They studied it in more detail and found the tube stations to be feasible. Rio de Janeiro, however, never adopted these stations.

The overall concept around a bus station is simple. By having a station, which Lerner chose for aesthetic reasons to look like cylinders or tubes, passengers can board the bus without having to step up. At grade boarding saves precious time and buses take less time at the station.[865] Passengers pay upon entering the station and not when boarding the bus, which also saves time. It also saves money in the Brazilian case. In Brazil each bus has a person different than the driver in charge fare collection. Stations demand fewer fare collectors and therefore save on labor costs.

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[861] De Oliveira (2000, p. 104).
[862] Interviews by author with Carlos Ceneviva, April 2002 and 2003.
[863] This meant that the buses had to have the door on the left side, so that passengers could disembark on that side of the direct bus, and walk toward the express bus, which has doors on the right side.
[864] Interviews by author with Carlos Ceneviva, April 2003.
[865] Embarking time from a tube station is 1/8 of the time needed to board a bus from the ground (Ceneviva, 1998, p. 5).

Finally, tube stations are low cost, easy to manufacture, and easy to mount over a pre-cast foundation.[866]

In short, Ceneviva had an idea for a new bus service that would relieve the crowded express service. And Lerner coupled to this proposal his own idea to have tube stations—stations that became emblematic of Curitiba's transit system (Figure 12). Having two powerful figures as the mayor and the president of URBS supporting the idea ensured its approval with other planners. Because Ceneviva and Lerner supported the idea of building the tramway along the North-South Axis[867] they decided to implement the direct service first in a different one, and chose the Boqueirão axis—a high demand corridor, nonetheless.

Figure 12. The "Speedy" service and the tube station

Source: URBS.

Ceneviva seized an additional opportunity created by the contractual need to renew part of the fleet belonging to the operator of the Boqueirão axis. Ceneviva's idea required new buses, with doors on the left side. If the operator had to renew the fleet, the additional cost was not large. The municipality, moreover, offered to help the operators obtain soft loans from the Brazilian development bank (BNDES). According to sources at URBS as of then the municipality agreed to include payments to capital for 10 years in the value of the kilometer logged. Because the repay period of these loans from BNDES is 8 years, operators have an extra profit the last two years of the useful life of the bus. Not surprisingly, therefore, interviews I held with the parties involved suggest there was no particular difficulty in these negotiations. The direct

[866] For other descriptions of the tube stations see Cervero (1998, p. 288-9); and Wright (1996, p. 21).
[867] See Ceneviva (1990, p. 37-39) for examples of his support for the light rail alternative.

service opened for service in April of 1991 in the Boqueirão corridor. By the end of 1992 the city government and the respective operators had extended the direct service to the East-West Axis.[868] The direct service soon became a success and users dubbed it the "speedy service,"[869] because it offered significant savings in time.

The success of the direct service began to erode the argument that light rail was the only way to enhance capacity. Adding buses on the outer roads of the *trinary* road system had increased the capacity, if not of the busway, of the *trinary* roads as such. The new service, moreover, was highly popular. Yet Ceneviva had another innovation in mind to enhance even more the capacity of the bus system. Ceneviva, together with other planners, figured that it could be possible to add an additional body to an articulated bus, turning it into a three-body or bi-articulated bus (Figure 13). This would increase the carrying capacity of each bus to 270 passengers. Further, Ceneviva reasoned, having proven the advantages of the tube station, why not transfer them to the main busway? The bi-articulated bus was to have no steps; passengers would board from tube stations, which were to be built on the main busway.

Lerner liked the idea and went to the Volvo headquarters in Göteborg (Sweden) to present the idea together with studies showing there would be a market for the bus. While initially reluctant, two months afterward Volvo informed Lerner that they were willing to develop the new bi-articulated bus in their plant in Curitiba.[870] Planners then went to the Volvo factory in the Industrial City of Curitiba and presented their plans for a bi-articulated bus. Volvo sent the idea to its Research and Development unit, which designed and tested the new bus. There was constant communication between Volvo engineers and URBS' planners. Planners needed the bus to be able to make sharp turns—in fact, as narrow as a single-body bus is able to turn. After some time Volvo came up with the final designs[871]—a bus for 270 passengers. Again, Boqueirão was the first axis to see the bi-articulated bus service

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[868] URBS (1998, p. 9-10).
[869] Ligheirinho in Portuguese
[870] Pereira (2003, p. 23)

in December of 1992[872]—days before Lerner last term in office as mayor of Curitiba ended. The fleet had 33 bi-articulated buses, 30 tube stations in 15 stops, and a demand of 100,000 passengers per day.[873]

Figure 13. Bi-articulated bus and tube station

Source: URBS.

By the end of the Lerner administration, therefore, important innovations to improve the functioning of bus-based transport had been adopted along the Boqueirão axes and to a lesser extent on the East-West axis. The North-South axis had been left alone because planners at IPPUC wanted to build there the first light rail line. Further, the light rail idea was in the political agenda of the city. This proposal had been studied but Lerner did not make the decision to undertake it. The high cost of the light rail and the opposition by bus operators partially explain this outcome. Yet it was the innovations to the bus system—that significantly increased its capacity to move people—that explains the procrastination on the decision to undertake the light rail. If Curitiba had not had an effective bus rapid transit system and a group of planners willing to innovate, the decision would have probably been to undertake the light rail project, despite its cost. But Curitiba had both the innovative planners and the bus system, and as result the arguments supporting the light rail proposal grew progressively weak. At one point in the process, according to sources, Lerner asked some planners at IPPUC, "Do we really need to undertake the light rail project?"

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[871] Volvo only makes chassis and engines. A bodywork manufacturer had to produce the three-part body. Planners also worked in this area with Marco Polo, a manufacturer in Caxias do Sul in the Rio Grande do Sul State. Volvo and Marco Polo later on played a key role in the TransMilenio project.
[872] URBS (1998, p. 10).
[873] URBS (1998, p. 10); and Ceneviva (1998, p. 7).

The rail project, however, was still in the political agenda and the new major, Rafael Greca, of Lerner's political movement, had to decide what to do. Greca, a civil engineer, was initially a planner at IPPUC and in 1982 entered electoral politics when he successfully ran for the City Council. In 1988 he was campaign manager for Lerner and in 1992 was elected mayor.[874] Greca, another planner-turned-politician, also had an interesting view of planning and politics: "Why are we in politics? To see things happen, to make them happen...Politics is the reconciliation of words and actions."[875]

Greca appointed Rafael Dely to head IPPUC to replace Cassio Taniguchi. Greca also asked Carlos Ceneviva to continue in charge of URBS. In the first cabinet meeting, Greca asked for plans from each of the agencies. Dely presented IPPUC's plans for the light rail line on the North-South axis, whose technical development advanced significantly during Taniguchi's tenure. Ceneviva, in turn, presented a plan to expand the Direct Service and the articulated buses with tube stations to the entire system. Greca, however, did not know what to do for he knew Ceneviva's proposal was a substitute of the light rail alternative. Greca decided to postpone his final decision. Soon after Dely concluded that the rail proposal was a very large investment that would require operational subsidies for 15 years. Dely began to withdraw his support for the rail alternative. But Dely resigned after only 6 months.

Mauro Magnabosco, the new president of IPPUC, decided to hold hearings to discuss the light rail on the North-South axis. The support for the idea was not great. The cost of the light rail was US$ 280 million and it was difficult to fund it. Moreover, the light rail needed subsidies due to its high operating costs. Further, rerouting bus traffic during construction was difficult, and planners suspected that demand might be leveling off. Greca, moreover, was bothered by the idea to build a large underground station in the heart of downtown and the disruption this could cause.[876]

Almost two years into his mandate, Greca was still doubtful about which project to undertake. By then, Alvin Toffler, a famous futurist, visited Curitiba. Mayor Greca

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[874] Greca (1990, p. 38).
[875] Greca (1990, p. 50).
[876] Wright (1996, p. 20). Brasileiro (1994, p. 96) indicates that the light rail proposal implied building a 600 m. viaduct and an 800 m. underground segment in downtown, with one station. This station was to have two levels and a shopping mall. See also IPPUC-Protran (1990b).

invited him to tour the city and the bus transit system, especially the corridors with the tube stations. Greca asked Toffler if he would undertake the light rail project or a more Curitiban solution such as the bi-articulated bus. Toffler replied, according to several sources, "You have the best transit system because it is with buses, flexible, accessible. The tramway has rails, it will put a straitjacket on the city." Greca replied: "Then what do I do with the money?" Toffler said emphatically: "buses!" The meeting with Toffler, according to several sources, tipped the balance in favor of the bus option. The light rail project was discarded late in 1994.[877] Greca then took the tube station and bi-articulated bus upgrade to the North-South axis, which opened in August of 1995.[878] Greca also started a city-wide revamping of the bus system, which included adding tube stations to the entire system—all for only 67% of building a single light rail line, US$ 187 million.[879/880]

Thanks to these innovations, bus-based solutions—now fully-fledged bus rapid transit—entered a new level. BRT became a solution appropriate for cities where demand was fairly high, as in Curitiba, and that were seeking a high level of service. Key decision-makers such as Greca had been finally convinced of this. Planners, even the creators of the system, also had to change their mind in light of the empirical evidence. Ceneviva's change of heart illustrates this well. In 1990 he strongly supported the tramway idea and said, among others, "I think the tramway is more of an urban vehicle than the bus."[881] By the end of the Greca administration he proudly stated:

> "The bi-articulated bus, with at-grade boarding and disembarking and fare pre-payment thanks to the simple and efficient technology of the tube stations, can play the role up to now reserved to the tramway. Tramway technology demands long implementation times and unbearable investment volumes for the small municipal budgets of the vast majority of Latin American cities. A new worldwide tendency is

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[877] Geotécnica (1996, p. 4).
[878] Ceneviva (1998, p. 7).
[879] Wright (1998, p. 21-22). See also Geotécnica (1996, p. 4) for a description of the process that led to changing the intended loan with the IADB for funding a light rail to one funding a bus rapid transit project.
[880] On January 1st 1995 Lerner became governor of Paraná, while Rafael Greca was mayor of Curitiba. This allowed for improved coordination of policies between the two levels of government. One outcome was extending the RIT service to the municipalities in the metropolitan region. The agreement to extend the RIT was signed on January 31st, 1996 and that year the first facilities opened to the public (URBS, 1998, p. 11).
[881] Ceneviva (1990, p. 37).

> beginning to emerge in search of intermediate solutions between conventional buses and rail systems. Many cities in many countries are exploring new paths. The city of Curitiba found her path."[882]

The Role of planners

Two groups of planners are at odds and competing for decision-makers' attention to have their pet proposal adopted. Taniguchi heads the pro-light rail group and Ceneviva the pro-bus one. Why is Ceneviva's group more effective at taking its plans to the decision point than Taniguchi's? First, Ceneviva is critically aware of the importance of time in a planning process.[883] Ceneviva told me "Time is critical in a planning process. You can't control time, you can't stop it. Conditions change. Your solution is good at a specific moment in time and you can't miss the opportunity."[884] Ceneviva therefore produced proposals knowing that the window of opportunity that Lerner's election opened would not last long. The Direct Service is a fairly simple project that effectively solves a problem. The bi-articulated bus could also be adopted within the time remaining to the Lerner administration. On the other hand, the pro-rail planners managed to put their proposal in the political agenda mid-way through Lerner's term. For a highly complex project as this, this point in time is probably too late. Further, during Greca's term—another window of opportunity—the pro-rail planners did not move to fully convince Greca about their proposal. Ceneviva awaited his chance, which appeared when Toffler visited Curitiba.

Second, as a result of the interaction among planners, politicians, and stakeholders plans undergo incremental adjustments. The process resulted in adjustments to the bus-based alternatives, for example on how to fund bus acquisition, among others. The light rail proposal, on the other hand, remained unchanged in light of the results of the interaction. If the underground station in Curitiba's downtown bothered Mayor Greca, why not figure out an adaptation to the proposal? If the cost was too high, why not introduce changes to the proposal to lower the cost? I can't answer these questions, but what is clear is that the proposal did not

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[882] Ceneviva, introductory letter to URBS (1996?) "Curitiba, Rede Integrada de Transporte. Referência Mundial em Transporte Urbano." Ceneviva was URBS president at the time.

[883] Unfortunately for my research I was unable to interview Cassio Taniguchi for he was the sitting mayor at the time of my fieldwork. Likewise for Rafael Greca who was a house representative. This section, therefore, lacks their input.

change enough to become politically feasible. One reason for the lack of change in the project, however, lies in the lack of flexibility of rail-based alternatives. BRT, on the other hand, is inherently more flexible on many dimensions than rail. BRT enjoys an advantage.

Third, pro-bus planners were better able to handle risk for the key stakeholders—the bus operators. Ceneviva told me: "Bus operators liked the Direct Line and bi-articulated proposals because those proposals fueled the system and extended its useful life."[885] Risk went down for the operators. Pro-rail planners, on the contrary, could handle risk as well as pro-bus planners. Pro-rail planners invited the bus operators to consider operating the tramways and even investing in the cars. But switching to a more complex technology was highly risky for the operators, as profits could disappear with the mistakes that take place during the learning curve. Further, the idea of turning the buses into feeders to the tramway was risky for the operators. For the critical issue is how to price each service to set an integrated fare that bus users can afford and that is profitable for the bus operators. Because the tramway needs subsidies in any case, the operators could fear that to minimize those subsidies, the city would not integrate the fares or leave them out of the scheme. In the end, this has happened with most rail systems in the developing world where integration between buses and rail never took place.[886] Risk was too high for the operators if the light rail proposal was adopted. Buses offered a lower risk.

Finally, bus-based solutions in the context of Curitiba are more likely to convince participants in the process that they solve a problem effectively. Adding buses on the high-speed lanes relieved the busways and increased speeds. The tramway would also do increase capacity but after many years of construction and at a higher cost. As a participant told me: "The tramway always left doubts about its effectiveness." Moreover, as time passed the successful experience of the Boqueirão axis left it clear that buses could do the job—at a much lower cost. As the evidence grew, it was more and more difficult for Greca to decide in favor of the tramway. Mid-

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[884] Interview by author to Carlos Ceneviva, February, 2004.
[885] Interview by author to Carlos Ceneviva, February, 2004.
[886] See TRL/HFA (1989, esp. p. 6-8-6.16, and 7.7-7.12) for a discussion of these issues for rail systems.

way through his term he was probably desperate for making a decision in order to be able to leave his own legacy in Curitiba's transport. Toffler showed up around that point in time.[887]

Financing the Revamping of the RIT

Lerner's movement was out of office precisely during the time when the finances of Curitiba were in poor shape. In 1983, when Mauricio Fruet was mayor, the total debt of the city of Curitiba was US$ 84 million, of which 56% was with foreign creditors. That year tax revenue was not enough to meet the debt payment schedule. In addition, the Federal Government, in hands of the Military, had diminished the taxing power of the local governments and increased that of the federal government. [888] At the same time the federal government diminished the transfers to the municipalities.[889] This weakened the financial position of the municipalities, particularly of the larger cities, which were receiving more immigrants from rural areas.[890]

When Lerner returned to office in 1989, the Brazilian economy was still vulnerable, but a new Constitution, a tax reform enacted by Congress, and better economic policies at the federal level significantly increased municipal revenue.[891] Transfers to the municipalities from the federal government also increased.[892] While the administration of Roberto Requião had had maximum total revenue of US$ 74 million in a year in 1988, Lerner had during his first year in office in 1989 US$ 340 million[893]—a 360% increase. Table 12 shows the evolution of the main financial indicators for Curitiba during the Lerner and Greca administrations in the 1990s. During Lerner's tenure revenue grew impressively until 1991, well above the other Brazilian capitals. Expenditure, however, did not grow as fast, and the city enjoyed a

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[887] I specifically do not include a financial factor in the explanation for why bus-oriented planners were more effective than rail-oriented planners in Curitiba. Table 12 below shows that during Lerner's third term, Curitiba's government had an ample surplus.
[888] Pereira (1998, p. 27-29).
[889] Lowry (2002, p. 28-29).
[890] Pereira (1998, p. 27-29).
[891] Afonso (1999, p. 56).
[892] Lowry (2002, p. 28-29).
[893] Requião (1997, p. 253).

surplus well above that of the average Brazilian capital.[894] Revenue started to grow again during the Greca administration, at levels closer to the rest of Brazilian capitals. Expenditure also increased and the surplus was much smaller than during the Lerner years. The revamping of the RIT and other initiatives, such as Greca's project to decentralize the city government, exhausted part of the surplus. Notice, moreover, that Curitiba's expenditure in transport is not that different from the expenditure by other Brazilian capitals in this sector (Table 12).

Table 12. Per capita total city revenue, city expenditure, surplus (deficit), and expenditure in transport for Curitiba and Brazilian state capitals.

Mayor	Lerner				Greca			
Year	1989	1990	1991	1992	1993	1994	1995	1996
Total Revenue ($R/per capita)								
Curitiba	234.2	336.2	388.4	308.0	240.2	305.7	377.4	401.4
State capitals in Brazil	243.0	276.1	313.3	264.6	234.6	297.4	378.4	N.A.
Expenditure ($R/per capita)								
Curitiba	203.5	215.1	227.0	258.5	234.8	306.7	337.0	371.8
State capitals in Brazil	214.2	238.2	257.1	253.0	225.0	266.6	320.2	
Surplus (Deficit) ($R/per capita)								
Curitiba	30.7	121.2	161.4	49.5	5.4	(1.0)	40.4	29.6
State capitals in Brazil	28.8	37.9	56.2	11.6	9.7	30.8	58.2	
City expenditure in transport								
Curitiba	20.73	40.64	47.32	51.07	34.97	60.36	31.78	29.53
State capitals in Brazil	32.83	44.78	38.38	49.59	46.16	41.76	62.73	

Source: Afonso (1999, p. 56-69).
Note: $R stands for Real, the Brazilian currency. Values are in real terms, but Afonso does not indicate what is the base year.

Finally, during Lerner's term, the city pursued a policy of helping the operators obtain funding from Federal agencies at subsidized rates. In 1991, the *BNDES* loaned US$ 23.6 million dollars to the operators to renew most of the bus fleet.[895] Lerner and his successors—all from his party—were able to capitalize once again on Curitiba's

[894] These large budget surpluses weaken the argument that financial reasons explain why the light rail project was not adopted. Quite the contrary, they suggest there was a financial window of opportunity to put forward proposals for adoption.

[895] Neves (1995, p. 56). Apparently the bus operators inflated the prices of the new buses by 20%. URBS, under Carlos Ceneviva, discovered this and did not accept the inflated value. However, URBS did not accuse the operators with the respective authorities. Opposition in the City Council opened an investigation, but the Council voted not to hear the results (Neves, 1995, p. 54-59; and de Oliveira, 2000, p. 152).

reputation and obtained more loans from the Inter American Development Bank (IADB), for example to revamp the entire Integrated Transit Network with a total cost of US$ 187 million. The city contributed directly US$ 33 million, the private sector US$ 46 million for buses and fare-control equipment, and IADB US$ 120 million in loans to the city for the project.[896] Table 13 shows the total cost of construction of the RIT updated to 1999 values.

Table 13. Total Cost of the RIT in 1999

Infrastructure -Public Investment by city government	Quantity	Unit value US$ per unit (or km)	Total US$
Terminals	25	900,000	22,500,000
Exclusive lanes (km)	56	800,000	44,800,000
Tube Stations	213	40,000	8,520,000
Total City			75,820,000
Buses -Private Investment by bus operators			
Bi-articulated	95	457,000	43,415,000
Articulated	73	252,000	18,396,000
Direct buses	248	174,000	43,152,000
Inter-neighborhood	159	170,000	27,030,000
Feeder	621	91,000	56,511,000
Total Bus Operators			188,504,000
Total cost RIT			264,324,000

Source: Ceneviva (1999, p. 191)

Epilogue

In 1997 Cassio Taniguchi, as well of Lerner's group, took office as mayor. In 1998 the press began reporting Taniguchi's intention to build a metro line along BR-116[897]—an ugly highway that cuts Curitiba in two. Around it are mostly industrial developments and little residential and commercial use. Accordingly, few bus routes use it because demand is low compared to that in the structural axes. Some local analysts joked that it was a "rural metro," because of the poor alignment. Notice, however, that this alignment did not affect the interests of the bus operators. In the 2000 election the metro was a hot topic. Taniguchi was re-elected[898] and thought he could undertake the project. The government of Japan was willing to finance a large chunk of the US$

[896] Wright (1996, p. 21-22).
[897] "Curitiba vai implantar o metro." Gazeta do Povo, August 31st, 1998.

340 million project.[899] Not surprisingly, when I started my fieldwork in 2002 it seemed clear that this time, the rail solution would be adopted in Curitiba. When I returned in 2003, Curitiba was building a bus rapid transit facility on the BR-116 corridor thanks in part to a loan from the IADB. Once again buses had defeated rail—and once more, bus service for the new corridor was apportioned among Curitiba's bus operators according to the "selective" area principle so that all bus companies had a share of the new pie.[900] The alliance between planners, politicians, and bus operators in Curitiba seems to have grown yet stronger.

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[898] Taniguchi and Lerner benefited from a Constitutional amendment that allowed the immediate reelection of mayors, governors, and the president.
[899] "E o metro ficou para 2002..." Curitiba 310 anos, Gazeta do Povo, April 27th, 2003.
[900] Interview to undisclosed source.

Part 3

Transit Planning in Bogotá

In the period I analyze, 1986-2001, Bogotá's transit planning has felt the tension between two schools of thought, each of which has planners and politicians. First, the school that believes a metro network ought to be the backbone of the transit system complemented by bus-based services. Second, the school that believes buses on exclusive busways and later on Bus Rapid Transit can do the job without the need of heavy rail. The second school has prevailed for the most part. Let's see what role planners played in the planning processes in Bogotá and how much they had to do with buses on busways and bus rapid transit (BRT) being the preferred option by politicians and stakeholders.

Chapter 8

A Busway Facility in Lieu of Heavy Rail

The conflict between the pro-rail and pro-bus factions in Bogotá begins when a powerful president allied to his appointee, the mayor of Bogotá, puts forward a proposal to build a metro. This triggers a reaction by planners who think the rail alternative is not good and maneuver to put forward their own bus-based plan. Planners convince the first democratically elected mayor to adopt this busway facility.

President Barco's proposal for a metro

The idea of building a metro in Bogotá had been studied several times[901] and at least once before it had been in the political agendas of the city and national government. This had been during the presidency of Julio Cesar Turbay and the tenure of his

[901] See Acevedo and Azuero (1979); Guhl and Pachón (1992a, ch. 6); Acero et al. (1999, ch. 3); and El Tiempo, "Estaciones del acuerdo SITM," February 1st, 1998.

appointee, the mayor of Bogotá, Hernando Durán. Several detailed studies were done to estimate the demand, the cost of the network, and how to finance the undertaking. On the finance front, the study proposed to increase city taxes in an important way and to eliminate the subsidies to gasoline[902]—a contentious political issue not just at the city but also at the national level. Turbay and Durán could save face thanks to the 20-volume study for the Bogotá metro when they left office in 1982. They claimed that the final decision to undertake such an important project should be made by their successors.[903]

Belisario Betancur, elected president in 1982,[904] was from Antioquia where Medellín, Colombia's second largest city is located. At the time, Antioquia and Medellín were going through an economic crisis and the local elite saw in the construction of a metro system the way out. The regional elite also believed that Antioquia paid too much in taxes to the national government and received too little in transfers. Betancur had promised in his campaign to direct more funds from the national government to Antioquia. The Medellín metro fitted well within this promise and the local elite mobilized to make their dream to have a metro—before Bogotá—come true.[905] Betancur had appointed Augusto Ramírez as mayor of Bogotá[906] and days after taking office Ramírez announced that Bogotá's metro would not be undertaken. Álvaro Uribe, then the mayor of Medellín and president of Colombia at the time of this writing, announced that his city's metro would be undertaken. In February of 1983, just six months after Betancur took office, the city of Medellín issued the request for proposals for building its metro through a turnkey contract. After delays due to political problems, construction started in April of 1985.[907] Sometime in 1984 or 1985, Hisnardo Ardila, who had succeeded Ramírez as Bogotá's mayor,[908]

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[902] Guhl and Pachón (1992a, p. 140-149).
[903] Guhl and Pachón (1992a, p. 142).
[904] At the time, there was no immediate reelection of the president of Colombia. Former presidents who wanted to run again had to wait one four-year term. The 1991 Constitution changed this by banning completely the reelection of the president. As of 1994, presidents serve one four-year term and have no possibility of seeking reelection. At the time of this writing, Congress is studying an amendment to the constitution to allow the *immediate* reelection of the president for one term.
[905] Acevedo et al. (1993, p. 37-39).
[906] Gilbert and Dávila (2002, p. 34).
[907] Acevedo et al. (1993, p. 37-39 and 154-5).
[908] Gilbert and Dávila (2002, p. 34).

tried to revive the idea of building a metro in Bogotá but President Betancur told him "we will leave this issue to the next government."[909]

Colombia's next presidential election took place in this environment of strong regional competition between Bogotá and Medellín for national prestige. Medellín was leading because construction of its metro lines had started. Bogotá, in the mean time, had old buses in mixed traffic providing mass transit service to a population almost twice as large as Medellín's. Virgilio Barco, a civil engineer from MIT, won the election and became Colombia's president. Barco had been mayor of Bogotá between 1966 and 1969, appointed by President Carlos Lleras.[910] As mayor, Barco had proposed to construct a north-south metro line, but the idea never took off.[911] Not surprisingly, Barco supported the idea of building a metro in Bogotá and had Julio Sánchez, his appointed mayor, work on the project. Sánchez presented a basic study for the metro on March 27th, 1987,[912] seven months into Barco's four-year term. The study proposed to use the existing rail corridors as the basis for the metro network.[913] The rail corridors were used for inter-municipal transport and as a result they served poorly the main origins and destinations within the city. But the rail corridors offered the advantage of minimizing construction cost since the land was already government-owned.

Four days later the national government invited the government of 26 countries to submit proposals to build the proposed metro. The terms of reference were vague and left lots of discretion to the proponents. By mid June eight countries submitted a proposal—India, Hungary, France, Italy, Canada, Belgium, Germany and a joint proposal by Mexico, Brazil and Argentina. The national government discarded the first two proposals for not meeting the basic expectations and proceeded to appoint a commission to evaluate the remaining proposals, which included planners and politicians. In the commission figured names such as Ernesto Guhl, Jorge Acevedo,

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[909] Guhl and Pachón (1992a, p. 142).
[910] Gilbert and Dávila (2002, p. 34).
[911] Acero et al. (1999, p. 60).
[912] Guhl and Pachón (1992a, p. 153).
[913] Guhl and Pachón (1992a, p. 152).

Hernán Cadavid, Sergio Amaya, and Humberto de la Calle.[914] Incidentally, Acevedo had written to President Barco claiming that the demand for the proposed metro was estimated in a poor way. Barco then appointed Acevedo to the commission.[915]

The commission evaluated the proposals according to the following criteria: costs and funding, technical quality, proponents' experience and managerial capacity, technology transfer and participation by domestic contractors.[916] The Italian proposal—ultimately chosen—received the lowest marks on technical quality, and was considered average in experience and managerial capacity. The Italian proposal, however, offered the lowest price and the best financing arrangements.[917] In its report, the commission suggested an important change to the metro's alignment by having it enter the main area of downtown—an area not covered well by the existing rail lines. The national government accepted this idea. The commission did not rank the proposals in its November 1987 report. The commission considered that the national government should set the relative weights.[918]

The government thought there was no fair way of ranking the proposals with the available information and requested the proponents to update their proposals. By the end of January the government received the new versions of the proposals. A local firm, Ingetec, advised by Bechtel, was to carry out the evaluation due by early April 1988. Because of the high cost, Ingetec discarded the German and the Mexican-Brazilian-Argentinean proposals. Ingetec ranked highest the Italian proposal, by the firm Intermetro[919]—despite the aforementioned weaknesses in the proposal. This was because the government had given the highest weight to financial and cost factors.[920] Late in May 1988 the governments of the countries not favored objected the evaluation made by talking to mayor-elect Andrés Pastrana and to the minister of public works, Luis F. Jaramillo. Pastrana and Jaramillo agreed to hire a specialized entity to do a final review of the proposals, together with representatives from the

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[914] Guhl and Pachón (1992a, p. 152).
[915] Interview by author with Jorge Acevedo, July 2003.
[916] Guhl and Pachón (1992a, p. 152).
[917] Guhl et al. (1992, p. 181).
[918] Guhl and Pachón (1992a, p. 152-4).
[919] Guhl and Pachón (1992a, p. 152-4).
[920] Guhl et al. (1992, p. 181).

national and city governments. In June, Pastrana and the minister approached the World Bank to do this evaluation, but the Bank declined. By August they agreed to hire Parsons-Brinkerhoff, which produced a report agreeing with Ingetec's conclusions.[921] Parsons-Brinkerhoff emphasized, nonetheless, that the selection of Intermetro's proposal was the result of the financial package. This package included subsidies from the Italian government.[922] Parsons-Brinkerhoff, however, questioned the proposal's technical quality and Intermetro's managerial capacity.[923]

Mayor Pastrana's response with a busway

The first elections for mayor in Colombia's history took place in March 1988.[924] The mayoral term went from July 1st 1988 to June 30th 1990,[925] a mere two years in office without immediate reelection[926] (Figure 14). The Conservative Andrés Pastrana, a popular news anchor and the son of a former president of Colombia, won the first election for mayor.[927] Pastrana won thanks in part to the division of the Liberal Party, which presented two candidates, Juan Caicedo and Carlos Ossa. Pastrana obtained 34.8% of the vote or 328,657 votes.[928]

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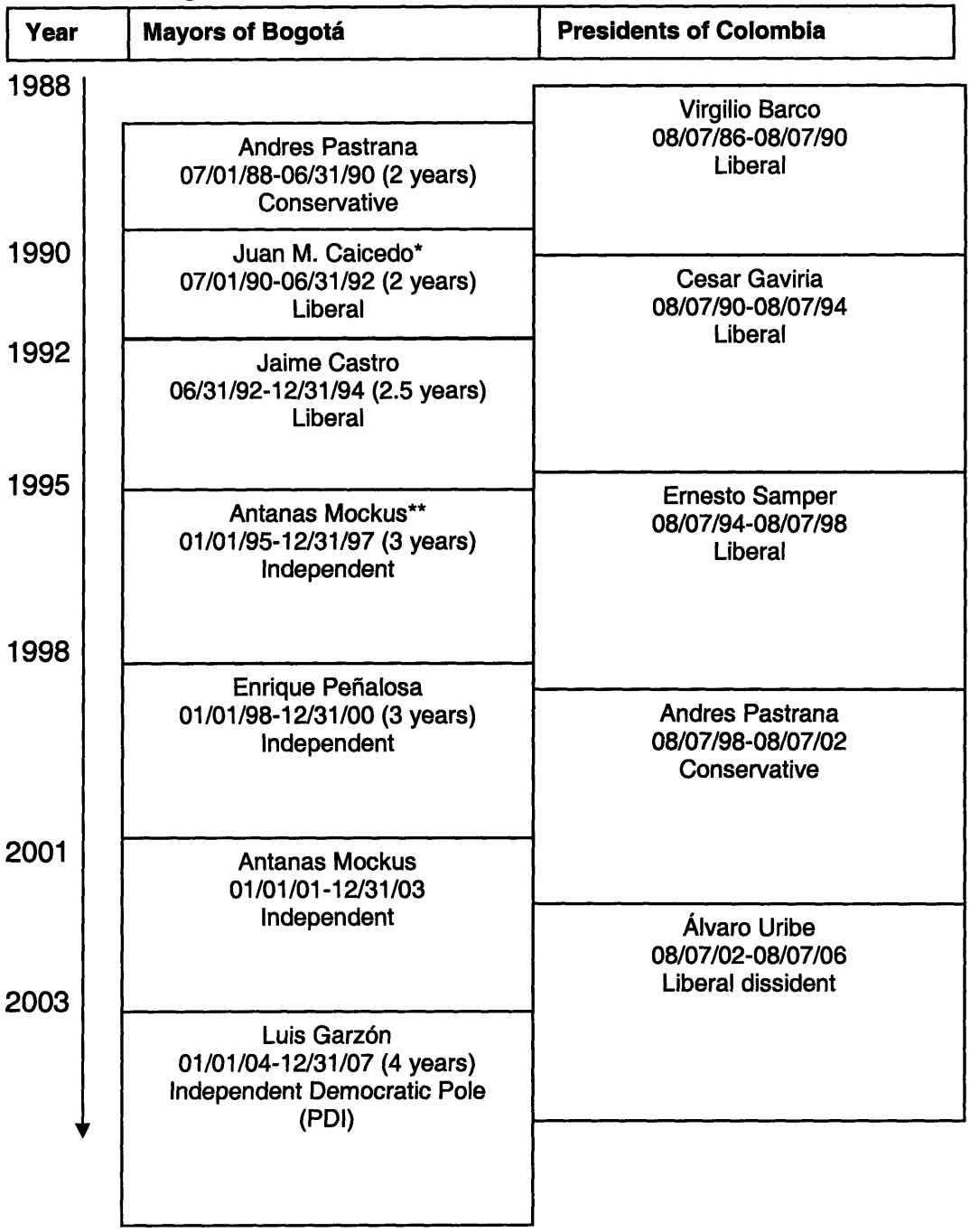
[921] Guhl and Pachón (1992a, p. 152-4).
[922] Guhl and Pachón (1992a, p. 160-2).
[923] Guhl et al. (1992, p. 181).
[924] Gilbert and Dávila (2002, p. 33).
[925] Acevedo (1996, p. 3).
[926] Gilbert and Dávila (2002, p. 33).
[927] Gilbert and Dávila (2002, p. 38).
[928] Botero (1998, p. 157); and calculations by author. Martin Caicedo obtained 240,458 votes and Carlos Ossa 218,724.

Figure 14. Time line of Mayors of Bogotá and Presidents of Colombia



Sources: Information on mayors from Gilbert and Dávila (2003, p. 34); on presidents from: www.presidencia.gov.co/historia

*: Mayor Juan Caicedo ended his term in jail accused of trying to bribe the City Council to pass legislation. President Gaviria chose Sonia Durán, a close advisor to Caicedo, to be acting mayor until the term finished (Gilbert and Dávila (2003, p. 43). Caicedo was later on found innocent and went on to be elected senator in 1994 and 1998.

**: Mayor Antanas Mockus resigned on April 1997 to the mayor's office. President Samper appointed Paul Bromberg, of Mockus' political movement, to the mayor's office. Bromberg ruled for approximately 8 months.

In the months between the election and the swearing in, officials in Pastrana's campaign were worried they did not have an agenda in transportation. Paulo Laserna and Jaime Ruíz of Pastrana's campaign and very close to the mayor elect met with Jorge Acevedo. Acevedo had been an advisor to Ossa's campaign but nonetheless met with Laserna and Ruíz. Acevedo, who holds a graduate degree from MIT, was by then a recognized transportation planner and public policy analyst. Acevedo headed the SER Research Institute, a local think tank that advised local and national government on how to improve policies in different areas. Acevedo had been studying Bogotá's transportation problem for several years and had concluded that one of the main problems was the lack of capacity within the city government to plan and administer the transportation system.[929] Acevedo had also been thinking about the alternative of building in Bogotá exclusive lanes for buses, following the Brazilian experience mostly in large cities such as São Paulo.[930]

Further, Acevedo had just completed a study for Ernesto Rojas and Ulpiano Ayala, top advisors of President Barco. Rojas, in particular, had the idea of establishing a free mass transit corridor using buses in an important transport corridor in Bogotá.[931] They hired Acevedo through the SER Research Institute to study the feasibility of the idea. The study examined several alternatives to conclude that exclusive lanes for buses were feasible along Caracas Avenue. This avenue is the main corridor in Bogotá and crosses the city, including downtown, from south to north. The study proposed to have privately and city-owned buses use the exclusive lanes. Acevedo also used the report to argue that the underlying problem was the lack of institutional capacity to plan and manage the transport system.[932] Acevedo saw in the undertaking of the busway a catalyst for the required institutional change.[933] Acevedo completed the study in February of 1987, around the time when Mayor Sánchez and President Barco were already embarked in their proposal for the metro. As a result, the busway idea "fell on ears interested in other topics and the national government

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[929] Acevedo (1986, p. 7-9).
[930] See Acevedo (1986, p. 12-13).
[931] Interview by author with Jorge Acevedo, July 2003; and interview by author with José Eslava, April, 2004.
[932] See Acevedo and Martinez (1987).

took no action."[934] The meeting with Laserna and Ruíz gave Acevedo a new opportunity. Acevedo gave them a copy of the study. Acevedo emphasized that the busway along Caracas Avenue could be built within the two-year mayoral term.[935] Ruíz and Laserna took the study to Pastrana.

Jaime Ruíz was close to Pastrana and had access to the mayor. Ruíz was skeptical about the extent to which building a metro in Bogotá was a solution to the congestion and mobility problems. Ruíz was close to some people at the prestigious National Planning Department (DNP), where he had worked early in his professional career.[936] DNP is a national-government agency designed to help this level of government plan capital investments and evaluate performance. At the time, it was becoming apparent that the Medellín metro was running into financial trouble. The Medellín metro was being built under a "turnkey" contract for a fix amount of money—US$ 655.4 million. Nonetheless, the contractors suspended work in November of 1989 alleging the initial cost estimate was too low.[937] Ruíz and his friends at DNP realized that the Medellín metro had been an "irrational" decision. Further, building a metro in Bogotá was not a good idea either. The metro would serve at best eight percent of the demand and its cost made it unaffordable. Ruíz discovered, therefore, that planners at DNP would not support the idea of building a metro in Bogotá.[938]

Ruíz became convinced that the metro was no solution to Bogotá's problems. The problem, according to Ruíz, was that at the time there was no "rational" way of saying no to a metro in Bogotá. More so because a long tradition of studies had concluded that the metro was the solution. According to Ruíz, at the time "transportation planning had a dichotomy, either you build metros or you build highways; there was no intermediate path. Further, highways and metros have international lobbying apparatuses that are too powerful and distort the local decision-

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[933] Interview by author with Jorge Acevedo, July 2003.
[934] Acevedo (1996, p. 3).
[935] Interview by author with Jorge Acevedo, July 2003; and interview by author with José Eslava, April, 2004.
[936] Interview by author with Jaime Ruíz, October 2003.
[937] Acevedo et al. (1993, p. 101-2, and 156).
[938] Interview by author with Jaime Ruíz, October 2003.

making process."[939] That's when Acevedo came along with his plan for building a busway along the Caracas Avenue corridor. Acevedo was also able to point out the Brazilian experience with busways, in particular, São Paulo, a city larger than Bogotá, with high-demand corridors served by busways.[940/941]

Ruíz went to Pastrana and presented his arguments against the metro. Pastrana replied: "I cannot say no to the metro. If I were to say no to the metro, I need to find something to say yes to." Ruíz initially had no answer to this request until he found out about the busway alternative by Acevedo.[942] Ruíz and Acevedo met with Pastrana to present a complete strategy for building the busway during the short term in office. The strategy had an institutional component that would start strengthening the city government in the transport arena. Acevedo proposed to assemble a local inter-institutional planning team reinforced by planners from São Paulo. This team would be in charge of all the planning of the busway and would become the catalyst for institutional change.[943]

At the same time, Ruíz and Acevedo lobbied Pastrana to go against Barco's metro proposal, because of its poor technical quality. Acevedo had a clear strategy. He convinced Pastrana of proposing a different but better alignment for the metro and to carry out an update of the studies done under president Turbay and mayor Durán at the beginning of the 1980s.[944] Pastrana could therefore stand on safer ground for his administration was trying to improve the quality of the metro and not necessarily saying no to the project. It also helped that Pastrana and Barco belonged to different political parties and Pastrana, a conservative, had a vested interest in opposing the proposals of a liberal president.

Pastrana agreed to Acevedo's recommendation and to undertaking the busway project during his term. Pastrana, however, warned his planners: "You have to show the citizenry that Bogotá does not need a metro, because there is an alternative that

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[939] Interview by author with Jaime Ruíz, October 2003. Ruíz refers to car manufacturers as the lobbyists for highways; large construction companies and rail manufacturers lobby for metro systems. For an example of what Ruíz says see Gardner (1998).
[940] Smith and Heshner (1998).
[941] Demand in those corridors, however, was not as high as on Caracas Avenue
[942] Interview by author with Jaime Ruíz, October 2003.
[943] Interview by author with Jorge Acevedo, July 2003; and Acevedo (1996, p. 3-4).

can do the job instead."[945] Acevedo's proposed busway had to meet this high standard. In November of 1988 Pastrana officially announced his intent to study the alternative alignment for the metro. This delayed the conversations between the national government and the Italian firm Intermetro[946]—the winner of the bid to build Barco's metro proposal.

The role of planners

A first role for planners that is conspicuous in the sections above is that of opposing a plan for a metro. The planners, namely Acevedo and Ruíz, believed that the metro was not a sound solution for Bogotá's transit problems. Acevedo and Ruíz were fighting the myth that politicians, even some planners, and society at large create around the positive impacts of a metro, regardless of alignment, cost, and procurement strategy.[947/948] Hence the importance of having planners that oppose plans they consider bad for society. To oppose the metro plan, Acevedo and Ruíz defined a political strategy nourished by technical arguments. First, aware that time is critical, Acevedo tried to introduce delays to Barco's proposal in the hope of derailing it. Acevedo convinced Pastrana of ordering new studies for the metro. Second, Acevedo and Ruíz presented the busway option as an alternative solution to the metro line. By participating in the political process and advising Pastrana with strategies a politician in office will like, Acevedo and Ruíz were more effective than just by trying to show "rationally" that Barco's metro proposal was a bad idea.

This strategy allowed the busway project to enter the political agenda of the city. In this case three conditions underlie this result. First, the election of Mayor Pastrana opened a window of opportunity for proposals in transport. Second, Acevedo had already studied for President Barco's advisors the busway option and found it feasible. Pastrana and Ruíz were looking for an alternative to the poorly

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[944] Interview by author with Jorge Acevedo, July 2003; and Acevedo (1996, p. 3-4).
[945] Interview by author with Jaime Ruíz, October 2003.
[946] Guhl and Pachón (1992a, p. 154).
[947] See Richmond (1991 and 1996).
[948] I am criticizing poorly planned metro proposals as the one Barco's administration put forward in Bogotá. Well planned rail proposals—with an alignment that serves main origins and destinations, with a demand that justifies the capacity or rail service, and with a procurement strategy that minimizes cost—are not the object of my critique.

planned metro and found it in the pre-planned busway. Finally, Pastrana and his advisors would have never found out about Acevedo's busway plans had they not interacted with him. Thanks to this minimal interaction Acevedo was able to persuade Ruíz and Pastrana that the busway option was a good solution that was feasible and that could be implemented in the short two-year term. Once in the political agenda of the city, the role for planners is to interact with politicians and stakeholders as the events that follow suggest. Planners' main objective becomes to get the plan adopted before the window of opportunity closes.

A capable planning team for the busway project

Acevedo had long argued that Bogotá's congestion and transport problems emanated from a lack of institutional capacity in the city government. In 1986 he wrote about DATT,[949] the city transport agency, "it is an entity that lacks organization, without the minimal technical cadre to analyze problems, propose solutions, carry out actions and evaluate results."[950] Acevedo's main interest was to devise a strategy to strengthen the government's transport institutions. He structured the strategy around the busway project. An inter-institutional transport group would carry out the planning and implementation for the busway. The group would have professionals from different agencies knowledgeable in transport planning. Acevedo thought that if the busway on Caracas Avenue was successful it could provide the political support needed to ensure that subsequent administrations would continue strengthening the transport agency.

While in principle Mayor Pastrana agreed with Acevedo's strategy it took more than six months to start the planning group. Pastrana probably thought that the busway project could be carried out by city agencies such as DATT and IDU—the latter in charge of building urban roads. Pastrana had appointed Rubiel Valencia to head DATT and Jaime Ruíz to head IDU. Valencia became a supporter of the project, among others because he had visited Curitiba, seen the busways and liked them. Recall that at this point in time, Curitiba's busways had simple shelters, passengers

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[949] DATT is translated into Administrative Department for Transit and Transport. It was later on transformed into the Secretariat for Transit and Transport (STT) and given cabinet status.
[950] Acevedo (1986, p. 8, translation by author).

paid upon boarding the bus, and the system was in the midst of a crisis. Valencia called Fabio Regueros, a transport researcher at the National University of Colombia, to tell him the administration was running out of time and Pastrana and his entourage had decided the busway project would be the administration's flagship policy. Regueros had recently visited Curitiba as well as São Paulo, Rio de Janeiro, and other Brazilian cities that had busway facilities.[951]

The administration wanted Regueros to head the Inter Institutional Transport Group or GIT, for its acronym in Spanish, which would be in charge of planning and implementing the busway project. Jaime Ruíz resigned to his position at IDU and became project manager for the busway project and overseer of GIT.[952] Regueros would be in charge of the technical aspects of planning the project. Ruíz of the political ones, including securing support and actions from other agencies to get the project done before Pastrana left office. Pastrana facilitated Ruíz's task by calling the heads of all the city agencies and telling them: "If Jaime Ruíz calls you, it is as if I, the mayor of Bogotá, were calling you. If you do not cooperate with Ruíz, I will fire you."[953] Acevedo remained as a top advisor of GIT.[954]

Ruíz had liked the idea of bringing in Brazilian expertise and Acevedo had contacts there, which he called to reinforce the local team at GIT. Elmir Germani, Francisco Moreno Netto and Pedro Szas came from São Paulo's Traffic Engineering Company, CET in Portuguese, for this purpose.[955] In 1976 the city of São Paulo took the decision to strengthen the transport planning and management sector within the city administration by creating a city-owned company CET.[956] CET's work gradually showed results particularly regarding traffic management. Speed increased and the existing roads were able to accommodate more than twice the number of vehicles at higher speeds than before CET was created.[957] Acevedo wanted to replicate São

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[951] Interview by author with Fabio Regueros, October 2003.
[952] Interview by author with Jaime Ruíz, October 2003; and interview by author with Fabio Regueros, October 2003.
[953] Interview by author with Jaime Ruíz, October 2003.
[954] Interview by author with Jorge Acevedo, July 2003.
[955] Interview by author with Jaime Ruíz, October 2003; interview by author with Fabio Regueros, October 2003; and interview by author with Jorge Acevedo, July 2003.
[956] Acevedo (1996, p. 3-4); CET means in Portuguese, *Companhia de Engenharia de Tráfego.*
[957] Interview by author with Elmir Germani, April 2002.

Paulo's successful strategy at institutional strengthening in the transport sector.[958] The local team for GIT came from professionals employed by the Department of Transportation (DATT), the City Planning Department (DAPD), IDU, and an information technology company (SISE) owned by the city. Some of the planners were Liliana Lyons, Nelson Galeano, Libardo Serrano, Jorge Aya, Efraín Acero, Luis F. Rubiano, Jorge Díaz and Virginia Alemán.

Planning and Implementing Phase I of the Caracas Avenue busway

Acevedo's original plan[959] called for building the busway on Caracas Avenue. Valencia had told Regueros that the administration wanted something similar to what Curitiba had. Regueros replied that more than copying Curitiba what they should do was to adapt Curitiba's busway technology to the local conditions. Regueros added that Curitiba was not just the facilities that allowed buses to use exclusive lanes. The most important thing in Curitiba was institutional. Regueros had been impressed in Curitiba by the public fare box policy[960] and by the way the city supervised the operators.[961] While the model to follow for Acevedo was São Paulo, Acevedo agreed with Regueros that the main aspect was institutional. Ruíz agreed on the importance of the institutional topic. As he later told me: "We knew we had to change the infrastructure of Caracas Avenue and that we also had to strengthen the city agencies. Equally important, we had to transform the bus companies into something better able to manage a high-quality service. Further, we wanted a new type of bus, hopefully with the door on the left side and stations in the median."[962] Therefore, planners wanted not only to build a facility but also to transform the public and private institutions in charge of the transport sector. Time and political reasons, however, forced GIT planners to introduce important changes to these ideas.

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[958] Acevedo (1996, p. 3-4).
[959] See Acevedo and Martinez (1987).
[960] Through the public fare box policy the city collects fare box and then pays by distance logged to the bus operators.
[961] Interview by author with Fabio Regueros, October 2003.
[962] Interview by author with Jaime Ruíz, October 2003.

Before continuing with the account, it is necessary to briefly explain the arrangements in Bogotá for the provision of bus services.[963] In Bogotá, bus companies did *not* own the buses—at best a small fraction of the fleet. Instead, bus companies "owned" routes throughout the city. The city government assigned the routes to a bus company based on a request filed by the community that needed the service or even by the bus company itself. To provide service on those routes, a bus company sought owners of buses who would affiliate their bus to the company. Each bus company allowed the bus owners to operate their buses on the company's routes in exchange for receiving monthly fees and other charges. As a result, the gross revenue of a bus company was directly related to the number of buses affiliated. The company's revenue was completely separate from the number of passengers carried by the buses. Bus companies therefore sought profitable routes from the government to attract more bus owners and maximize their revenue. In turn, the income of bus owners came from providing service on profitable routes—i.e. those that have high patronage and use roads in good shape. These routes are the ones that go through the central business district and a significant share used Caracas Avenue, which was the main corridor in the city. Finally, owners would pay drivers according to the number of passengers carried. This generated extreme competition, locally known as the "penny war," which lowered the quality of service.[964]

The original plan for the Caracas Avenue busway called for introducing changes to this scheme.[965] Some planners wanted bus companies to own a new type of bus, technically designed for mass transit, and with a different risk allocation between the operators and the city government.[966] But by the time GIT started working in mid 1989, there was one year left in Pastrana's term. Regueros realized it was impossible to achieve all the objectives in such a short time. Regueros met with Ruíz and Valencia and told them: "What we can do will not be similar to Curitiba. The

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[963] The TransMilenio project, implemented by the Peñalosa administration, changed these provision arrangements in three corridors. The Mockus administration tried to further change these arrangements with mixed success.
[964] Acevedo (1986, p. 3-6); and Bonilla (1997, ch. 2). In Chapter 12 I offer a more detailed description of the situation of bus services before TransMilenio.
[965] Interview by author with Jaime Ruíz, October 2003.
[966] Interview by author with Fabio Regueros, October 2003.

most we can do is organize the flow of buses with the construction of the busway."[967] This meant that the changes to the organization of the bus companies could not be adopted.[968] The short time left also led Mayor Pastrana to decide to implement only the south end of the busway, from the southern end of the central business district to an area known as *Los Molinos.* This segment had 8 Km. and was in the most congested and deteriorated area of Caracas Avenue. The remaining 8 Km. of Caracas Avenue, to the north of the city, were to be implemented by the next mayor.[969]

Regarding the type of bus to be used in the busway, Acevedo had originally argued in favor of using both the city-owned trolley buses and the existing buses owned by private investors. Ruíz and Mayor Pastrana discarded this idea early on in the process, probably because they had plans to eliminate the City Bus Company, which was in disarray. Regueros knew the National University had designs for a new bus, more comfortable and suited for mass transit. If plans required a new bus for the busway then bus operators would have to invest in the new equipment. Operators found out about the tentative plans and responded by proposing their own new design for a bus. This bus was not suited for mass transit because of its small size.[970] The operators probably had two objectives by doing this. First, they probably opposed the busway project at this point in the process and their gamble was to introduce delays by presenting a new bus. Second, if their bus was adopted and if the busway was built, this small bus would have forced the city to allow the older buses to use the busway to provide the necessary capacity. The operators wanted to minimize the threat posed by the busway project. Pastrana, Ruíz, Acevedo, and Regueros soon abandoned the idea of introducing a new bus for they saw it could build too much opposition and delay implementation. As Acevedo said: "We had to use the existing

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[967] Notice how none of the actors involved realize the importance of land-use policies in Curitiba. While they all want to copy the busways in Curitiba, none wants to implement the land-use scheme. Further, even if some planners had noticed Curitiba's land-use policies, it is doubtful they would work in a city like Bogotá. For one, when Curitiba began implementing its plan in the 1970s the city had a population of approximately 500,000 people. Bogotá at the time of the events described in the main text had over 4 million. For another, in the 1970s Curitiba's economy was growing very fast. This growth allowed the construction of high-rises. Bogotá does not have a similar rate of economic growth.

[968] Interview by author with Fabio Regueros, October 2003.

[969] Acevedo (1996, p. 5).

buses so that we would cause the smallest possible disruption to the existing situation and in this way make the project feasible."[971/972]

What was clear for Acevedo, Ruíz, Regueros and Mayor Pastrana was that the busway needed to use only the conventional buses—80 passengers per bus. At the time, conventional buses as well as medium sized buses for 30 passengers, locally known as *busetas,*[973] used Caracas Avenue. Acevedo and Regueros told the planners at GIT to plan the busway for this type of bus.[974/975] The Caracas Avenue corridor moved at the time close to 24,000 passengers per hour per direction[976]—an impressive figure more so given that the buses traveled in mixed traffic. By using conventional buses only, the busway could accommodate this volume of passengers with a smaller number of buses. Reducing the number of buses is important because the bottleneck in a busway is the stopping area. The fewer the buses that need to stop, the less congested the stopping area and the shorter the time to maneuver in and out of it. As a result, the capacity of the busway increases.[977] The decision to allow only conventional buses in the busway meant an important change to the way Caracas Avenue used to operate. The *busetas* would have to be moved to different corridors, with the risk of loosing revenue by being forced to circulate on less profitable corridors. This meant that both the bus companies and the bus owners would oppose in principle the proposed change because the plans affected their interests.

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[970] Interview by author with Fabio Regueros, October 2003.
[971] Interview by author with Jorge Acevedo, July 2003.
[972] Notice that at his point the plans stop being for BRT and end up being only for a busway. As said above, BRT implies adequate buses, good service provision and supervision. In Bogotá this would have implied transforming the bus companies into modern firms and adopting a new type of bus. Busways imply only the physical transformation of the road to generate segregated lanes.
[973] The word *buseta* means "little bus" in English.
[974] Interview by author with Liliana Lyons, October 2003.
[975] Note that using buses with a capacity of only 80 passengers diminishes the capacity of the busway. TransMilenio, years later, would use articulated buses with a capacity of 160 passengers per bus. TransMilenio's buses, contrary to the ones used on the Caracas Avenue busway, were technically designed to transport people in a safe and confortable way. That is why TransMilenio's standards compare favorably to heavy rail, while the Caracas Av. busway not. Further, TransMilenio implied a change in the contractual relations between the city and the bus operators. While the Caracas Avenue busway preserved the extreme competition between buses—locally known as the "penny war"—TransMilenio eliminated it. This increased the level of service significantly.
[976] Acevedo (1996, p. 7).
[977] See Acevedo (1986, p. 12-3). See also Gardner (1992).

Planners at GIT, therefore, knew their work had technical and political components. On the technical side, the decision to allow only conventional buses on the new busway meant that planners had to study the routes circulating on Caracas Avenue. The objective was to determine which routes could remain on the corridor. On the political side, planners were aware that bus companies by law had strong rights on the routes assigned to them. The planners, therefore, wanted to negotiate any change to a route with the bus companies. But there was another reason to approach the bus companies. As a GIT planner told me: "I never had the idea that because I was the "expert" I could go to the operators and tell them this is *the* solution. We carried out our technical studies and then went to the operators for feedback. We valued their experience and know-how about the business." Planners, therefore, tried to reach out beyond the CEOs of the bus companies to involve people in charge of route management and even bus drivers.[978]

Planners first had the idea of carrying out a seminar to present the busway project to the CEOs of bus companies and get their reactions. The idea failed because of poor communication. The underlying cause of this failure, according to several sources, was that when the CEOs of bus companies were together, there was social pressure within the group not to accept any government proposal. At the seminar, some CEOs started to say that the busway proposal was really to expel all the buses from the Caracas Avenue corridor and leave it for the exclusive use of the city-owned trolley buses. Planners were unable to convince them that the trolley bus idea had been discarded and that the decision was to use the privately owned buses. Planners then organized a seminar with Mayor Pastrana and the CEOs in Paipa, a mountain resort close to Bogotá, in an attempt to give credibility to the city's position. No CEO showed up.

GIT planners then changed their strategy. They started to meet with one bus-company CEO at a time, explained the project, and heard the reactions. Individually, CEOs behaved radically different; they were more willing to hear, ask questions, voice suggestions, and propose paths for eventual agreement. For example, the CEOs of bus companies that operated routes served by *busetas* made clear that they needed

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[978] Interview by author with Liliana Lyons, October 2003.

profitable routes to rent out to the owners of the *busetas.* Planners went and designed new routes with this in mind, analyzing demand, under-served areas, and ridership. As one planner told me: "We had it clear we needed to find win-win solutions." But even then, these CEOs were not easy to convince. The bus companies that operated routes for conventional buses were more willing to accept the proposed project because they stood to win from the changes. Nonetheless, they were not easy to convince. Apparently, after a trip with other CEOs to Brazilian cities, the CEO of one of the largest companies agreed to accept the busway project and made his position public. This support favored planners' objectives and gradually other CEOs began to join the coalition. The key was route design to insure profitability.

The *buseta* companies, however, were more reluctant and planners had to ask Valencia, the head of DATT, and Mayor Pastrana to talk to the CEOs to help convince them. In the end, these companies agreed to the changes in their routes and agreed to abandon operations on the Caracas Avenue busway.[979] They won, however, routes on parallel corridors that proved to be highly profitable—at least initially. This was because many users were not willing to abandon the *buseta* service for it was associated to the middle classes. Users associated the conventional buses on Caracas Avenue, on the contrary, to poor people.[980] Time spent traveling, at least initially, had little weight and hence the reduced travel time achieved by the busway did not attract passengers used to riding a *buseta.*[981]

By this time, construction of the exclusive lanes had started. In essence, the project implied increasing to four the number of lanes per direction, and segregating two of those lanes for the exclusive use by conventional buses. Two lanes were needed because demand was high[982]—recall that Curitiba and most busways in the world, including São Paulo, use only one lane per direction.[983] In addition, the project contemplated a "station" every 500 meters. Each station was a lengthy bay divided

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[979] Interview by author with Liliana Lyons, October 2003.
[980] Ardila (1995a, p. 16).
[981] Value of time studies carried in the early 1980s for Bogotá suggested that middle class people were willing to spend more time traveling by car, *buseta,* and even walking provided they did not have to use a conventional bus (Ardila, 1995, p. 16; and Kozel, 1981, ch. 3 and 6). There is evidence that planners at GIT were aware of these studies.
[982] Acevedo (1996, p. 5).

into four areas, each for a different destination area.[984] Passengers, nonetheless, continued to board from a different height than the bus thus and paying to the driver upon entering the bus.

As construction was taking place, some architects, including Jaime Ortiz and José Eslava, voiced opposition. Ortiz headed the *Sociedad de Mejoras y Ornato,* an agency that tries to preserve the city's urban heritage. Eslava worked at the United Nations Development Program (UNDP) local offices in Bogotá and was part of the planning effort for the busway because the Brazilian planners had been hired through UNDP. Eslava had opposed the busway because he regarded it as a project to improve bus circulation without any attention to urban issues—something that was indeed true.[985] For engineers such as Regueros, and politicians such as Ruíz and Valencia, it was difficult to understand Eslava's position. Regueros told me: "We had different languages, Eslava spoke like an expert in urbanism, and we were transportation engineers."[986] Eslava, therefore, was unable to convince planners at GIT and the key decision-makers to improve the urban design of the busway. Eslava's luck changed six months before opening day when Jaime Ruíz went to a conference in Argentina and had a chance to see Buenos Aires' magnificent avenues. On his way back, Ruíz stopped in São Paulo and saw the busways. Once in Bogotá, Ruíz called Eslava for an urgent meeting: "We have to do something, São Paulo's busways are horrible and we can't have the same in Bogotá. Can't we have something like Buenos Aires?"[987] Ruíz decided to hire and an architect, Daniel Bermúdez, who tried to improve the designs already under construction "by adding mostly works that amounted to make up."[988] While these small interventions improved somewhat the quality of the busway, the end result was not a pleasant facility.

During the construction stage as well, the Brazilian planners members of GIT suggested starting an outreach campaign to inform the neighboring communities

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[983] See Gardner (1992); and Smith and Heshner (1998).
[984] Acevedo (1996, p. 5).
[985] Interview by author with José Eslava, April 2004; and Interview by author with Fabio Regueros, October 2003.
[986] Interview by author with Fabio Regueros, October 2003.
[987] Interview by author with José Eslava, April 2004.

about the project. Members of GIT began to visit schools, neighborhoods, and even edited a small newspaper with information on the progress of the works and their expected impact. They also published material advertising the benefits of the project. By June 1990, 65% of people surveyed in the vicinity of the busway knew about the project and its benefits.[989] According to Regueros, this outreach campaign was excellent for it minimized opposition from these stakeholders and thus paved the way for opening day.[990]

Thanks to the progress made by the planners negotiating the changes to the *buseta* routes, planners were able to see how the busway operated with the conventional buses at the same time that it was being built. The results were encouraging. In March of 1990 the Caracas Avenue busway—locally known as *troncal*—opened officially. Until the end of Pastrana's term, the busway had a team of people supervising its operations, informing people, and making sure everything worked as planned.[991] Planners estimated the correct operations of the busway demanded a team of 100 people, which would plan and supervise bus services. This team never existed.

In parallel to these events, Acevedo and Ruíz had been working on maximizing the chances that the northern stage of the busway would be adopted. Because the busway was Pastrana's flagship project he had an interest in seeing the second half built. Acevedo and Ruíz figured a two-pronged strategy. First, Ruíz came up with the idea of having the city request a loan to the World Bank for a transport project that included phase 2 of the Caracas Avenue busway and one other corridor. Pastrana charged Ruíz with the responsibility of getting DNP's support to convince the national government of supplying the required guarantee. The World Bank approved this loan,

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[988] Interview by author with José Eslava, April 2004; Interview by author with Fabio Regueros, October 2003; and Interview by author with Jorge Acevedo, July 2003.
[989] Ojeda (1999, p. 5-6); and Ojeda (1990, p. 9).
[990] Interview by author with Fabio Regueros, October 2003. In a delegative democracy large chunks of the population are interested in learning about the policies or decisions made, but have no interest in affecting the decision as such. Recall that these events took place under the first democratically elected mayor ever. As democratic practices took hold, neighboring communities and other stakeholders will seek ways to participate and not just be informed, as I detail below for the TransMilenio BRT system.
[991] Acevedo (1996, p. 4); Interview by author with Fabio Regueros, October 2003; and interview by author with Jorge Acevedo, July 2003.

but its implementation took many more years than its crafters intended and in the end, part of TransMilenio in the late 1990s was funded by this loan.[992] Second, Acevedo convinced Pastrana that a major transformation of the city's transportation agencies was needed. Pastrana requested special powers to the City Council to legislate by decree on these issues. Because the City Council approved this proposal close to the end of Pastrana's tenure, Pastrana decided it would be his successor who would carry out the reform.[993] After many problems,[994] Acevedo convinced Mayor Caicedo of enacting the reform creating the Secretariat of Traffic and Transportation (STT), a cabinet level position. STT replaced DATT. However, STT remained a weak agency.[995] Years later Acevedo wrote: "The reform enacted was innocuous, did not modify the weak institutions [in charge of the transport sector], nor the lack of coordination, nor the balance of power..."[996]

The role of planners

Because the busway project is in the political agenda of the city, the main role for planners becomes one of interacting with politicians and stakeholders. The interaction is possible because the planning team for the busway project is a capable one, according to the definition in Chapter 1. The team has political and technical capabilities. Notice, however, how this planning team is not within the existing city agencies, namely DATT, which was weak and could probably not act independently of the bus companies' interests. By creating a capable team, GIT, the city government laid the foundation for creating a minimal space for government action.[997]

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[992] World Bank (1996, p. 15).
[993] Interview by author with Jorge Acevedo, July 2003.
[994] Acevedo wrote the decrees following Caicedo's orders and took them the mayor's office. Caicedo signed the decrees. When Acevedo took a look at the text he noticed that it was not what Caicedo and him had agreed—someone had changed the decrees without Caicedo's approval. Because the especial powers to the mayor were still in effect, Acevedo lobbied Caicedo to cancel those decrees and re-issue them. Caicedo, aware of powerful vested interests able to change the decrees at City Hall, ordered to water down the reach of the legislation. This time, the signing took place at Acevedo's SER Research Institute office (interviews by author with undisclosed sources).
[995] Guhl and Pachón (1992, p. 77-79).
[996] Acevedo (1996, p. 4).
[997] In Chapter 1 in the section a New framework I carefully defined government autonomy. Suffices to say that autonomy can be understood as a continuum that goes from zero autonomy to total autonomy. Neither of the two ends in the continuum leads to plans that satisfy legitimate goals. If the government

Among the political planners in the capable planning team are high-ranking planners, such as Acevedo and Regueros, together with political appointees such as Ruíz and Valencia, who are in touch with Mayor Pastrana. As a result of the interaction between these planners and Pastrana the busway project begins to change. Its reach is shortened and many objectives are abandoned because of the political consideration of showing results before the mayor's term is over. For planners such as Acevedo the tradeoff was clear: either a part of the plan got implemented, or all remained in plans on a bookshelf. Acevedo regarded the busway as a catalyst that would bring about much needed institutional strengthening. The window of opportunity Pastrana had opened lasted only two years and the next mayor might not undertake plans done by his predecessor. A precedent was needed and this was the southern stage of the Caracas Avenue busway.

Liliana Lyons, Libardo Serrano, Jorge Aya and others were in charge of the technical aspects of the project such as demand modeling, route design, and facility design. Yet some of them were also in charge of interacting with the key stakeholders—the bus companies. Planners' role was to convince these stakeholders of adopting one of the major changes brought about by the busway, the use of conventional buses, and the exclusion of *busetas* from the corridor. Through the interaction with the CEOs, planners discovered a way to reduce the power of this actor. In a group, CEOs had too much power and effectively opposed the plans. Individually, CEOs were willing to negotiate. Hence, the meaningful negotiations had to be with individual CEOs. Planners, moreover, saw in the interaction with the CEOs of bus companies and related actors the opportunity to nourish their technical exercises. The planners' approach was therefore to try to find win-win technical solutions to political problems unveiled by the interaction with key stakeholders. As the planners found those solutions, they contributed to building support for the project

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has zero autonomy then powerful interests capture the government. These interests seek to bias the distribution of benefits in their favor. If the government is totally autonomous then politicians and planners will have the power to pursue their own goals—which are not necessarily legitimate or beneficial to society at-large. But if the government is somewhat autonomous—heretofore autonomous—then it achieves a minimal space for action. Government will have the power to adopt policies that tend to reflect legitimate goals and that satisfy collective goals. Plans achieve a relatively fair distribution of costs and benefits.

and a coalition of support emerged. Finally, while the planning team was "capable" it still lacked capacity to design a pleasant facility and not an eyesore.

The impact on Barco's metro proposal

As seen above, President Barco was promoting the undertaking of a metro system in Bogotá whose technical quality was dubious. Mayor Pastrana had responded by putting forward his own proposal and ordering new studies, which consultants submitted in 1992[998]—years after Pastrana's and Barco's terms in office were over. Despite Pastrana's tactic, the national government was able to start negotiations with the Italian firm Intermetro and with Bogotá's government on January 19th, 1989. At this point in time, Pastrana had agreed to undertake the busway, but the planning group, known as GIT, had not been assembled yet. On January 27th, 1989, the city government announced it could not continue paying the consulting fees resulting from Barco's metro proposal. The negotiations could not continue and the process stalled.[999]

The negotiations between the national and city governments and Intermetro resumed in June of 1989. Because Intermetro's proposal to build and finance the Bogotá metro was so imprecise and vague, the representatives of the city and national governments asked for clarifications. Intermetro, however, was unable to produce satisfactory answers. Doubts on the technical specifications and costs of Intermetro's proposal remained. This delayed the negotiations even more.

Underlying the negotiations was the critical point of how the metro project would be financed.[1000] What share of the cost would the national government cover?[1001] This issue was not clear at all due to a great extent to the situation of the Medellín Metro, at the time under construction. As early as 1986 it became clear that the original funding for the Medellín Metro would not be sufficient and that the national government would have to contribute a significant amount of the funds. By November

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[998] See Ineco (1992).
[999] Guhl and Pachón (1992a, p. 153-5).
[1000] Because of the high cost of metros funding is the most controversial issue (Lupo, Concord and Fowler, 1971, p. 208-210 and 218-220).
[1001] Guhl and Pachón (1992a, p. 155).

1989 construction of the Medellín Metro was halted for lack of funding.[1002] The Barco government had clear that mass transportation systems, such as metros, had localized benefits that did not benefit the nation as a whole. As a result, the government's policy was to have the local government pay for the majority of the cost and have the nation contribute a small fraction.[1003]

Congress approved a law reflecting this policy on December 29th 1989.[1004] The law, known as "Metro Law," established that local governments undertaking a metro system could raise their taxes by 20% and enact a 20-percent surtax on the price of gasoline at the pump. The law also mandated that the fare covered all operating costs *and* equipment depreciation. If this was not possible, the national government was forbidden from providing subsidies. The Metro Law established that the local government had to cover *at least* 80% of the total cost of building the metro and the national government would cover *at most* 20%. The national government could back the loans the city required for building the metro, but the city had to endorse tax revenue and other income to the national government to pay for that debt. Finally, the Metro Law. did not apply originally to bus-based options.[1005]

The Metro Law aggravated the conflict between Barco and Pastrana. President Barco promoted a metro system in Bogotá but was unwilling to have the national government under his command commit funding. But Bogotá's financial situation was deteriorating since 1985 because recurrent expenditures grew faster than the city's revenue. The city government was funding most of its capital investments through debt.[1006] The City of Bogotá, therefore, did not have at the end of the 1980s the funds to pay the largest share of a metro system. On January 11th 1990—thirteen days after the adoption of the Metro Law—Mayor Pastrana pulled the city out of the negotiations with Intermetro.[1007] This effectively froze the process because the national

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[1002] Acevedo et al. (1992, p. 156).
[1003] Acevedo et al. (1993, p. 113).
[1004] Guhl and Pachón (1992a, p. 153).
[1005] Guhl and Pachón (1992a, p. 64-66).
[1006] Guhl et al. (1992, p. 239). In addition, the City Power Co. was incurring a large amount of debt to fund an important hydroelectric plant, Chivor.
[1007] Guhl and Pachón (1992a, p. 153-5).

government could not continue on its own if the city—the main contributor to the project by law—was not willing to participate.

President Barco did not like Pastrana's move. Barco had on his side the myth around metros, which leads decision-makers and people at large to believe that any metro project, regardless of its alignment and cost, is a good thing that will somehow solve congestion and transportation problems. Pastrana and his planners who opposed this proposal for the metro had this myth against them. Jaime Ruíz recalls: "Barco was furious and accused us in the city government of not wanting the metro. But the city did not have the money. Medellín had enjoyed the advantage of having been the first to build a metro with studies of dubious quality.[1008] In addition, the metro was the solution for eight percent of the demand—even if the alignment was optimal. What would happen to the remaining 92 percent of the demand? So we thought, if the president wants a metro for Bogotá that the city finances cannot afford, let's propose that the national government undertake the metro through a concession scheme. The Pastrana administration said yes to the metro but using a concession scheme!"[1009] Barco, approaching the end of his presidency, did not act on this idea.

Mayor Caicedo tries to revive the metro

Juan Martin Caicedo won the 1990 elections for mayor of Bogotá.[1010] His two-year term went until June 30th 1992.[1011] Caicedo was of the Liberal Party and Pastrana, his predecessor, of the Conservative Party. Caicedo had been minister of state during Barco's presidency.[1012] Days into his term in office, Caicedo announced that the city government would try to undertake the construction of the metro system put forward by President Barco,[1013] who had five weeks left in office. Colombia's next president, Cesar Gaviria was also of the Liberal Party and probably Caicedo thought this would favor his intention of building Bogotá's metro.

[1008] Ruíz's argument that the planning studies for Medellín's metro were of dubious quality is supported by careful analyses of the studies by the General Comptroller of Colombia (see CGR, 1994, esp. p. 84); and by Acevedo et al. (1993, p. 19-26 and 126).
[1009] Interview by author with Jaime Ruíz, October 2003.
[1010] Caicedo obtained 597,295 votes, or 65.2% of the vote Botero (1998, p. 157).
[1011] Gilbert and Dávila (2003, p. 34).
[1012] Gilbert and Dávila (2003, p. 39).
[1013] Guhl and Pachón (1992a, p. 153).

Gaviria, however, had promised during his campaign to restart the construction of the Medellín Metro, whose cost was spiraling out of control due to financial charges and other reasons. By 1990, the new estimate for this metro was US$ 1.949 billion—up from US$ 655.4 million when construction started. Of that total, US$ 725.7 million were still not funded.[1014] The cost increase of the Medellín Metro was almost equal to the total estimated cost, including finance charges, of building Barco's proposed metro, US$ 1.360 billion.[1015] To honor Gaviria's campaign promise, the national government would have to make significant efforts at least to back Medellín's debt and at most to directly contribute funds.

In this environment, the national government decided to consult four groups of experts in order to make an informed decision on whether to support Caicedo's initiative to build Bogotá's metro. A first study, by Guhl and Pachón concluded that Intermetro's proposal had underestimated the cost and severely overestimated the demand—more so bearing in mind the proposed alignment did not go to employment areas. Intermetro's proposed financial strategy exaggerated the revenues; under more realistic assumptions the project was underfinanced. The study also complained about Intermetro's inability to provide the required details to clarify doubts. The study recommended busways as a valid mass transportation alternative for Bogotá, and highlighted the Caracas Avenue busway successful experience.[1016]

The second study, by Acevedo and Salazar, analyzed Intermetro's proposal and found as well that the demand was exaggerated and the cost underestimated. While the base estimate by Barco's government was US$ 815 million, the authors estimated the most likely value to be US$ 1.971 billion, without including finance costs. In addition, because of the low level of income of the users of the metro, the fare would not be able to cover operational costs. The internal rate of return on the project was -15.8%. Society would therefore be worse off with the project. Further, they found that the city finances were unable to afford the proposed metro. Acevedo and Salazar explicitly recommended not undertaking the project. They recommended

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[1014] Acevedo et al. (1993, p. 116-7); CGR (1994, p. 237).
[1015] Estimations by author based on data by Guhl and Pachón (1992a, p. 159).
[1016] Guhl and Pachón (1992a, esp. ch. 6).

building a "pre-metro" using busway technology along the corridor planned for Barco's metro, to promote densification of both housing and employment. This would eventually increase demand to the level where a heavy rail line was justified.[1017]

The third study contrasted the social benefits of investing in education and health versus investing in the metro. The study concluded that the return on investing in these sectors was higher than the estimated return for the metro and hence "the city's population will benefit more if the city's recurrent revenue is invested in education instead of the metro."[1018]

The national government commissioned the fourth report to Professor John F. Kain of Harvard University. He began his report by saying "I have reached the conclusion that it would be a mistake for the Colombian government to undertake the construction of the Bogotá metro at this moment."[1019] Kain pointed out that the proposed lines, mostly at grade and elevated, might have encountered strong political resistance once neighboring communities realized the impact and requested changes that can increase the cost. Kain concludes: "This planning process started with a preconceived solution and not with the definition of the problem. As a result, it quickly turned into an effort to justify a predetermined decision."[1020]

The experts turned in their reports in March of 1991 and soon after the national government announced its decision not to support Mayor Caicedo's proposal to undertake the metro.[1021] The government also decided to publish these reports, which took place in 1992,[1022] and commissioned a book on the Medellín metro.[1023] On February of 1992, months before his term in office ended, Caicedo put forth the proposal that the city could undertake the construction of the metro on its own, without national government help.[1024] Caicedo wanted to sell the city-owned Phone Company

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[1017] Acevedo and Salazar (1992, esp. ch. 4).
[1018] Urrutia and Valencia (1992, quote from p. 343).
[1019] Kain (1992, p. 352, translation by author). Kain is known as an advocate of bus-based transit. This might have influenced the decision of the national government to hire him.
[1020] Kain (1992, p. 353-4, translation by author).
[1021] Guhl and Pachón (1992a, p. 153).
[1022] The reports were published in the volume by Guhl and Pachón (1992b).
[1023] See Acevedo et al. (1993).
[1024] Guhl and Pachón (1992a, p. 153, 155).

to fund the construction of the metro.[1025] The City Council rejected this proposal.[1026] This was a responsible action by the City Council, for during Caicedo's term the city continued to run important deficits and its revenues were barely enough to cover recurrent expenditures.[1027] Further, investment in transportation projects was also declining in real terms (Table 14).

In sum, the strategy followed by the planners that opposed the metro project worked after several years of effort. The strategy included introducing delays in the planning process for the metro, putting forward alternative proposals—the Caracas Avenue busway—, and showing from many points of view that the metro was not an adequate solution. At the same time, there is no evidence that President Barco assembled a capable planning team for his pet project. The lack of such a team deprived the project from the interaction with politicians and stakeholders (planners opposing the metro, neighboring communities, bus companies, etc.). As seen in other instances in this dissertation, this interaction leads to adjustments to the plans and contributes to building a coalition of support, among others.

Table 14. Expenditure in transportation by the City of Bogotá. 1986-92. (Billions of constant pesos of 2002)

Year	Mayor	Expenditure in road maintenance and construction	Percent Change from previous year
1986	J. Sánchez	$59.6	-
1987	J. Sánchez	$149.9	151.4%
1988	J. Sánchez/A. Pastrana	$143.5	-4.2%
1989	A. Pastrana	$139.6	-2.7%
1990	A. Pastrana/J. Caicedo	$108.7	-22.2%
1991	J. Caicedo	$120.6	11.0%
1992	J. Caicedo/J. Castro	$88.5	-26.6%

Source: Mayor column from Gilbert and Dávila (2003, p. 34); Expenditure figures from SHD (2003, p. 40); and calculations by author.

Planning and Implementing Phase II of the Caracas Avenue busway

Acevedo was interested in seeing phase II of the Caracas Avenue busway undertaken. Acevedo had advised Mayor Caicedo during the campaign and had

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[1025] El Tiempo, "Medio siglo detrás del metro," February 12th, 1998.
[1026] Guhl and Pachón (1992a, p. 153, 155).
[1027] Piza (1995, p. 34-6); and Cárdenas et al. (1995, p. 166).

explained the importance of the project and of GIT, the planning team. Caicedo had appointed Gustavo Peña as the new head of GIT; Regueros continued together with Acevedo as advisor to GIT. Peña had experience in politics but also understood technical aspects. Peña understood the need to continue the busway project in the north end.[1028] Jaime Ortiz, from his position as secretary of Public Works, supported Peña's idea for he had realized the busway was a "success, even though the operational component was completely absent."[1029] This was what probably allowed GIT to continue the planning of phase II of the busway, three months into Caicedo's two-year term. Mayor Caicedo, however, was not fully supportive of the project.

Because the northern part of the busway crossed downtown and reached middle class neighborhoods,[1030] planners knew the approach had to be different. GIT created a community liaison group that presented to the neighboring communities the idea of building the northern part of the busway. Several changes to the project emerged from this interaction. First, it was necessary to incorporate in the designs the provision of parking spaces, both along the alignment of the busway and in nearby streets, in areas that concentrated certain businesses. Second, it appeared clear that certain mitigation measures were necessary, particularly regarding the urban design impact of the busway. As a planner told me: "the community argued the Caracas Avenue with its trees and ample spaces had been designed by Le Corbusier[1031] and we could not touch it." Planners pointed out that the corridor had been deteriorating

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[1028] Interview by author with Fabio Regueros, October 2003.
[1029] Interview by author with Jaime Ortiz, October 2003.
[1030] Acevedo (1996, p. 5).
[1031] In 1948 the National Government called architects Le Corbusier, Paul Lester, and José Luis Sert to carry out an urban development plan for Bogotá. Months before, on April 9th, the liberal candidate to the presidency was murdered. The riots that followed destroyed a significant part of downtown. To carry out the reconstruction of the city the government needed an urban development plan. Le Corbusier, Lester, and Sert proposed a hierarchical classification of the road network according to the importance of the road. The plan was not implemented in its entirety. However, it had a strong impact. For example, the existing road network is based on that plan. Further, the plan proposed to build large avenues and ample public spaces some of which were implemented (Ariza et al., 1999, p. 59-60; and Guhl and Pachón, 1992a, p. 14-5). The plan also proposed to regulate land use according to function and income. Accordingly, the plan established that the wealthy were to live in the northern part of the city and the poor in the southern. The west end would be for industry. Downtown would have mixed uses, such as government, services, and commerce. The plan contemplated low densities under the assumption that by the year 2000 the population of Bogotá would be 1.5 million. The city reached that figure in 1960. The plan, however, was not amended until 1970 (Guhl and Pachón, 1992a, p. 14-5). For a brief history on urban plans in Bogotá see Montezuma (2000a, esp. p. 42-51)

gradually due to the buses having to circulate in mixed traffic. This arrangement aggravated the competition for passengers, led to perilous driving and exaggerated air pollution, all of which deteriorated the corridor. Key in this controversy were the large trees that Caracas Avenue had in its median. The community wanted to preserve them probably because they were one of the few aspects that remained from the original design. The designs for the busway, however, called for removing the trees because the median had to be moved to make space for the stations on one of the sides. After a huge controversy with the community, the decision was to move each tree to the new median trying to keep it alive. Needless to say, this increased the cost of the project, but this mitigation measure allowed the plan to proceed.[1032]

Parallel to these events, Peña kept lobbying Caicedo to get construction started. Peña highlighted to Caicedo several things. First, the southern part of the busway ended in the southern end of downtown. At that point buses entered mix-traffic lanes, faced congestion and lost time. But many passengers' destination was 1 or 2 kilometers to the north in the heart of downtown or even farther north.[1033] The time-savings accrued by users of the southern part were lost once the busway finished. Some users, therefore, were demanding the construction of the northern end of the corridor. Second, Peña apparently argued that not building the northern phase would have a political cost that could stain Caicedo's legacy. Peña was finally able to convince Caicedo and construction of the facilities started in November of 1991,[1034] eight months before Caicedo's term finished.

With the project under construction, planners at GIT had to negotiate with bus companies the changes to the bus routes that the project entailed. Again, only conventional buses could use the new corridor and small vehicles such as the *busetas* had to be moved to alternate corridors. The positive precedent set by the first phase of the busway facilitated the negotiations, because speed had gone up and this increased profitability. Only one bus company voiced strong opposition, because it

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[1032] Many of the trees did not survive the move to a new location. In 1997 an illness attacked the remaining trees. When years later plans for TransMilenio called for putting the stations on the median, the community was no longer attached to the trees (Interview by author with Dario Hidalgo, July 2004).
[1033] This is corroborated by the demand measurements made by origin destination studies in Bogotá. See Ineco (1992).

only owned *buseta* routes and therefore the project hurt it disproportionately. Planners were able to find an alternate corridor with high patronage and this company finally agreed to the change. The northern stage of the Caracas Avenue busway opened officially in August of 1992,[1035] when Jaime Castro was the mayor of Bogotá.[1036/1037]

[1034] Guhl and Pachón (1992a, p. 166).
[1035] Guhl and Pachón (1992a, p. 166).
[1036] Gilbert and Dávila (2003, p. 34).
[1037] The alternate corridors of the *busetas* had a negative impact on neighboring houses. The roads had not been designed to move such heavy loads. The city later on had to move part of the *buseta* traffic to an adjacent corridor.

The significance of the Caracas Avenue busway

When Mayor Pastrana decided to adopt the busway project he warned his planners that the busway ought to become a valid alternative to the metro. Did the Caracas Avenue busway achieve this? The record is mixed and suggests that the answer is no, but nonetheless the busway project is significant in Bogotá's transportation history. The operations of the busway did not achieve a level of service similar to that of heavy rail. The buses used were built on truck chassis, had high entry steps and passengers found it difficult to board. The bus engines, inadequate for public transportation, emitted gases well above international norms. Users, moreover, suffered pickpocketing and assaults on the stations. More important, the city government never instituted an agency or a unit in charge of supervising the operations of the busway.[1038] Given the high competition between operators—the penny war—buses would stop many times per bus stop to collect as many passengers as possible.[1039] As a result, the level of service decreased with time and operations became chaotic. In addition the facility was an eyesore that probably deteriorated the neighboring areas. Further, its design was aggressive in an attempt to induce users to comply with certain rules.[1040] Users responded in kind and vandalized the shelters and other facilities.

Notwithstanding these problems, the idea of segregating bus flow from mixed traffic flow allowed buses to move a volume of passengers that previously only rail technology was able to move. It is in this sense that the Caracas Avenue busway is significant. The introduction of busway technology showed planners and politicians that there was an alternative that could improve the operating speed of buses and

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[1038] Acevedo (1996, p. 38)

[1039] See Rodríguez and Ardila (2002) for a detailed analysis of the impact of the chaotic operation on bus travel time. See also Ardila and Rodríguez (2000) for an explanation of how despite the chaos the busway was able to move so many passengers. Notice that the Caracas Avenue busway has two lanes per direction and buses can overtake one another.

[1040] In 1993, while working at the SER Research Institute, I attended a meeting at the City Planning Office (DAPD). Some planners complained that pedestrians were crossing the Caracas Avenue busway at forbidden areas. A planner replied that the designs called for installing sword-like metal objects to create a fence around the median. The objective was to dissuade people from crossing at forbidden areas. The planner added that the designers had calculated the correct angle to maximize the probability that the sword-like object would actually injure a person crossing the street. Many people learned how to cross the street despite these barriers. Further, with time metal-scalpers stole the objects thus reducing the aggressiveness of the busway.

could parallel the capacity of rail systems. But the Caracas Avenue busway was far from providing the quality of service that rail or that a properly planned BRT system—such as TransMilenio or the RIT in Curitiba—are able to provide. Indeed, BRT is much more than building busways as the Caracas Av. shows. Strengthening government agencies to plan, operate and maintain the facilities is the critical element.[1041] Table 15 shows some indicators of the capacity to move buses and passengers at the Caracas Avenue busway. Figures 15 and 16 show the Caracas Avenue busway in 1999.

Table 15. Maximum passenger flow in selected cities with busways and metros

Busways		Metros	
City	**Max. Passenger flow per hour per direction**	**City**	**Max. Passenger flow per hour per direction**
Bogotá	36,500	Hong Kong	87,000
Porto Alegre 1	28,000	Mexico City	70,000
São Paulo	21,000	São Paulo	62,000
Abidjan	20,000	Cairo	24,000
Porto Alegre 2	18,000	Rio de Janeiro	24,000
Belo Horizonte	17,000	Manila	22,500
Istanbul	12,000	Santiago	21,500
Curitiba	8,700	Singapore	15,000
		Pusan	14,000
		Porto Alegre	12,000
		Tunis	7,000
		Calcutta	5,000

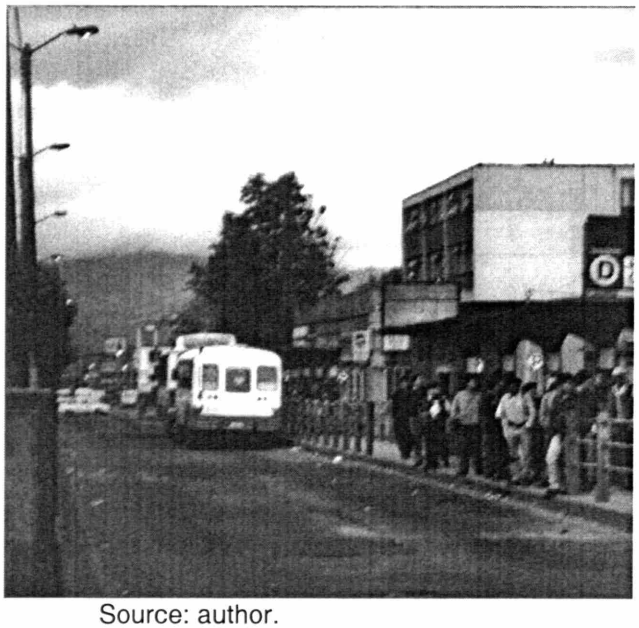
Source: Gardner (1992, p. 187 and 190); data for Bogotá from Ardila and Rodríguez (2000, p. 5). Data for Bogotá is for 1999; for all other cities is for 1989.

[1041] See Chapter 12 on TransMilenio for a development of these ideas.

Figure 15. The Caracas Avenue busway in 1999, south-north direction.

Source: author.

Figure 16. The Caracas Avenue busway in 1999, north-south direction.



Source: author.

Chapter 9

Metro Builders' Lobbing Transforms into Plans for Bus Rapid Transit

During the Jaime Castro mayoralty interests related to the construction of metros lobbied to get the metro in the city's political agenda. Pro-busway planners responded by convincing Mayor Castro of opening a competitive bid for a concession for a mass transit system, which could be bus- or rail-based. In this chapter I explore these events and the role that planners played in them. I also describe in an "intermezzo" the main traits of the tax reform enacted by Castro and that improved Bogotá's finances in a dramatic way. The uninterested reader can skip this "intermezzo," but should bear in mind the lasting effect of this tax reform.

Mayor Castro and the Metro Builders' Lobby

Jaime Castro was elected mayor of Bogotá early in 1992[1042] for a transitional two-and-a-half-year term in office (Figure 1, above).[1043] Castro, a seasoned politician, had been part of the Constitutional Assembly that enacted a new National Constitution the previous year.[1044] In his campaign Castro had said he would not undertake the construction of a metro system because of its high cost and the unwillingness by President Gaviria to support such a project. One of Castro's advisers in transportation was Jorge Acevedo. Acevedo lobbied Castro to continue building busways using a similar technology to the one used in the Caracas Avenue busway. Acevedo convinced Castro of using the Inter Institutional Transport Group or GIT to determine

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[1042] Gilbert and Dávila (2003, p. 34); and Botero (1998, p. 157). Castro obtained 312,803 votes or 53% of the vote. Abstentions peaked in this election at 73.75% (Botero, 1998, p. 157; and calculations by author).

[1043] The new constitution of Colombia, enacted in 1991 by a constitutional assembly, determined that mayors would be elected for three-year terms. The constitution also transferred the inauguration from July first to January first. This created the need for a transitional term of only two and a half years (See Colombia's Constitution, article 314 and transitory article 19).

[1044] See Castro and Garavito (1994). Castro was two times minister of state and three times senator before being elected to the constitutional assembly and after that as Bogotá's mayor. As Minister of Governance, Castro was responsible for pushing forward in congress a constitutional reform to allow the popular election of municipal mayors, including Bogotá's (Castro and Garavito, 1996, p. 125-130).

the next corridors where the city should build busways. Acevedo accompanied the process through the SER Research Institute, which had to do part of the planning. The resulting study determined that the next corridor to get the busway technology ought to be 80th Street, which ran from the northern end of the Caracas Avenue busway towards the west of the city along densely populated areas. The study also recommended undertaking busway technology in a few other corridors.[1045]

While GIT planners and Acevedo were working on their study, large international construction firms and suppliers of subway cars began to lobby Mayor Castro. According to several sources, at least once a month Castro would receive one such visit. In the meeting, these promoters of metro technology would highlight the need for heavy rail in a city as dense and with many corridors with high or very high passenger demand (Table 16). Some presenters would emphasize that Bogotá was one of the few cities in the World with a population of more than 5 million that did not have heavy rail transit. In trying to sell the idea of a metro some of the proponents mentioned that the project could be undertaken by the private sector through a concession. The international firms promoting heavy rail in Bogotá apparently had also convinced some City Councilors to help their lobbying effort with the mayor.

Acevedo and other planners in Castro's administration argued that the metro was not necessarily a good idea. For one, metros are expensive and difficult to afford. For another, the single metro line that the city could eventually afford would only move eight percent of the total demand. These two reasons meant that the city would find it impossible to improve the service to the remaining share of the demand. Facing contradictory opinions, Castro confronted the planners and told them about the lobbying efforts by large international firms. The planners responded that if the arguments by the promoters were true, then the construction and operation of the metro could indeed be done through a concession. Castro liked the idea probably in part because the concession alternative had been mentioned by some of these lobbyists but mostly because the city and national finances could not afford the metro. Castro added: "let's see if we can do something this beautiful." Castro then created a project management team headed by Jorge Cook, who had expertise in transportation

[1045] See Instituto SER (1992).

and energy policy. Castro also appointed Mauricio Cuellar, a transportation planner, to head the technical side of the team.

Table 16. Passenger flows in selected corridors in Bogotá

Corridor	Length Km	Passengers per day	Max. passengers per hour per direction	Commercial speed Km/Hr
Caracas Av. busway	16	372,658	36,500	18
Americas Avenue	9.8	332,454	32,647	12
80th Street	9.9	309,573	30,405	12
10th Avenue	3.5	295,998	29,066	<10
68th Street	12.9	191,008	18,757	<10
7th Avenue	3.2	108,523	10,657	10

Source: Rebelo (2003, p. 5). Bogotá's streets are organized in a system of *carreras*, which run north-south, and *calles*, which run east-west. I have called *carreras* as avenues and *calles* as streets.

The Castro administration also hired Jorge Acevedo and Ernesto Guhl to advise the planning team regarding how to structure the bidding process. Soon into the process, the project management team and these advisers concluded that they could not establish the alignment for the mass transit system nor the technology to be used. It would therefore be the proponents who determined the alignment and the technologies to be used (heavy rail, light rail, busways, BRT, or a combination). Acevedo and Guhl, however, had different views on the role of government in the economy and consequently on the procurement strategy for a metro system.[1046] For Acevedo, given the conditions of the city finances and the underlying idea that it should be a concession, the metro system ought to require no public support. Guhl thought that this was utopian and argued that government financial support was needed. For Guhl the fare box would never recover the construction cost. Acevedo and Guhl reached a compromise by agreeing to recommend that the criteria for evaluating the proposals revolved around two issues. First, the impact of the proposal on transport demand in the city; second, the impact of the proposal on the finances of the city government.[1047] The first criteria allowed bidders to propose any blend of

[1046] Both Acevedo and Guhl were involved with presidential primary campaigns at the time. Acevedo will soon after resign to heading the SER Research Institute and became top advisor to Humberto de la Calle's campaign. De la Calle was the pro-market, free-trade wing of the Liberal Party. Guhl was involved with Ernesto's Samper bid, which as seen below heavily supported the construction of a metro system in Bogotá. Samper was the left wing of the Liberal Party. Samper won the primaries and then the presidency against Andrés Pastrana.

[1047] Alcaldía Mayor de Santa Fe de Bogotá (1994, p. 5-9).

technologies they wanted. The second favored the proposal that required fewer government subsidies. These two broad criteria, moreover, allowed in principle a comparison among proposals comprising very different technologies.

The bidding process

In December 1993, slightly over a year before Castro's term in office was over, the city government issued the Bidders' Guide requesting proposals for the undertaking of a mass transit system through a concession scheme.[1048] By January 17th, 1994, 32 companies—contractors, equipment manufacturers, operators of public transport, and local and foreign consortia—registered as eventual bidders.[1049] On February 18th, 1994, the city issued the methodology for evaluating the bids. The main criteria were the coverage of the city's transport demand, the time-savings for users, and the amount of public assistance and compensation required by the bidder.[1050] Nine bidders turned in their proposals on June 8th, 1994. Three of the bids were mere letters of intent and were rejected on the spot.[1051] Table 17 summarizes the main characteristics of the remaining six proposals. For the evaluation of the proposals the National Government, through the National Planning Department (DNP), contributed funds to hire Halcrow Fox and Associates (HFA). HFA, a famous British firm, had conducted an appraisal of rail mass transit systems in developing countries a few years early.[1052] DNP was probably worried that Bogotá could choose a project that could sink the city into bankruptcy. After all, the finances of Bogotá were just beginning to recover after a successful tax reform (see "intermezzo" below).

[1048] See Alcaldía Mayor de Santa Fe de Bogotá (1993, p. 5-9).
[1049] EPCE Ltd.-Halcrow Fox (1994b, p. 4).
[1050] Alcaldía Mayor de Santa Fe de Bogotá (1994, p. 5-9).
[1051] EPCE Ltd.-Halcrow Fox (1994b, p. 4).
[1052] See Allport and Thomson (1989).

Table 17. Summary bidder information

Proposal	Technology		Capacity (passengers per hour per direction)		Capital Cost (US $M)	Subsidy Required (US $M)	Fare ($ col.)
	Metro (Km)	Busway or BRT (Km)	Metro (Km)	Busway or BRT (Km)			
SNC-Lavalin	20	22	40,000	22,000	820	542	360
Metrovías	91 (*)	0	22,000	-	411	0	300
Alcatel-Dragados-GEC Alsthom	18	0	32,000	-	545	Not known	Not known
Metrobús (CFT-Stagecoach-Volvo)	0	Stg. 1: 28 Stg. 2: 12	-	10,000-30,000	Stg. 1: 210 Stg. 2: 361	0	320
Siemens	19	0	72,000	-	685	480 or 10 years of 110	195
Unibus-Uniturs	0	87	-	7,000	22	0	250

(*) Metrovías' proposal is for ultra-light rail, an untested technology to be developed in Colombia.
Sources: EPCE Ltd.-Halcrow Fox (1994a, p.29-34); and EPCE Ltd.-Halcrow Fox (1994b, p. 5-10).

HFA together with the local team approached the evaluation first by seeing the extent to which each proposal met the city's requirements. Second, by checking the technological feasibility of each proposal. The proposals by Metrovías and Unibus-Uniturs were disqualified because they did not meet the city's requirements of ensuring an improvement in the quality of mass transit.[1053] When checked for technological feasibility the evaluation team concluded "all the bids, except one (Metrobús), were unsatisfactory in this respect, but they were not disqualified."[1054] Table 18 shows some results of the evaluation, which compared the bidders' demand and cost forecasts against those of the evaluation team.

[1053] Epce Ltd.-HFA (1994b, p. 11-13, 17-21).
[1054] Epce Ltd.-HFA (1994b, p. 13).

Table 18. Comparison of cost and demand of bidders' and evaluation team's estimates

Proposal	Technology	Capital Cost Estimate (US$ million)		Demand Forecast (000s of passengers per day)	
		Bidder	Evaluation Team	Bidder	Evaluation Team
SNC-Lavalin	Metro	820	957	410	500
	Busway/BRT			550	200
Alcatel-Dragados-GEC Alsthom	Metro	545	1110	1,210	190
Metrobús	BRT Stage 1	209	217	1,090	750
	BRT Stage 2	361	631	2,570	1,500
Siemens	Metro	645	593	440	240

Source: Epce Ltd.-HFA (1994b, p. 26 and 32).

A careful reading of the evaluation reports reveals the critical dimension at play—risk. Because it is a concession that involves private equity, risk is higher for bidders. At the same time, the city government faces a higher risk because of the need to offer profitable concessions. From a risk perspective, however, the planning process seems flawed in that it does not have strong mechanisms for minimizing risk. Specifically, in concession contracts it should be clear that the concessionaire is interested in materializing the expected demand. The three metro proposals, therefore, assumed that the city would enact restrictions on bus competition. The planning team concluded: "This assumption is regarded by the Evaluation Team as unrealistic. None of the mass transit systems introduced recently in the developing world have succeeded in removing bus competition and the large number of small private operators in Bogotá would make this particularly difficult."[1055] And no city has succeeded at this task because it is not so much a technical exercise as a political one. Clearly, the process has to involve the old operators and figure out ways of removing them from the corridors where the new systems are built without hurting them disproportionately. The process in Bogotá did not have these mechanisms in place, nor the political will needed, as it became evident a few months later.

[1055] Epce Ltd.-HFA (1994b, p. 31).

By the end of the evaluation process in October 1994, the evaluators concluded that none of the proposals had an economic positive net present value. Further, they criticized some of the proposals for not reaching the main business area or for not complying fully with the requirements of the tendering process.[1056] Nonetheless, the evaluators considered that Metrobús could be feasible, because among others it required no city subsidies. The planners recommended the city to continue the negotiations with this proponent.[1057] By this point in time, Jorge Cook who headed the city transportation planning team resigned to become minister of state for Ernesto Samper's. Samper swore in as president on August 7th, 1994. Mayor Castro appointed German Silva to head the planning team and carry out the negotiations with Metrobús.

Signing the Contract

Metrobús had filed a proposal to build a network of exclusive busways. Metrobús articulated and bi-articulated buses would operate on that network. In the first stage Metrobús proposed to build eight lines and four in the second stage. Metrobús proposed bus stops every 400 meters and "Curitiba style 'tube' stations on the main corridors."[1058] Metrobús was a consortium of international and local organizations. On the international side were Volvo Bus Corporation and Stagecoach International, which together held 50% of the shares. On the local side were the Transportation Finance Corporation and four trade associations that represented bus companies. The Transportation Finance Corporation financed bus companies' bus renewals. Among the trade associations were Conaltur and Fecoltran. In theory, Metrobús included the critical stakeholders—the bus companies and bus operators who could oppose any scheme to alter the status quo if not included in the plans.

The negotiations between Metrobús and the city government started early in November of 1994.[1059] The negotiations centered around two critical issues. First was the alignment of the busway network. Metrobús wanted to gain exclusive access to

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[1056] El Tiempo, "Metro, Troncales y Solobus, La Solución," October 11, 1994.
[1057] Rodríguez (1999, p. 7).
[1058] Epce-HFa (1994a, p. 32).
[1059] El Tiempo, "Metrobús, Se Acaban Sus Dias," November 25th, 1994.

the Caracas Avenue busway, which was the most profitable corridor in the city. Planners knew this implied eliminating the existing routes and buses from that corridor. Mayor Castro did not agree probably because eliminating the route and buses was a highly contentious political issue. Planners then offered Metrobús a semi-exclusive use of the corridors. On Caracas Avenue and other corridors, such as 80th street and on Jiménez Avenue, Metrobús buses would have exclusive access to the infrastructure built by Metrobús. But in parallel lanes built by the city, existing bus routes could operate. This minimized the impact to the existing bus companies and bus owners. Mauricio Cuellar defended this by saying it would give options to consumers who could choose their preferred bus service. In the end Metrobús agreed to a network that implied building 40 kilometers of new roads in the city.[1060]

The second critical issue in the negotiating agenda was the fare. Metrobús wanted the contract to establish a fare equal to US$ 0.45, which was above what users paid at the time. Metrobús also wanted to peg the value of the fare to the exchange rate to the dollar and to Colombian inflation. Metrobús wanted these clauses in the contract to reduce its risk exposure. For instance, the city government could not arbitrarily change the fare if its value was established in the contract. Mayor Castro objected strongly to Metrobús' desires. Castro argued that the fare should be set according to a regime known in Colombia as "supervised freedom." In this regulatory regime Metrobús could propose a fare. The city government, in turn, could reject the proposed fare if it did not agree with the value. The city could then order a lower fare. If the government agreed with the value it would voice no objection. This was the regime for the better bus services, which charged the higher fares.[1061] The representatives of Metrobús objected strongly. Risk went up for Metrobús. Metrobús argued it would not be able to raise the required funds in the international market to finance construction and bus acquisition. Planners went to Mayor Castro who said: "it is fine with me if this [not raising the funds in the international market] happens." Planners then pressured Metrobús to accept these terms. Metrobús representatives agreed to sign the contract on the condition that if they were unable to raise the

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[1060] El Tiempo, "Sistema Metrobús Encendió Motores," December. 10, 1994.
[1061] El Tiempo, See "Hubo Acuerdo: No Hay Paro De Transporte Hoy," December 14th, 1994.

necessary capital there would be no penalty. While Mayor Castro agreed to these terms, planners such as Silva and Cuellar strongly suspected that the project had died that day—time will prove them right.

As the negotiations were advancing Metrobús went through a major internal crisis that almost disbanded its members. Conaltur was a member of Metrobús and was one of the trade associations that represented bus companies. Members of Conaltur elected a new administration with the mandate to withdraw Conaltur from Metrobús. Days after this, the remaining three trade associations in Metrobús withdrew as well from the consortium. At the negotiations one representative of the trade associations said: "the project is good for the city, good for the people, but very bad for the bus companies."[1062] The Transportation Finance Corporation was also shaken by the news but in the end its shareholders decided to remain in the consortium. The trade associations now began to actively oppose the project and even participated in the organization of strikes and protests to demand changes to the project.[1063] Bus owners also opposed the Metrobús project. Recall that in Bogotá bus companies "own" bus routes; and small investors own the buses that have to be affiliated to a bus company to operate on a route.

On December 9th, 1994, Metrobús and the city government signed a concession contract in which Metrobús agreed to build a network of busways, purchase 1,200 new articulated buses, and operate them for 20 years.[1064] The bus companies and owners were against the project and were organizing a strike to bring the city to a standstill. Paradoxically, the head of Fecoltran, which was originally part of Metrobús, claimed in a newspaper interview that the Castro administration was favoring international interests by not allowing local bus companies to present alternative proposals.[1065] Clearly this change of heart, from supporting to vituperatively opposing, shows that the trade associations had not been in close contact with the bus companies they represented. The bus companies opposed the project all throughout the process.

[1062] See also "La Suerte Del Solobus Se Definirá Este Miércoles," November 19th, 1994.
[1063] El Tiempo, "Sistema Metrobús Encendio Motores," December 10, 1994.
[1064] El Tiempo, "Sistema Metrobús Encendió Motores," December 10, 1994.
[1065] "Sistema Metrobús Encendió Motores," December 10, 1994.

By the 13th of December the threat of a strike forced Castro and Metrobús to agree to consider changing the contract signed. The existing bus companies and bus owners wanted, first, to minimize the impact of the Metrobús project on their interests. Specifically, bus companies wanted to protect their routes and bus owners wanted to keep their buses circulating.[1066] The bus companies and bus owners demanded that Metrobús be excluded from any road the city had built. Metrobús buses could only use the roads built by Metrobús and where no previous bus traffic existed. The Castro administration and Metrobús did not agree to the changes. But it was clear that the project had to start on a corridor built by Metrobús. Otherwise, the opposition by the existing bus companies and bus owners would not allow the project to proceed. The chosen corridor was an old railway line connecting the southwest end of downtown to a densely populated area in the southwest of the city. Antanas Mockus, Castro's successor would have to handle the rest of the process. I cover this topic in the next chapter.

The role of planners

In the sections above, we see again planners opposing the idea of adopting a metro in Bogotá. Given the strength of the idea, planners resorted to making proponents honest. They do this by convincing Mayor Castro of procuring the metro through a concession scheme. Concessions require high-quality information to lower risk. In addition to seeking ways to keep metro promoters honest, these planners also opened the way for other technologies—busways and BRT—to enter the competition. Mayor Castro agreed. Given the incentives generated by the concession, planners hoped that a bus-based alternative won the competition. After a detailed evaluation, planners choose Metrobús, a BRT project, as the winner. Metrobús entered the political agenda of the city.

On of my main arguments is that planners' main role is to interact with politicians and stakeholders, because the interaction is a source of feedback that reduces power differentials and leads to adaptations to the original plans, reduces risk for all parties involved, and helps assemble a coalition of support. The interaction

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[1066] See El Tiempo, "Hubo Acuerdo: No Hay Paro De Transporte Hoy," December 14th, 1994.

seen above is very limited. Planners interacted with trade associations believing the associations were sound representatives of their affiliates. They were wrong. The bus companies actually opposed the Metrobús project all along. There was no direct interaction with the bus companies—the key stakeholders. Absent this actor from the process, the planners could not figure out a way to reduce the power of the bus companies. Furthermore, the plans for Metrobús reflected only the interaction between the city and the concessionaire. As a result, the bus companies resorted to strikes demanding changes to the plans, which they achieved.[1067] Because of the incomplete interaction risk is going up for investors in Metrobús, who face a limited market share and increased costs. Worse, the limited interaction leads to a powerful coalition against Metrobús. The incomplete interaction can be explained in part by the lack of "political planners" and/or a project champion in the planning team. While Mayor Castro did support the project "it was not his flagship infrastructure project. His flagship project was the sewer treatment plant to clean the Bogotá River," a planner told me. The planner added: "the sewer treatment plant had a clear project champion helping the project navigate the political process. Metrobús, on the contrary, never had a project champion to defend it and push it forward."

Intermezzo: Mayor Castro and a critical political and tax reform

Some of Jaime Castro's main objectives were to reform Bogotá's charter and the main elements of the city's tax code. Castro had been elected in 1990 to the Constitutional Assembly that enacted a new constitution on July 1991. Castro was aware that many of Bogotá's problems were the result of the city's 1968 charter, which among others created a very powerful City Council and a weak mayor. In effect, this regime was known in Bogotá as "co-administration" because the legislative and executive powers were not as separate as desired. When Castro got to the constitutional assembly, he lobbied to pass a couple of articles specific to Bogotá,

[1067] This corroborates the conclusion reached by Feldman and Milch (1982, esp. 4 ch and 6) that affected interests usually find a way of participating in the planning process even if intentionally (or unintentionally) excluded from it.

including one to force Congress to change the city's charter.[1068] Castro also got the Assembly to enact a transitory article[1069] establishing that Congress had to enact the new charter for the city within a certain period of time. Otherwise the president of Colombia would enact the charter by decree.[1070]

The initial version of Bogotá's charter under discussion in Congress left Castro dissatisfied for he knew it did not have the reach, in political and fiscal matters, that the city urgently needed.[1071] Castro, however, knew very well how the Colombian Congress worked. Castro had been senator and minister of government. As minister, Castro had been in charge of lobbying Congress to pass the president's legislative agenda. Castro used his knowledge to filibuster the passing of the city's charter in Congress. In the meantime Castro wrote his own version of Bogotá's new charter and presented it to President Cesar Gaviria. The national government had its own version in mind. The two sides negotiated, with President Gaviria having an advantage because the Constitution allowed him to issue the decree. In July of 1993 the national government issued the city's new charter. The new charter achieved an effective separation of powers between the City Council and the mayor's office. The City Council would be the place for enacting legislation and exerting political control. The mayor's office would be the executive power in the city.[1072] The new charter also created new mechanisms for citizen participation.[1073]

The new charter also updated the city's tax legislation. For example, until then the property tax raised very little revenue because Bogotá's cadastre was outdated, among others.[1074] Updating it up would have cost too much in physical and political terms. In effect, Mayor Pastrana had tried but the political reaction had stopped his efforts. Castro faced as well a huge political controversy, which presidential candidates such as Pastrana and Samper helped fuel. Castro resisted the pressures

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[1068] Castro and Garavito (1994, p. 29-30). See Constitución Política de Colombia (1991, articles 322-327).
[1069] A transitory article is valid only during the transition from the old constitution to the new one. It usually has a sunset clause. See Constitución Politica de Colombia (1991, transitory article 41).
[1070] Castro and Garavito (1994, p. 46-47).
[1071] Castro and Garavito (1994, p. 47-48).
[1072] See Estatuto Orgánico de Bogotá (1993, articles 8-26 and 35-38).
[1073] Castro and Garavito (1994, p. 56-59); and Piza (1995, p. 17).
[1074] Piza (1995, p. 20).

to halt the reform.[1075] Bogotá's charter established that it would be each property owner who would self-appraise its property and in this way update the cadastre.[1076] Regarding the sales tax, the new charter established that businesses would have to file this tax every two months[1077] and not yearly as it happened before.[1078] When the filing was yearly, businesses had an incentive to leverage their operations with the sales tax collected and then declare a smaller amount. By paying this tax every two months these incentives were eliminated. Notice that this tax reform focused on improving the tax collection mechanisms and not on increasing the tax rate.[1079] At the same time, the city government pursued policies to reduce the city's recurrent expenditures and streamlined its administrative expenditures. These savings together with the increased tax revenue expanded the possibility to spend in new projects,[1080] including road maintenance. Table 19 summarizes the results of the tax and expenditure reforms enacted in 1993 and implemented in 1994. The city government now had money for capital expenditures (Figure 17), including increased expenditures in transport (Table 20). Notwithstanding these achievements, by 1997 the rate of growth of the revenue from property and sales taxes slowed down. The administrations following Castro's had to increase taxes, create new ones, such as the tax on fuels, and privatize city-owned companies to raise revenue.[1081] After 1997 the tax on fuels has been particularly dynamic (See Table 22 in Chapter 12).

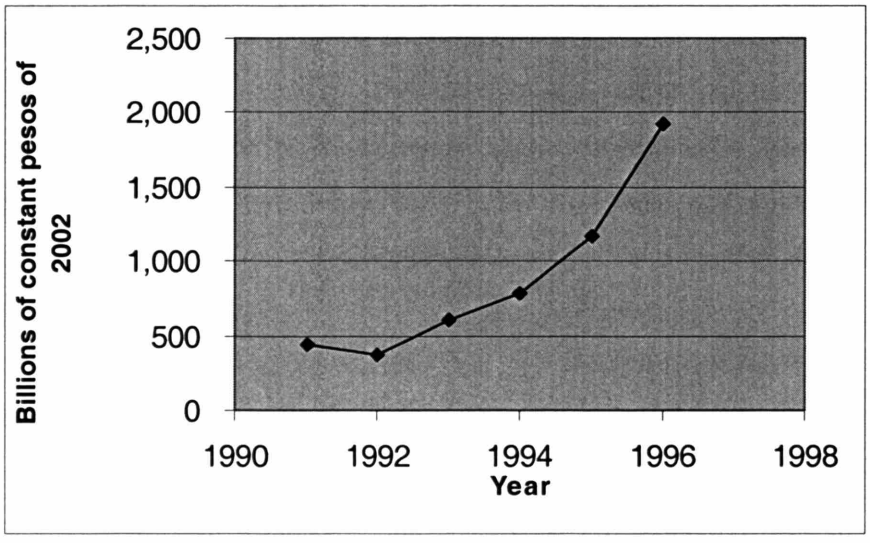
[1075] Castro and Garavito (1994, p. 81-93).
[1076] Piza (1995, p. 20-1). See also Estatuto Orgánico de Bogotá (1993, article 155, especially paragraph 1, which creates the self-appraisal mechanism for the property tax).
[1077] Piza (1995, p. 21-2). See also Estatuto Orgánico de Bogotá (1993, article 154, especially paragraph 1, which establishes the payment of the sales tax every two months). The City Council can change the periodicity of payment of the tax and change the tax rate.
[1078] Piza (1995, p. 20-22). For a detailed analysis of the tax reform of 1993 see Cardenas et al (1995).
[1079] Castro and Garavito (1994, p. 48).
[1080] Castro and Garavito (1994, p. 85-86); Piza (1995, 18-34); and Cárdenas et al. (1995, p. 181-3).
[1081] Interview by author to Enrique Peñalosa (June 2004).

Table 19. Summary financial indicators for the City of Bogotá, 1991-1997 (Values in billions of constant Colombian pesos of 2002)

	1991	1992	1993	1994	1995	1,996
A. Total Revenue (Tax + transfers + privatization)	857	937	1,036	1,758	1,994	2,904
Tax revenue	654	739	765	1,355	1,251	1,527
Property tax	123	179	175	327	326	379
Sales tax	297	310	331	659	569	701
Tax on fuels						108
B. Recurrent expenditures	741	792	819	1,057	996	1,115
C. Capital expenditures	445	377	598	778	1,169	1,929
Surplus (Deficit) (A-B-C)	(329)	(232)	(380)	(76)	(172)	(140)
	Real increase over 1993 values (1993 values = 100)					
	1991	**1992**	**1993**	**1994**	**1995**	**1,996**
A. Total Revenue (Tax + transfers + privatization)	83	90	100	170	192	280
Tax revenue	85	97	100	177	164	200
Property tax	70	102	100	187	186	217
Sales tax	90	93	100	199	172	212
Tax on fuels						108
B. Recurrent expenditures	91	97	100	129	122	136
C. Capital expenditures	74	63	100	130	195	323
Surplus (Deficit) (A-B-C)	(87)	(61)	(100)	(20)	(45)	(37)

Source: World Bank (2003, p.105); and calculations by author.

Figure 17. Evolution of capital expenditures by Bogotá's Government, 1991-96



Source: World Bank (2003, p. 105); and calculations by author.

Table 20. Expenditure in transportation by the City of Bogotá. 1992-1997. (Billions of constant pesos of 2002)

Year	Mayor	Expenditure in road maintenance and construction	Percent Change from previous year
1992	J. Caicedo/J. Castro	$88.5	-26.6%
1993	J. Castro	$229.4	159.4%
1994	J. Castro	$365.9	59.5%
1995	A. Mockus	$206.6	-43.5%
1996	A. Mockus	$449.2	117.4%
1997	A. Mockus	$473.1	5.3%

Source: Mayor column from Gilbert and Dávila (2003, p. 34); Expenditure figures from SHD (2003, p. 40); and calculations by author.

Chapter 10

A Philosopher in the Mayor's Seat

The third round fought between pro-metro and pro-bus proponents took place during the administration of Mayor Antanas Mockus. Mockus found upon arriving to the mayor's office the concession contract with Metrobús. Mockus also found President Samper's proposal to build a metro system with heavy support from the national government. The Metrobús project encountered many obstacles and was finally abandoned. This could have strengthened the position of the metro project if it had not been for a series of planners who argued the metro was not a good solution for Bogotá's mass transit problems. Planners' arguments convinced Mockus, who fought hard against the metro proposal.

The election of Antanas Mockus and some of his views on planning and politics

The Liberal Party had had comfortable majorities in most of the elections held in Bogotá until 1994.[1082] The Liberal Party had only lost when it presented more than one candidate, as when Andrés Pastrana won the election in 1988. For the 1994 election the Liberal Party presented a single candidate, Enrique Peñalosa, and yet it lost the election.[1083] The winning candidate was Antanas Mockus (Figure 1, above). Running as an independent, Mockus obtained 492,389 votes or 64.5% of the vote.[1084] Mockus had never been elected to office before.

It is important to examine some of Mockus' views on planning and politics to understand why planners in general played a critical role during his tenures as mayor of Bogotá (1995-97 and 2001-03).[1085] First, Mockus—a mathematician with graduate

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[1082] Botero (1998, p. 144).
[1083] Botero (1998, p. 143-4); and Querubín, Sánchez, and Kure (1998, p. 133).
[1084] Botero (1998, p. 143-4). The liberal candidate, Enrique Peñalosa, received 30.1% of the vote and the conservative party candidate, Carlos Moreno, 2.7%.
[1085] Mockus' views on planning and politics are based on my interview with him (October, 2003) where I specifically asked him how he made decisions and what factors he took into consideration.

studies in philosophy[1086]—believes that public policy should be the result of sound argumentation and not the product of negotiation. By sound argumentation he means that the strength of the technical argumentation should carry the day. Mockus distrusts negotiation because parties involved tend to reach the decision on the grounds of a give and take in which technical rationality is lost. "I give you this if you give me that." As mayor, Mockus therefore tried to create processes that privileged communication, that allowed arguments to emerge, and that tried to decrease the impact of political and economic power.[1087]

Second, Mockus strongly reacts against political pressure. During his tenure, other politicians, including President Samper, pressured Mockus to favor certain policies. However, Mockus immediately reacted by saying "hold on a minute, we need to look at this issue closely." Again, his concern is that this pressure, sometimes called "political will," can lead to decisions that are not grounded on a solid technical analysis. Third, and related, Mockus believes that a decision he makes should be robust. That is, if later on in time a person questions the decision, the person should agree the decision was a sound one. Conversely, he dislikes thinking that later on in time people would regard his decisions as capricious. Mockus emphasizes that his view on decision-making might just mean that he has embedded into this management style the notion of accountability.

Fourth, Mockus' tenure as mayor was framed by the requirement, for the first time in Colombian history, to govern according to a government plan or development plan. The law requires that this plan be crafted and turned into city law during the first months in office. The law also requires that the plan be consistent with the platform or program presented by the candidate to the voters during the election.[1088] Lack of compliance with the plan or the program is ground for holding a recall election.[1089] Within this context, Mockus believes that the policies derived from his government plan should not change as a result of power relations as implementation takes place.

[1086] Rojas (2002, p. 8).
[1087] To the informed reader, the view of the planning process expressed by Mockus sounds like the communicative rationality idea by Habermass. Indeed, in my interview with Mockus he mentioned Habermass and acknowledged this philosopher had an impact on his views.
[1088] Secretaria de Gobierno (1997, p. 84); and Córdoba (2003, p. 41).

Instead, for him what ought to change is the way of presenting the policies to different audiences. Each audience has a different context and therefore the information given to each audience ought to be different to ensure that each audience understands the policy. But the essence and objectives of the policy remain the same. By communicating the policy in different ways depending on the context, Mockus seeks to build consensus regarding the objectives of the policy. However, Mockus understands that in each context people would justify the policy in different ways.[1090]

In sum, Mockus' views privilege technical rationality and sound argumentation, two areas where planners can have an advantage. He dislikes power relations altering his ideas and policies and uses his power as mayor to bring back a balance in which the power of the best argument prevails. Finally, Mockus views his role in the policy process to be analogous to the role of an educator.[1091] As he told me: "I have to understand what the technical planners tell me and then I have to adapt it to present it to my constituents. I am therefore a "pedagogy subject" that seeks to simplify complex ideas so that they are understood in different contexts."[1092] Finally, while Mockus encourages his team to present a plan in different terms depending on the audience, he is also reluctant to allow changes to the plan in response to power relations that materialize during implementation. The former probably facilitates the work of planners but the latter makes it more difficult for it introduces rigidity.

"To Form a City:" Mockus' Development Plan

Once in office, Mayor Mockus and his team, advised by planners, crafted the development plan following the platform laid out by Mockus as candidate. This platform was centered on the idea of improving citizen behavior and the way citizens regulated each other's behavior.[1093] The resulting development plan had the name "Formar Ciudad" or "to Form a City," which Mockus used to transmit the idea that not only the city but also the citizens were being formed or shaped. To craft the transport

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[1089] Córdoba (2003, p. 41).
[1090] Mockus has been influenced by the thought of sociologist Basil Bernstein. For an elaboration on how he understands Bernstein's concepts as applied to policy making see Córdoba (2003).
[1091] See Rojas (2002, p. 8-9).
[1092] Interview by author with Antanas Mockus (October, 2003).
[1093] Córdoba (2003, p. 45); and Secretaria de Gobierno (1997, p. 84).

part of the plan, Mockus sought the advice of a group of experts that included Fabio Regueros, former head of GIT, Jorge Acevedo, and Germán Ospina, among others. This group met on several occasions to analyze the causes of Bogotá's transportation problems and propose guidelines for solutions. The group of experts ranked the causes of Bogotá's transportation problems. First was the lack of institutional capacity among the city agencies in charge of the sector in particular STT. The experts recommended the city to give priority to public transport and to curb car use, the latter for example by charging for its use.[1094]

The plan "Formar Ciudad" incorporated in one way or another most of the recommendations by the experts. The plan's main objectives regarding transport were, first, to increase institutional capacity of the government agencies in charge of the transport sector. Second, to create the plans and instruments to cater to the demand for public transport. The plan estimated capital expenditures in the transport sector during the three-year term for 857 billion pesos (US$ 980 million approximately[1095]). This included investments in busway facilities, bike paths, and two new urban roads. The plan also contemplated a megaproject dubbed "integrated transit system," with capital expenditures for 918 billion pesos (US$ 1.05 billion approximately). The national government was expected to contribute 30% of the value of this megaproject. The plan mentioned and allocated small amounts of funds for the Metrobús and Metro projects.[1096] However, the plan did not mention them specifically under the megaproject "integrated transit system." Hence, the plan in theory left open the possibility that these funds went either to bus- or rail-based alternatives.

The Demise of the Metrobús project

Upon taking office, Mayor Mockus disbanded the small planning team headed by Germán Silva. Silva together with Mauricio Cuellar had been in charge of the process that led to signing a contract with Metrobús. Mockus transferred the responsibility to the STT. STT was a weak agency, as the panel of experts pointed out, and had many

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[1094] Ardila (1995b, p. 78-82).
[1095] Assuming a exchange rate of 875 pesos per dollar (source: www.altin-focus.com/latinfocus/countries/colombia/colexchg.htm)
[1096] Ardila (1995b, p. 76-78).

additional responsibilities, such as administering the entire transport system in the city. STT assigned one planner, Luisa Flechas, to be in charge of the technical aspects of the process. But the main problems were political. Recall that when Castro left office, the bus companies had mobilized to impose constraints on the Metrobús project. The Metrobús buses could only use corridors built by Metrobús itself; and Metrobús could only build on corridors not used by existing public transport. One such corridor was an old railway line connecting the southwest end of downtown to a densely populated area in the southwest of the city that became known as *Corredor Ferreo* (CF) or railway corridor. The CF had two major problems. First, the land of the CF belonged to the national railway company, *Ferrovías,* and not to the City of Bogotá. Second, hundreds of families had built squatter settlements along areas of the railway corridor.

While *Ferrovías* was willing to transfer the railway corridor to the city government, it could not give away the land without violating Colombia law. Negotiations between the city and *Ferrovías* took place during all of 1995. At the end the parties agreed to exchange the corridor land for land in the outskirts of Bogotá suitable for the construction of an alternative rail line. On January 12th, 1996, *Ferrovías* transferred the CF land to the city. The city in turn promised to give the land to Metrobús once other conditions were met.[1097] The original agreement between the city and Metrobús, however, stipulated that the city had to give the land to Metrobús on June 8th, 1995.[1098] The city and Metrobús were reluctant to let the project die and agreed to modify the contract by postponing this and other deadlines.

More important, poor people had built slum dwellings by the tracks on the CF. These people scavenged garbage in search of recyclable materials to sell. This community was organized and its work had won an award by the Ministry of the Environment. *Ferrovías* as the legitimate owner of the land initiated the legal procedures to evict the dwellers. The dwellers responded by filing a series of lawsuits known in Colombia as *acción de tutela*. This type of lawsuit is filed by individuals who feel state action is violating their fundamental rights—to work, to receive education, to

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[1097] "Entregan rieles para Metrobús," El Tiempo January 13th, 1996.
[1098] El Tiempo "Preocupación Por Metrobús y Metro." April 9th, 1995.

due process, etc. On June 13th, 1995, the Administrative Court of Cundinamarca ruled in favor of the dwellers. The court argued that no state activity could justify crushing individual rights established in Colombia's Constitution.[1099] The city filed an appellation to the ruling. Other dwellers filed more *tutela* lawsuits. The courts had not resolved the situation by mid-November 1995. As a result, the city and Metrobús negotiated a new delay in the date established to begin construction to July 1996.[1100] On December 13th, 1995, the Constitutional Court of Colombia, the court of last resort for *tutelas*, ruled in favor of the dwellers. The ruling directed the city government to relocate the dwellers into adequate and decent housing.[1101]

By January 1996 the path seemed finally clear for Metrobús for the land was owned by the city and the city was relocating the slum dwellers.[1102] By then the city government and Metrobús had agreed to change the type of bus to a smaller one because of the lower demand on the CF corridor. The city government and Metrobús agreed to keep the fare at US$ 0.45—still higher than what users paid for the existing bus services. Finally, Mockus stated to the press that "While it would take 7 or 8 years for the first metro line to open, in just three we will have 7 lines of Metrobús with the same ease to board and descend from the buses as in a metro." Mockus, therefore, believed the Metrobús project would take off and become the solution Bogotá needed.

Despite Mockus' optimism just two months later the Metrobús project entered into a crisis. The first stage had a cost of US$ 40 million out of a total cost of US$ 150 million for the entire project. The financial scheme contemplated using equity, supplier loans by Volvo—one of the partners of Metrobús—and loans from international banks.[1103] The Metrobús consortium requested a six-month extension to start construction on the CF. Metrobús informed that the international banks were questioning the profitability of the project and were therefore reluctant to issue the loans.[1104] The city government, represented by Efraín Becerra, secretary of transportation, offered to help. Becerra requested information on why specifically the

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[1099] El Tiempo "Cartoneros logran frenar Metrobús." June 14th, 1995.
[1100] El Tiempo, "Aplazado seis meses el proyecto Metrobús." November 17, 1995.
[1101] El Tiempo, "Deben reubicar a comuneros: Corte." December 14th, 1995.
[1102] El Tiempo, "Reubicadas 44 familias de comuneros." February 12th, 1996.
[1103] El Tiempo, "Antes de diciembre, el Metrobús no empieza." july 28th, 1995.

international banks were unwilling to finance the project. By mid-April the Metrobús consortium had not produced satisfactory answers and Becerra threatened with canceling the contract.[1105] On April 22nd Metrobús representatives met with Mockus and other officials to announce Metrobús had been unable to secure the required loans from international banks. Finally, on the 25th of April the Metrobús consortium requested the city to cancel the contract because of the total inability to secure the required funding.[1106]

Several reasons were behind the banks' reluctance to finance Metrobús. First, the banks questioned the high fare would-be users were expected to pay.[1107] Because the expected users were poor it was probable that demand estimates would not materialize.[1108] Second, and related, the banks questioned the power given in the contract to the city government to modify the fare established by Metrobús.[1109] As seen above, Mayor Castro did not agree to set the fare in the contract. He argued instead in favor of the "supervised freedom" arrangement. Third, the banks questioned the decision to allow Metrobús and the traditional operators to supply competing services. The CF corridor did not have this problem. But the subsequent stages of the project did.[1110] Finally, the banks questioned the lack of participation of the existing bus operators in the Metrobús project.[1111] Absent the local operators, the chances of having a strong opposition to the project were high. In sum, the banks' reluctance to finance Metrobús stemmed from the high risk embedded in the project. By the end of April the press considered the Metrobús project dead. The Mockus administration announced that it would undertake instead the construction of two busway projects on 80th and 68th streets—two corridors with very high demand (see Table 16, above).[1112]

[1104] El Tiempo, "El Metrobús choca con su primer escollo." March 18th, 1996.
[1105] El Tiempo, "En la cuerda floja proyecto Metrobús." April 17th, 1996.
[1106] El Tiempo, "Razones para no financiar el Metrobús." April 26th, 1996.
[1107] El Tiempo, "Razones para no financiar el Metrobús." April 26th, 1996.
[1108] Planners had found that the price elasticity of bus users was high and that therefore lowering Metrobús' fare would increase the ridership and probably revenue (Epce-HFA, 1994, p. 33).
[1109] El Tiempo, "En la cuerda floja proyecto Metrobús." April 17th, 1996.
[1110] El Tiempo, "En la cuerda floja proyecto Metrobús." April 17th, 1996.
[1111] El Tiempo, "Razones para no financiar el Metrobús." April 26th, 1996.
[1112] El Tiempo, "Metrobús era una salida al trancon." April 27th, 1996; and El Tiempo, "Las troncales remplazarian al Metrobús." April 27th, 1996.

The role of planners

After Mockus disbanded the original planning team, STT was in charge of the Metrobús project within the city government. Only one "technical" planner was assigned to the effort. There was no political part in the planning team. Yet the tasks were mostly political and not technical. The resulting interaction between planners, politicians, and stakeholders was highly incomplete. The interaction was mostly with Ferrovías and the squatter settlers, who eventually agreed to allow the project to proceed. But planners did not address the key opponents to the project—the bus companies and bus owners. Absent any interaction, bus companies and bus owners continued to oppose the project. Further, the Metrobús project did not change to include the operators in the scheme. Risk was too high, as the banks correctly pointed out, and the project was cancelled.[1113] Put differently, the lack of interaction between planners and stakeholders led to a coalition against the Metrobús project. This coalition was powerful enough to eventually stop the project. Further, the lack of a capable planning team did not allow the government to lower the power of the actors that opposed the plan. The final outcome reflects not what the government wanted but what the most powerful stakeholder, the bus companies, wanted.

President Samper's proposal for a subway in Bogotá

Ernesto Samper narrowly defeated Andrés Pastrana in the presidential elections of 1994. Both candidates were from Bogotá. To win the election, Samper promised that he would finally support Bogotá's effort to build a subway network.[1114] Samper had supported the metro project since his days as City Councilor in Bogotá, starting in 1984. For him, it was evident that a city the size of Bogotá needed a rail-based solution. During the campaign Jorge Acevedo ended up advising Samper after the

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[1113] Attentive planners and politicians following the Metrobús saga could have extracted several lessons for any future attempt to build a high-quality BRT system. First, the local bus operators had to be part of the project. Without them risk is too high and expecting foreign investors is not realistic. Second, the project has to use high-demand corridors. This implies introducing the new technology on corridors such as Caracas Avenue or 80th Street. Third, and related, the new buses have to have exclusive rights to the busways and face no competition from existing operators. Fourth, the contracts have to establish clear mechanisms for determining the fare so that risk is minimized. The TransMilenio BRT system undertaken during Mayor Peñalosa's tenure incorporated all of these lessons. Interestingly, it was not so much the precedent set by Metrobús as the rich interaction between planners, politicians, and stakeholders that shaped the project to reflect these lessons.

candidate Acevedo supported in the primaries, Humberto de la Calle, became Samper's vice-presidential candidate. Samper found the campaign desperate for winning in Bogotá against Pastrana, a former mayor. Samper and his advisors had decided to set up billboards with a map with the proposed alignment and stations.

Acevedo thought setting up the billboards was irresponsible because the map lacked any technical backing. Acevedo had long ago concluded that the metro was not a convenient project because of its cost and because there were other more important needs to satisfy. But Acevedo also knew that he was an advisor and Samper the decision-maker. For Acevedo, Samper had the right as a candidate to propose to build the metro. Acevedo wrote a memorandum to Samper and then met with him. Acevedo explained that if Bogotá was going to have a metro, then it should be the *best possible metro.* Acevedo also informed Samper about the impending start of the Transportation Master Plan. Acevedo had convinced Mayor Castro of requesting a grant from the Japanese International Cooperation Agency (JICA) for this purpose. Castro did not object because the cost for the city was very small even though the plan offered no benefits to his administration. Acevedo explained to Samper that JICA planners would have to collect information that the metro studies could use. Acevedo, therefore, recommended Samper to offer the metro in the campaign and once in office carry out good studies to determine the alignment of the metro. Samper liked the idea and abandoned the idea of putting up billboards with a non-technical alignment. After the campaign Acevedo stopped advising Samper.

Once in office, President Samper started to honor his promise. Samper knew he needed the full support of the Mayor of Bogotá. As councilor he had seen how the opposition of Mayor Pastrana had helped derail President Barco's metro proposal. During Samper's first months in office Jaime Castro was the Mayor of Bogotá. The relations between the two were soured by Samper's attacks to Castro's tax reform during the presidential campaign.[1115] Moreover, Castro had his own mass transit proposal underway, Metrobús, and his own pet mega-project, the sewer treatment

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[1114] Acevedo (1996, p. 32).

[1115] See Castro and Garavito (1994, p. 203-206). The most polemic articles of tax reform are articles 154 and 155 of Bogotá's charter (Estatuto de Bogotá).

plant. Castro therefore did not support Samper's proposal.[1116] Samper had to wait for the new mayor. Samper, however, saw his purposes curtailed by the election of Antanas Mockus, who defeated the Liberal Party candidate, Enrique Peñalosa. Samper now had to make his best effort to convince the new mayor, a philosopher who believed in the power of the best argument and disliked political pressure.

Samper appointed Jaime Ortiz to represent him in the planning effort regarding the metro for Bogotá. Ortiz had participated in Samper's presidential campaign and had promoted the idea of building a metro in Bogotá. Contrary to Acevedo, however, Ortiz continued in Samper's government. Ortiz, an architect, had a long experience in urban and transportation planning issues. Early in the 1970s, Ortiz convinced Mayor Alfonso Palacio of closing to car traffic a major street for one time, on a Sunday. Pedestrians and bike-riders were the only ones allowed to use the road. Ortiz wanted to demonstrate the convenience of this idea. In 1975 he organized a demonstration to favor and promote bicycle use. In 1976 he conducted the first study to build a bike path network in Bogotá. His efforts to promote bike use paid off. In the early 1980s, Mayor Augusto Ramírez adopted the policy of closing a series of major arteries to car traffic on Sundays and holidays and giving them for most of the day to pedestrians and bicyclists. This policy was a huge success, was copied by many cities in Colombia and is still in place. Ortiz had been secretary of public works under Mayor Caicedo.[1117] Finally,

Ortiz knew several planning studies had to be carried out in order to the get plans for the metro rolling. First, a feasibility study followed by conceptual designs of the first stage. The national government would finance for the most part these studies. Bogotá would cover the rest of the cost. The national and city governments, therefore, would have to agree on the terms of reference for the study before it could start. Second, the city needed a Transportation Master Plan. Until then, according to Ortiz, the lack of a Transportation Master Plan hindered the efforts to undertake large-scale projects and diminished the impacts of those undertaken. For example, Ortiz argued

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[1116] Interview by author with Ernesto Samper (October, 2003). Press account corroborate Castro's lack of support for the metro. See for example El Tiempo, "Castro: No a metro por concesión." September, 8th, 1994.

[1117] Interview by author with Jaime Ortiz (October, 2003).

that planners were trapped in the dichotomy of believing that the solution was either rail based or bus-based. For him, trains and buses have different functions and therefore serve different elements of an integrated transit system. [1118]

Ortiz was therefore President Samper's point man for the political aspects of the planning process for his pet project, the Bogotá metro. Ortiz also had technical responsibilities, but his task was mostly political. For example, Ortiz had to interact with city officials and convince them of the convenience of the metro. Implicitly, Samper assigned the technical aspects of this process to the prestigious National Planning Department (DNP). DNP is a cabinet-ranking office that analyzes from a technical perspective the different projects presented to the National Government for funding. DNP offers recommendations on which projects are convenient. The ultimate decision, however, is political. Finally, Samper also appointed Ortiz to represent the national government at the steering committee of Bogotá's Transportation Master Plan, which started during Mockus' tenure as mayor.

Mayor Mockus' response: "planning first, politics second!"

Once Mockus was in office, President Samper approached the new mayor to push his metro proposal. Samper used the argument that "political will" was what had been missing in the long history of Bogotá's metro.[1119] "Political will," therefore, would get the metro built this time. Samper erroneously thought Mockus was a traditional politician who would automatically support the metro. Mockus, as seen above, was the exact opposite. Mockus therefore reacted by "intuitively opposing the metro proposal because it was a political idea and not the product of technical reasoning." [1120] Mockus told Samper: "You cannot skip technical rationality in favor of political will." [1121] Mockus wanted solid planning studies to determine if the metro was indeed a good proposal, affordable and that solved a problem.

[1118] Interview by author with Jaime Ortiz (October, 2003).
[1119] Interview by author with Antanas Mockus (October, 2003).
[1120] Interview by author with Antanas Mockus (October, 2003).
[1121] Interview by author with Antanas Mockus (October, 2003).

At the time, the Mockus administration was crafting its development plan—which framed the city government's actions for the next four years.[1122] Mockus called Mario Noriega, an architect, to help with this planning effort. Specifically, Mockus asked Noriega to design a methodology for articulating the different elements of the plan with one another. Mockus also asked Noriega to represent him in the steering committee of the transportation master planning exercise, which was due to start in July of 1995. Noriega thus became one of Mockus' top transportation advisors and helped the mayor develop his positions regarding Samper's metro proposal. Noriega agreed with Mockus on the necessity of carrying out feasibility and planning studies for the metro proposal.

President Samper acquiesced to Mockus' desires for without the city's cooperation his pet proposal would go nowhere. Moreover, Samper's top planner, Ortiz, and Jorge Acevedo, who had advised Samper's campaign, had recommended Samper to do a comprehensive study on the metro. The contentious issue between the national and city government was defining the terms of reference for the study. In essence, the National Government wanted the study to be for the feasibility and design of the first metro line. The City Government opposed this on the grounds that the study had to examine other options, such as busways. Moreover, the City Government wanted the study to look at an integrated transit system and not just at a metro line. Underlying the discussion were several technical issues.

First, Mockus and his planners regarded the metro, and in particular the first line, as an element in the solution to Bogotá's mass transit problem. But they knew the solution involved building an integrated system that included rail- as well as bus-based solutions. Further, they suspected buses on busways could substitute for the metro if planned adequately—at least in the short and medium range. Therefore, busways should be built first; the metro lines should be built in the long term. Samper, according to several sources, was obsessed with building the first metro line and

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[1122] The mayoral term at the time was three years. Colombian law, however, orders city governments to write development plans that include the first year in office of the next term. In this way, the new mayor will find a plan to execute while the new administration crafts its own new plan. Once this is done, the new plan is valid as of that date and replaces the old plan. Because the old development plan framed

thought he would make history in this way. But Ortiz, Samper's transportation advisor, agreed in principle with the city's view. For Ortiz it was a matter of priority. Would the metro line be the backbone of the system or would it be buses on busways? For Ortiz, busways could not do the job. Consequently, the metro line would be the backbone and it would have to be undertaken first. Samper liked Ortiz's view, which favored his intention of starting construction of the first metro line during his tenure. Yet the conflict with the city remained.

Second, the city government was worried about the funding issue. For one, the finances of the national government were weakening and it was not clear what share of the costs the national government would actually contribute. For another, the city feared the national government was interested in funding only the first metro line and not a share of the integrated transit system. It was clear the city would get a smaller transfer of funds if it accepted the national government's view. Mockus wanted to maximize the contribution by the national government to address Bogotá's mass transit problems.[1123] Mockus therefore pushed for the idea of building an integrated transit system. The national government, in turn, seemed to be aware of its deteriorating fiscal position and wanted to minimize its expenditures.

Finally, Mayor Mockus and Noriega doubted the metro was an effective solution. Mockus and Noriega thought that because of its high cost, building a single metro line would absorb most if not all of the funding the national government and the city government could devote to mass transit projects in the foreseeable future. This single metro line could cater to eight to ten percent of the city's demand. The remaining 90% of the demand would not see any improvement in the quality of service.[1124] On the national government, Ortiz adamantly opposed this view. For him it was quite amazing that a single metro line could capture as much as 10% of a city's demand. He pointed out that Mexico City's Subway with a vast network carries only

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the budget for that first year, the new administration has to go to the City Council to amend the budget and align it with its own development plan.

[1123] See for examples of this: El Tiempo, "El metro depende del aporte de la nación," June 17th, 1995; and El Tiempo, "Metro requiere apoyo de la nación," May 26th, 1995, and El Tiempo, "Habrá metro si la nación pone el 60 % para el SITM," May 17th, 1995.

[1124] See Mockus (1995, p. 158-9); and interview by author with Antanas Mockus (Octobe 2003).

16% of the total demand.[1125] Table 21 shows some statistics on metros in Latin America available at the time of these events, which tend to corroborate Mockus and Noriega's views.

These three issues framed the controversy between the national and city governments throughout Mockus' term. As a result, there was an important controversy around how to structure the terms of reference for the metro study. Planners consulted with their bosses but they could not reach an agreement. Samper and Mockus had to meet several times to discuss the issue. Finally, late in September 1995, the City and National governments agreed on the terms of reference. The study would emphasize the metro but would examine the issue from an integrated transit perspective.[1126] The study would also examine the feasibility of building a metro system, determine the first line to be built, the cost of the project, and its impacts.[1127] In mid December 1995 the national government opened the bidding process for this study.[1128] A consortium of three firms submitted the winning proposal. These firms were Ingetec (Colombia), Bechtel (U.S.A.), and Systra (France) (IBS heretofore).[1129] On July 29, 1996, IBS started working on the first phase, locally known as Phase 0. Mayor Mockus appointed Mario Noriega to represent him in the steering committee for the metro study. President Samper appointed Jaime Ortiz to that steering committee.

[1125] Interview by author with Jaime Ortiz (October 2003).
[1126] Interview by author with anonymous source; and interview by author with Jaime Ortiz (October, 2003).
[1127] El Tiempo, "Metro, vía libre para el estudio de factibilidad," September 21st, 1995.
[1128] El Tiempo, "La nación abrió licitación para estudio sobre el metro en Bogotá, December 12th, 1995.
[1129] Interestingly, the Ingetec's CEO and Director of the Metro study had participated in Samper 's presidential campaign as an advocate in favor of the metro.

Table 21. Length of metros in Latin America and share of public transit demand

City	Population (Millions)	Length of metro lines (Km)	Share of public transit demand		
			Metro	Buses	Other
Mexico	18.5	135.7	25%	71%	4%
São Paulo	15.0	28.5	12%	77%	11%
Rio de Janeiro	13.0	26.9	7%	71%	22%
Buenos Aires	9.0	35.4	6%	86%	8%
Santiago	4.5	27.4	16%	84%	0%
Caracas	3.5	28.0	11%	89%	0%

Source: Figueroa and Henry (1990, p. 16 and 18).
Note: Shares by mode of total demand are lower because figures only include public transit. Figure on buses refers to buses of different sizes but all running on internal combustion engines. The figure for "other" can include commuter rail and trolley buses.

Finally, it is worthwhile to point out that in November 1995 President Samper inaugurated the first metro line in Medellín. Construction had started in 1986, funding had run out in 1989, and works were stopped until 1993. In 1993 Samper was ambassador to Spain and was instrumental in carrying out the negotiations with the Spanish and German firms in charge of building Medellín's metro. The cost of this project had escalated from US$ 654 million, to over 2 billion.[1130] Further, planners at the National Planning Department had lowered demand expectations significantly to 300,000 passengers a day from above 900,000 a day when the decision was made.[1131] The significant cost increases and the lowered demand made many planners wary about building a metro in Bogotá. Planners, and some politicians, feared Medellín's experience would be somewhat repeated by Bogotá's metro. Mockus commented in this regard: "[The Medellín Metro] was a project started without having answered a series of questions and because of that it has had enormous cost increases."[1132] Samper, on the other hand, used the opening of the Medellín metro as an opportunity to reinforce his position that Bogotá ought to have a metro. But Samper did not stop there. He also gave hope to cities such as Cali and Barranquilla of receiving support from the national government for their metros.[1133/1134] The Cali

[1130] El Tiempo, "Doce años para montarse al metro," April 30th, 1998.; and El Tiempo, "Metro paisa entra a vías judiciales," April, 30th, 1998.
[1131] Acevedo et al (1993, p. 42).
[1132] Mockus (1995, p. 159).
[1133] See El Tiempo, "Habra metro en otras ciudades," December 1st, 1995; El Tiempo, "Habra metro para Bogotá," December 1st, 1995; and El Tiempo, "Metro espera el sí de Samper," August 29th, 1995.

metro, moreover, was strongly supported by Jose A. Ocampo, Samper's finance minister. Soon after, therefore, the Cali metro was in the national political agenda.

The Transportation Master Plan

The transportation planning exercise started in July of 1995 and officially finished in December of 1996.[1135] Planners followed standard practice by collecting a significant amount of information to diagnose the operations of the transportation system in Bogotá. With this understanding, planners prepared 17 alternative plans for proposals that combined different projects, rail, bus, and highways, and that achieved different results.[1136] Planners presented these alternative plans in several meetings to Mayor Mockus, his top advisers and cabinet throughout 1996. According to sources, Mockus was very interested in learning about the impacts of metros and of busways. Mockus questioned during hours the planners trying to see if the "rational" decision was to support the metro or busways. Mockus concluded that busways could satisfy the mobility needs of the city in the medium term. A metro line might be needed in the long run. Mockus' conclusion seems to match his previous views. But what is important is Mockus' lengthy questioning of the planners to convince himself that choosing buses over rail was a "rational" decision.

The final plan proposed 67 different components with a total cost of US$ 9.2 billion. If adopted, the implementation of the plan demanded the support of eight consecutive administrations. The proposed projects were classified in three broad areas. First is the traffic management component, which included improved traffic controls, parking schemes, and even plans for a bike path network.[1137] Second, the plan proposed improving the road network by widening some roads, building 400 km of new roads, and a series of over passes. The most controversial proposal was building elevated highways over six major streets, including 7th Avenue, a relatively elegant street that crosses the expanded downtown.[1138] The third element of the plan

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[1134] Cali had requested funds for its metro in June of 1995 (El Tiempo, "Metro espera el sí de Samper," August 29th, 1995).
[1135] JICA-Chodai-Yachiyo (1996b, p. i).
[1136] JICA-Chodai-Yachiyo (1996a, p. 235-252).
[1137] See JICA-Chodai-Yachiyo (1996a, ch. 13).
[1138] See JICA-Chodai-Yachiyo (1996a, ch. 11).

pertained to mass transit.[1139] In the short range the plan proposed measures to reorganize the more than 700 bus routes—formal and informal—into fewer routes following a trunk and feeder pattern. The plan also called for changing the fare structure to one that charged proportionally to distance traveled.[1140] This would hurt the poor who lived outside the central business district. Accompanying these two measures was the proposal to transform the bus companies into operators responsible for service. As seen above, bus companies rent out routes to bus owners. To achieve the change, the plan proposed creating a fiduciary company. Bus owners would trust the buses to this company. The trust would then rent out the buses to the bus companies.[1141] Finally, in the short range the plan proposed the construction of a network of busways and bus lanes that covered the main transportation corridors in the city.[1142] The plan estimated the cost of the busway network at only US$ 44 million.[1143] The planners scheduled this short-term component, including the busway facilities and the transformation of the bus operators, to be completed by the end of the year 2001.[1144] While the Transportation Master Plan is rich in measures such as transforming the bus operators it lacks any specificity regarding *how* these measures would be achieved.

In the medium and long range, the master plan contemplated the construction of fully segregated busways and one metro line. The plan forecasted that by the year 2020 the number of transit trips would have increased by 35% and length of the average trip would have increased by 23%.[1145] These increases meant that the busways built until the year 2001 would not be able to cope with the demand. The plan argued that busways such as the one on Caracas Avenue had a maximum capacity of 30,000 passengers per hour per direction. For demand above this value, the plan recommended building heavy rail lines. However, because the city could not afford building so many metro lines, the plan proposed to increase the capacity of the

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[1139] See JICA-Chodai-Yachiyo (1996a, ch. 12).
[1140] JICA-Chodai-Yachiyo (1996a, p. 304-6).
[1141] JICA-Chodai-Yachiyo (1996a, p. 305-6).
[1142] I call the proposed facilities busways because they do not meet the specifications for being BRT, as I defined it in the introduction.
[1143] JICA-Chodai-Yachiyo (1996a, p. 302).
[1144] JICA-Chodai-Yachiyo (1996a, p. 388).

busways by introducing grade separations at intersections. As demand continued to increase, the plan established that heavy rail, complemented by busways, were the only way to provide adequate service.[1146]

Mayor Mockus wanted feedback from outside experts and organized a seminar to discuss the Transportation Master Plan in January of 1997. Local experts such as Acevedo and Pachón focused on questioning some of the results of the demand modeling exercise. They also questioned some of the proposed projects, including the elevated highways. The Mockus administration also invited some foreign experts. One was Slobodan Mitric a senior transportation planner at the World Bank. Mitric argued that the city should select the elements of the plan it found more attractive and reject or postpone the remaining ones.[1147] Carlos Ceneviva, then in charge of the upgrading of Curitiba's bus system (see chapter 7, above), commented that the proposed plan for Bogotá was highly scientific, theoretical, and profound. But he cautioned: "I hope this is the last time you organize a seminar to discuss a plan. The next time you invite me, it should be to show me the results." Typical of Curitiba planners, Ceneviva's advise was to start implementing something, receive feedback, adjust the plans and give political momentum to the implementation of the resulting plans.[1148]

Thanks to the seminar, Mockus discarded the idea of transforming the plan into a city law—to be enacted by the City Council. Instead, Mockus held more meetings with the Japanese planners and with Mario Noriega and Fabio Regueros. The discussions that followed seemed to have paid attention to Mitric's advise. The decision was to emphasize the busway component of the plan and a couple of road construction projects. The remaining components of the master plan were not rejected but simply not given strong attention.[1149] Mockus ordered more planning studies and the preparation of a proposal to update the Master Road Plan—the law that guided

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[1145] See JICA-Chodai-Yachiyo (1996a, p. 308).
[1146] JICA-Chodai-Yachiyo (1996a, p. 308-17).
[1147] El Tiempo "Estas son las supervías para salir del trancón," May 8th, 1997.
[1148] Interview by author with Carlos Ceneviva (February, 2004).
[1149] According to sources, Mockus did not reject the elevated highways because he thought they were needed to attract foreign direct investment. Expatriates living in Bogotá would own cars. The highways were therefore a way of saving time for these people. In this way Bogotá would be competitive in the international arena.

road construction in Bogotá. The idea was to introduce the busway projects in this law.[1150]

As part of these discussions a new idea circulated. It was to introduce on the new busways buses with doors on the left side that passengers would board from stations located in the median. This would save space and require a narrower alignment for each busway. Mockus and some planners thought they could apply this idea to the 80th Street busway project, then under design as part of the World Bank loan to Bogotá.[1151] Fabio Regueros argued that introducing left-door buses only on the 80th Street corridor would hurt passengers who wanted to reach the downtown area. The left-door buses would not be able to use the facilities on the Caracas Avenue busway, which required doors on the right side. Passengers would therefore have to transfer, losing time in the process. Further, introducing this change on the Caracas Avenue busway would take time because it affected the most profitable corridor in the city. Operators would be reluctant to accept the change. Politically speaking, therefore, the idea was difficult to carry out in the remaining months of the administration. Mockus and his planning team abandoned the idea of changing the type of bus.[1152] There is no evidence that the idea of using buses with doors on the left side was ever made public by the Mockus administration. The designs for the new busway on 80th Street followed the same pattern as the existing Caracas Avenue busway.[1153]

[1150] However, there is no evidence that the busway plan went beyond the physical component, which as seen has some advantages in terms of improving bus flow. But absent the institutional transformation that BRT demands, building busways can have serious drawbacks in terms of quality of service and negative impact on the environment. See Alcaldía Mayor de Bogotá (1997).

[1151] During 1996, the Mockus administration had reached an agreement with the World Bank regarding the loan that the Pastrana administration had originally sought in 1990. This loan had been on standby because the city government did not comply with some of the requirements imposed by the Bank, among others. Mayor Mockus introduced the changes and the World Bank allowed the loan to proceed. This project contemplated the construction of a busway on the 80th Street corridor. See Duarte Guterman & Cia. Ltda. (2002, p. 3, 12-15); and World Bank (1996, p. 15).

[1152] Inteview by author with Fabio Regueros (October, 2003); and interview by author with anonymous source.

[1153] El Tiempo, "En qué van las troncales?," May 8th, 1997.

The Metro Study

Parallel to the events in the last section, the national government had been preparing the ground for the president's pet project, the first metro line. Recall that late in December of 1989 Congress had passed the Metro Law. This law capped the contribution of the national government for any heavy rail system to 20% of the total cost. This law limited Samper's capacity to convince the mayor of Bogotá of undertaking the metro, for the city would cover the majority of the cost. The Samper administration presented a project to Congress to amend this law. Congress approved it on August 1996 and it is known as law 310 of 1996. The law establishes that the national government has to contribute a share equivalent to between 40 and 70 percent of the debt service of the project. This law, however, is confusing for it does not clarify exactly what debt service is.[1154] As a result, from this point on, planners and politicians for the city government will understand something different than planners and politicians for the national government.

During 1996 the national government also signed a contract with Ingetec-Bechtel-Systra (IBS) to carry out the planning studies for the integrated transit system, which included the first metro line. IBS finished the first phase of this study in February of 1997. The study found that an integrated transit system combining rail and busways was needed to address the mobility needs of Bogotá. The study found that the city government could afford the undertaking of the integrated transit system, with some help of the national government within the terms of Law 310. The study proposed building three metro lines. The first line would have a cost of US$ 1.7 billion and would serve 300 million passengers per year.[1155]

Mockus and his planners received this study. Immediately they questioned IBS's alignment for the metro lines. The point was that the network looked too similar to the one proposed in 1981.[1156] The 1981 network had assumed that the City of Bogotá would develop toward the southwest. But Bogotá developed toward the south and southeast. And yet, IBS planners, for reasons not well understood chose an

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[1154] See Ley 310 de 1996.
[1155] See IBS (1997a, esp. p. 61-83, and 101-103).
[1156] See IBS (1997a, p. 21-29); and JICA-Chodai-Yachiyo (1996, p. 229).

alignment that did not reflect this development. Second, the first metro line was designed to cross downtown along 7th Avenue. However, it was Caracas Avenue the main public transportation corridor in the city. IBS planners and Jaime Ortiz argued that this choice was to prevent the city from collapsing during the construction of the metro line. Noriega argued that if so much money was going to be spent, then the metro should go precisely along Caracas Avenue.

Reading the metro study between the lines, one gets the feeling that IBS planners choose 7th Avenue instead of Caracas Avenue because of the record of metros in the third world. Typically, metros are planned under the assumption that competing bus routes will be removed from the metro corridor. Yet this is rarely the case.[1157] Because IBS planners were already thinking about a concession scheme for procuring the metro, competition had to be minimized. One way to do this was by choosing 7th Avenue. In turn, because of the reduced competition in that corridor, demand estimates could be more reliable. But actual demand would be lower than on Caracas Avenue.

Mockus by then was convinced that busways were the best alternative and that the metro should be built years later when demand truly justified it. Buses on good busways could handle Bogotá's demand. As Mockus told me, "The Transportation Master Plan showed that busways were a good option. I felt on safe ground choosing them over the metro."[1158] At one point, Mockus asked IBS planners to prove that US$ 2 billion spent in the metro were better than spending the same amount in busways. According to witnesses, IBS planners were unable to provide a convincing answer. Mockus, moreover, was not convinced that the national government would be able to afford its share of the metro's cost. Mockus told me: "Some people in the national government told us to sign on the metro. When I questioned the affordability of the project, they replied, "who cares, someone else will pay for it." But in government you have to think about future generations. The metro [in Bogotá's case] infringes people's freedom because it will take generations to pay for it. In water and energy you have to build specific facilities to address demand. But in transport there are

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[1157] HFA and TRL (1989, p. 6.8-6.16); Figueroa and Henry (1989); and Epce Ltd.-HFA (1994b, p. 31).
[1158] Interview by author with Antanas Mockus (October, 2003).

options, you have alternatives to choose from."[1159] Finally, President Samper and Mayor Mockus met several times to discuss the metro and the integrated transit system. Samper, according to sources, in one meeting said: "Antanas, let's make history by starting the construction of the metro." Mockus replied: "We will make history if we build busways, not the metro."[1160]

Mockus resigns: Paul Bromberg Appointed Mayor

On April 1997 Antanas Mockus resigned to the mayoralty to run for President of Colombia.[1161] Surveys indicated that Mockus had a chance at winning the presidential election in 1998. Regarding his resignation Mockus told me: "I made on my own the decision to resign. Afterwards I felt ashamed of not having consulted the citizenry. It is the only major decision that I have made without asking anyone and I had to ask for people's forgiveness." Indeed, many people felt Mockus had abandoned his job as mayor to further his personal agenda. In so doing people felt Mockus had endangered the city's governance.[1162] Mockus ended up as vice presidential candidate of Nohemi Sanin, and independent candidate. The Sanin-Mockus formula almost makes it to the second round of the election.[1163]

By Constitution it fell on President Samper to appoint the new mayor of Bogotá, who would complete Mockus' term. Samper appointed Paul Bromberg, physics professor at the National University of Colombia, who was part of Mockus' cabinet. By law Samper had to appoint someone of Mockus' political group. In the transportation agenda, Bromberg received four items. First, Bromberg received further refinements

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[1159] Interview by author with Antanas Mockus (October, 2003).
[1160] Time will prove Mockus right to some extent. While Mockus speaks about busways, there is little evidence that he was thinking about a fully-fledged BRT project as the plans for constructing the 80th street busway indicate. Mayor Peñalosa, on the other hand, understood very well from before taking office what BRT implied and had his own proposal in that regard—the TransMilenio BRT project. Peñalosa became world famous in the field of transportation planning. After leaving office, planners at the World Bank, World Resources Institute and ITDP have hired Peñalosa to present his experience in Bogotá. Their intent is to have Peñalosa convince key decision-makers. According to several sources, Peñalosa has been instrumental in helping cities such as Lima and Hanoi to decide to undertake BRT.
[1161] EFE "Fiscal aspira a la presidencia," may 8th, 1997. In http://www.cajpe.org.pe/rij/BASES/NOTICIAS/col/noti12.htm. Colombian law does not allow sitting officials to run for office without resigning six months to a year before the election.
[1162] Botero (1998, p. 145).

of the Transportation Master Plan and continued to interact with these planners. By mid-December 1997, weeks before leaving office, Bromberg and JICA signed a cooperation agreement to carry out feasibility and design studies for six of the busways established in the Transportation Master Plan. This study was scheduled to begin in April, during Enrique Peñalosa's term.[1164] The study was never carried out as intended because Mayor Peñalosa had his own plans for a BRT system--TransMilenio.[1165]

Second, Bromberg received the 80th Street busway project. The city government had hired an engineering firm to carry out the designs and was purchasing all the necessary properties in the areas where the corridor was not wide enough. The project had a length of 10.3 Km. and an initial cost of US$ 50 million. Due to increases in the cost of property takings, the new estimate was US$ 96 million approximately.[1166] The Bromberg administration expected to contract the works before its term in office expired, something they barely achieved.[1167] The designs for this busway were similar to the Caracas Avenue busway. Therefore, the new busway had only positive consequences for the existing bus operators who could continue to use their old buses. They voiced no opposition to the new busway. The user, however, would experience little improvement in service other than speed gains since the project was only for a busway and not for a BRT system—i.e. there would be any institutional change.

Third, Bromberg received the project to change the city's road plan by enacting a new city law. The old road plan, enacted in the early 1980s,[1168] contemplated the construction of roads for mixed traffic but never mentioned busways. The proposed

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[1163] Colombia' Constitution establishes the ballotage system for the presidential election. In this system, if no candidate gets more than 50% of the votes, there is a second election between the two candidates with the highest vote counts O'Donnell (1997a, p. 294).
[1164] El Tiempo, "Firma acuerdo para estudiar seis troncales," December 18th, 1997.
[1165] Peñalosa instead asked JICA planners to look at the feasibility of building a highway through the high mountains that border Bogotá on the east. Peñalosa believes is essential to study this road, which will provide access to the eastern plains of Colombia and eventually Bogotá new airport. Peñalosa wanted this road to have also busway lanes for TransMilenio buses (Interview by author with Enrique Peñalosa, June 2004).
[1166] El Tiempo, "En qué van las troncales?," May 8th, 1997.
[1167] El Tiempo, "ICA hará primer tramo de troncal de la calle 80," January 3rd, 1998.
[1168] Acevedo (1996, p. 34).

road plan incorporated the results of the Transportation Master Plan. The new road plan proposed the construction of 15 busways, 62 grade-separated intersections, and 15 transfer terminals, as well as the construction of a couple of roads for mixed traffic.[1169] Bromberg presented the plan to the City Council in early November of 1997. At one of the hearings in the City Council, the Chamber of Commerce strongly objected to the plan on the grounds that it proposed to build busways. For the Chamber, the metro was the only valid solution to address mass transit needs and the plan did not mention it.[1170] Mayor-elect Peñalosa agreed with the Chamber's position. Peñalosa, moreover, argued that a decision as important as a new road plan should be made by his administration and not by one with only six weeks in office left.[1171] The City Council rejected the plan.[1172]

Finally, Bromberg had to handle the negotiations between city and national government regarding the metro line and the integrated transit system. President Samper approached Mayor Bromberg by suggesting they should reach an agreement by August 6th, Bogotá's birthday.[1173] "It will be our birthday gift," said Samper. In the negotiations participated Samper and Cecilia Lopez, the head of the National Planning Department. For the city participated Mayor Bromberg and Mario Noriega, who had continued in the Bromberg administration together with most of Mockus' team. Samper offered to support 70% of the cost of the project. Samper assumed the cost of the project was around US$ 1.5 billion dollars, as the IBS pre-feasibility study

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[1169] See Alcaldía Mayor de Bogotá (1997). Again, the plan implied only the construction of busways but did not address the institutional transformation that BRT requires.

[1170] The Chamber of Commerce's position emerged from a competitiveness study it contracted to Michael Porter's Monitor International (See Cámara de Comercio de Bogotá, 1998, p. 36-39). The resulting study criticized the lack of decision on a metro and argued that Bogotá's competitiveness was hindered by the lack of a good mass transit system. For Monitor planners, the only option was the metro.

[1171] Peñalosa's program—his electoral platform and basis for his government plan—contemplated revising the city road plan. Specifically, Peñalosa wanted to have a plan that would allow the widening of many roads (See Peñalosa, 1997, p. 39).

[1172] Peñalosa, however, lobbied hard to get the City Council to increase the tax on fuels to 20%, as I detail below.

[1173] The City of Bogotá was founded by Gonzalo Jiménez de Quesada an Spanish conquistador in 1938. The original name was Santa Fe de Bogotá. With independence from Spain, the name was changed to Bogotá. The Constitutional Assembly of 1991 reinstated the Santa Fe de Bogotá name. A subsequent constitutional amendment restored the post-independence name of Bogotá. This is the name at the time of this writing.

had determined.[1174] Bromberg replied that the city could not invest 30% of such an expensive project. Bromberg suspected, moreover, that the costs were underestimated. Indeed, IBS's next studies estimated the cost of the first metro line at US$ 2.5 billion.[1175] Bromberg 's proposal was to have the national government contribute 70% of the cost of the integrated transit system, which included both busways and the first metro line. Samper replied that the national government could not finance road construction in Bogotá. Bromberg said that the law spoke of integrated transit systems and not of metros specifically. Bromberg added that funding 70% of the integrated transit system was equivalent to paying for 90% of the metro line. Samper did not agree for he wanted the metro and not busways.[1176]

By October 1st, 1997, the possibility of reaching an agreement between the two levels of government was one step closer. Bromberg announced that the first metro line was part of the approaching agreement. Bromberg and Samper, however, announced that the full package of projects to be included in the agreement was not completely defined. Bromberg complained that the planners for both levels of government had not been able to reach an agreement because they were combining technical (i.e. which projects) and financial issues (i.e. the projects' cost). Samper and Bromberg agreed to separate the two and have the planners work on which projects to include in the package. Once this was agreed, planners and decision-makers would look at the financial aspects.[1177]

By October 15th the planners for both levels of government submitted a technical proposal that included the first metro line, 15 busways, grade-separate intersections, and terminals. The cost was US$ 4.3 billion.[1178] On that day Bromberg sent a letter to Samper proposing that the national government funded 90% of the first metro line, equivalent to 51% of the integrated transit system's cost.[1179] The city

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[1174] See IBS (1997a, p. 58).
[1175] See IBS (1997b and 1997c, esp. ch. 5, p. 5-14).
[1176] Interview by author with Paul Bromberg (November, 2001).
[1177] El Espectador, "Definen primera línea metro," October 2nd, 1997; and El Tiempo, "Metro sí, pero como parte del sistema," October 2nd, 1997. The technical teams included Dario Hidalgo, among others, for the national government, and Luis F. Rubiano, and Jorge Rodríguez Mancera, among others, for the city government.
[1178] El Tiempo, "Se abre debate por financiación del metro," November 27th, 1997.
[1179] El Tiempo, "Las troncales primero que el metro," November 11th, 1997.

government would cover the rest of the cost. At a meeting, Bromberg, advised by Noriega, stated his position that the national government should fund the busways first. Samper did not like this position and chose to wait to see the outcome of the elections for mayor just 11 days away.[1180] On November 10th, 1997, Bromberg reiterated his position to undertake first the busway component of the plan. Bromberg told the press "While many are obsessed by the metro, in the year 2006 [expected opening day] the metro would mobilize only 8.6% of the population. The metro can be postponed."[1181] However, Bromberg made his proposals to a president who was now paying attention to Enrique Peñalosa, elected Bogotá's mayor on October 26th, 1997.

On November 25th, mayor-elect Peñalosa and Samper reached a tentative agreement. The total cost of the package was US$ 3.5 billion and included the first metro line. While Peñalosa acknowledged that other complementary works—i.e. busways—were needed, the agreement lacked any specificity. Carmenza Saldías, the city's treasury secretary, argued the city would have to treble its tax revenue to fund the agreement.[1182] Peñalosa had spoken about funding the city's share through a betterment tax, a historically controversial proposal in Bogotá, and by increasing the gas tax.[1183] Peñalosa scored a victory on the financial front early in December. Peñalosa had been lobbying the City Council to approve an increase to 20% of the gasoline tax and devote half of the funds to the metro.[1184] The polemic, nonetheless, continued. Fedesarrollo, a prestigious economic think tank, questioned the financial feasibility of the metro.[1185]

On December 14th, IBS turned in its last report, six months behind schedule.[1186] IBS proposed procuring the first metro line through a concession, in which a private consortium had to design, build, provide the rolling stock, and operate the system for 20 or 30 years. The concessionaire would procure the finance for the project in the international market and assume most of the risks. In exchange, the city

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[1180] Interview by author with Dario Hidalgo, July, 2004.
[1181] As quoted by El Tiempo, "Las troncales primero que el metro," November 11th, 1997.
[1182] El Tiempo, "'no hay plata para el metro', C. Saldías," November 27th, 1997.
[1183] As quoted by El Tiempo, "Se abre debate for financiación del metro," November 27th, 1997.
[1184] El Tiempo, "El concejo aprobó la sobretasa," December 10th, 1997; and Peñalosa (2003, p. 84).
[1185] El Tiempo, "Fedesarrollo cuestiona el metro," December 18th, 1997.
[1186] El Tiempo, "Con retrasos llegó estudio del metro," December 22nd, 1997.

and national governments would pay periodically during the duration of the concession a determined amount to cover capital costs. The concessionaire would also receive the fare box revenue.[1187] The cost of the project was US$ 2.5 billion and it would have been the second largest transport concession in the world after the Chunnel, the tunnel between England and France.

Finally, on December 18th mayor-elect Peñalosa announced, first, that he was creating a project management office for the metro, to be headed by Alberto Velásquez. Velásquez was a career businessman who had participated in the campaign to elect Peñalosa.[1188] Velásquez announced he hoped that by the end of 1998 the city could sign a contract with the concessionaire.[1189] Second, Peñalosa announced a radical transformation of the bus system.[1190] Peñalosa appointed Carlos Gómez to head the bus-based initiative. Velásquez and Gómez started working with very small staffs.[1191]

The role of planners

The sections above show two factions, pro-bus and pro-metro. Each faction has politicians and planners. President Samper backs the metro. Samper assembled a one-person planning team for handling a mega-project as the Bogotá metro. Planner Jaime Ortiz is certainly capable, and knows how to tackle the political side of planning. But he lacked direct mechanisms to control and interact with the many planners at DNP that were involved with the technical side of the project. Many of these planners actually opposed the project, as I show in the next chapter. The planners that supplied the technical capacity were *de facto* divorced from the political planner. There was therefore no "capable" planning team for the metro project. As a result, the planning for the metro relied on consultants that have little access to the interaction with other actors and the resulting information that a capable planning can provide to enrich the consulting exercise. One example is how the consultants chose the concession to procure the metro. The studies by IBS reveal little interaction with

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[1187] IBS (1997c, p. 5-2).
[1188] Interview by author with Dario Hidalgo, June 2004.
[1189] El Tiempo, "Reencauchan empresa del metro," December 19th, 1997.
[1190] El Tiempo, "Revolcón en transporte," December 19th, 1997.
[1191] Gómez initially was also in charge of getting the city council to privatize the Phone Company.

would-be concessionaires. In theory the scheme is adequate, but little is known on whether it would actually be feasible.

Opposing the metro were Mayor Mockus and his advisor, Mario Noriega. Noriega and Mockus agree that the metro is not a good solution to Bogotá's mass transit problems. In essence, the metro costs too much and offers little coverage. Busways seem better for Bogotá's conditions—i.e. larger coverage for the same investment than a metro. Mockus used the Transportation Master Plan to study in depth the convenience of busways vis-à-vis metros. The conclusion was that busways could supply Bogotá's transit needs in the short and medium term. However, this planning exercise, like the one for the metro, lacked the benefits the interaction between planners, politicians, and stakeholders can render. As a result, the master plan is replete of objectives and proposals but says little on what adopting these proposals actually entails. For example, the Master Plan shows little interaction with bus companies regarding the proposed busways and related changes to bus services. Consequently, the plan embeds a high level of risk and uncertainty. This weakness will prompt Peñalosa to disregard the master plan, as I discuss in the next chapter.

The controversy on what technology is better for Bogotá—metro or busways—took place therefore between political heavy weights and their advisors. There was little or no interaction with stakeholders. The interaction with stakeholders can help assemble a coalition of support. Absent the interaction, for President Samper it is a matter of "political will," and for Mayor Mockus a matter of "rationality." In reality, I argue, it is a matter of power represented not as much by politicians' own power but by coalitions of support. Politicians are parts of those coalitions. Mockus favored busways but his planners interacted little with the critical stakeholders—the bus companies. Bus companies implicitly supported busways but absent the interaction they do not mobilize to offer public support. The metro also lacks a strong coalition. Mockus can therefore voice his opposition to the metro and still enjoy high approval ratings that allow him to run for president. Mockus' resignation and Bromberg's appointment do not change the balance of power. Samper therefore prefers to wait for the next mayor, Enrique Peñalosa. In a planning community that is divided between metro-first and buses-first positions it seems as if Peñalosa's power will tilt the

balance. This is an illusion as the events that follow show. In the end, there was consensus in the planning community that buses were part of the solution. The planning community did not agree on the metro and partially as a result of the planners' division the metro will not be adopted.

Chapter 11

A Determined Politician in the Mayor's Seat

The election of Enrique Peñalosa and his actions even before taking office suggested to many that Bogotá would finally have a metro line. Yet the conflict between pro-metro a pro-bus factions continued during his tenure. To some extent, the conflict reached a peak because of the momentum the metro proposal had. In the end, for diverse reasons the metro proposal was not adopted. Because of the number of events during Peñalosa's tenure, in this chapter I analyze the metro story only. In the next chapter I focus on the planning process for TransMilenio, the bus rapid transit proposal put forward by Peñalosa.

The election of Enrique Peñalosa and some of his views on planning and politics

In 1997 Enrique Peñalosa ran for the third time for the Mayor's office in Bogotá.[1192] In his previous two attempts, Peñalosa ran with the Liberal Party. In 1997 he ran as an independent. Peñalosa baptized his political movement "For the Bogotá that we want," or "Por la Bogotá que queremos." Peñalosa won the election with 46.95% or the vote or 619,086 votes in an elected that pitted at least six other candidates.[1193] Peñalosa is a historian and economist from Duke University and holds a doctorate in public administration from the University of Paris.[1194] Before becoming mayor, Peñalosa had been City Councilor, member of the House of Representatives, and delegate to the Assembly of Cundinamarca,[1195] the province that surrounds Bogotá.[1196] Peñalosa, however, is a politician very interested in urban affairs. This is

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[1192] Beccassino (2000, p. 13).
[1193] Botero (1998, p. 143-147). Abstentions were at 57.94%, compared with 68.78 and 73.75% in the previous two elections. Despite this, abstentions were higher than in the 1988 and 1990 elections, when they reached the level of 40.18 and 52.08%, respectively (Botero, 1998, p. 157).
[1194] Unidad de Atencion al Distrito Capital (1997, p. 35).
[1195] Peñalosa (1997, p. 35).
[1196] Bogotá is the capital of Colombia and also the capital of the province of Cundinamarca. However, the governor of Cundinamarca has no jurisdiction over Bogotá. Further, the citizens of Bogotá cannot vote in the elections for governor and state assembly of Cundinamarca. For all practical purposes Bogotá is a separate jurisdiction. As a result, the mayor of Bogotá in addition to having the powers

probably because of his father's influence on him. Peñalosa says in this regard: "In my education the time my father was United Nations sub-secretary for human settlements and Secretary-General of the Habitat World Conference had a great impact. During that time I understood very clearly that the most important topic of our time, more so in our country, was the urban topic. Everything else was temporary. But cities, the way they were made or not made, would determine behavior in a fundamental way. Because people, to a large extent, behave according to the surrounding environment. Therefore, the kind of cities we build would determine the civilization, the quality of life..."[1197]

Peñalosa believes, among others, that dense cities allow a better quality of life for people have better chances of interacting. Further, Peñalosa favors mass transit over car-based transport. He considers the automobile to be instrumental in the destruction of cities.[1198/1199] Peñalosa believes that cities ought to be more egalitarian not in terms of income but in terms of how cities treat people. For instance, for Peñalosa cars parked over sidewalks in Bogotá show how the strong that own a car can hurt the weak that walk. And it constitutes "flagrant evidence that our democracy is formal but not real." Consequently, for Peñalosa public spaces such as sidewalks, bike-paths and mass transit systems are examples of an egalitarian society "because in them we all meet as equals." [1200] Peñalosa, therefore, does not emphasize income generation among his policies. For him, "if we really want to be happy, we must build a different way of life, less materialistic, closer to the enjoyment of activities that fill our spirit, such as growing flowers, painting, reading poetry, sporting, composing."[1201] Finally, Peñalosa admires urban planners such as Haussman and Robert Moses because of the way they transformed Paris and New York City, respectively.[1202]

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attributed to a city mayor by Colombian law also has the powers of a governor (See Colombia's Constitution arts. 322 and 327 and Bogotá's Charter (Decree 1421), arts. 35-38).

[1197] As told to Beccassino (2000, p. 104, translation by author).

[1198] See Beccassino (2000, esp. p. 104 -106, 37, 17-20). See also Peñalosa (2000, p. 77).

[1199] For a description of Peñalosa's policies in transport see Ardila and Menckhoff (2002).

[1200] Both quotes from Peñalosa (1998, p. 26). See also Dallas (2000).

[1201] Becassino (2000, p. 25).

[1202] Santamaria (2000, p. 16).

Peñalosa's other views on planning and politics are the following.[1203] First, he believes in the importance of having an active civil society that discusses plans and proposals to reach a consensus of what is to be done. He says in this regard: "The important thing, I insist, is to elevate the level of the [public] discussion, that we think how is it that we can build a well planned city, how to avoid illegal developments,[1204] what transport we want for the next 50 years. The fundamental issue is to have a dream, a vision, because only by knowing what we want to build, we can work to get there. It is very important to move towards a shared vision, towards a shared dream. I have my ideas on what it is that we have to do in the city so that we will be happier. But it might be that the people think that it is another city the one it wants. The important thing is that whatever the result, it be the result of what we decide and not simply something that is imposed on us little by little without anyone knowing why, what were the options, or the consequences."[1205]

Second, Peñalosa is aware that Colombian democracy is limited. This limitation has privileged powerful minorities and has eliminated discussion on the options that exist. Peñalosa's ideal of having an active civil society does not happen in Bogotá. Peñalosa is therefore aware that as a politician he has to put forward quite structured proposals that reflect his own view of how the city should be. Peñalosa laments: "the ideal is not to have a mayor with a series of ideas on topics that had never been discussed before." He then uses as example some of the policies he undertook such as recovering sidewalks or the importance of parks, or the bike-paths, or the restriction on car use. For him, the ideal would be that those policies had been the result of lengthy discussions by society at large. He concludes: "In Switzerland, each decision would be a process of 10 or 15 years of debates and referendums. Here [in Bogotá] unfortunately there is no time for that, and one has to make a number of strategic decisions in a rather undemocratic manner."[1206]

[1203] I extract Peñalosa's views on planning and politics from the lengthy interview he gave to Angel Beccassino. In my interview with Peñalosa he directed me to the publication of this interview (Beccassino, 2000). See also Peñalosa (2001?; 2002?; and 2003).

[1204] Approximately 50% of Bogotá has been developed outside of city regulations and plans (Peñalosa, 1997, p. 44).

[1205] As told to Beccassino (2000, p. 20, translation by author).

[1206] As told to Beccassino (2000, p. 21, translation by author).

Third, while Peñalosa argues that he needs to put forward rather structured proposals, he is aware that there is a political process to follow. This process will lead to enacting his proposals or a modified version. Peñalosa is therefore aware that plans or proposals can change in this process. Peñalosa says: "Democracy exists when there is discussion on what are the norms [policies] that we have to establish, not after the norms have been established. That is, in Congress we can discuss any regulation, and at the City Council we can decide if cars should be allowed to park or not on sidewalks, or if informal vendors can work on sidewalks, whatever they want, we can discuss any topic, but once enacted the job of the Mayor is to enforce."[1207] Further, Peñalosa knows that the political process involves controversies and political battles that he has to fight to defend his ideas. For Peñalosa, the mayor of a city such as Bogotá "has to make decisions where he will have to confront powerful minorities, without the benefited majorities supporting or backing the mayor. The mayor has to be willing to fight many tough battles, with high political costs."[1208]

Finally, Peñalosa integrates all the previous points by being aware that planning and politics are linked. A good process demands a solid technical component. But the decisions are ultimately political. "The most critical decisions are not made, as many people think, by planners. They are political decisions." Peñalosa uses an example from the planning of TransMilenio. "I remember a long conversation with Carlos Emilio Gómez [a planner for TransMilenio] to decide the first routes for TransMilenio. He insisted that the preferable one was 7th Avenue, because it was the corridor that implied less conflict with the existing bus operators. I argued that it was precisely for that reason that we had to do TransMilenio on the Caracas Avenue: because it was the most difficult route. Frankly, I knew myself and doubted any other politician would be willing to give the necessary battle afterwards. If I did not fight that battle, no one would fight it afterwards. Why was I more willing to fight this battle? Because I was in love with the project, more committed with it. If the most difficult

[1207] As told to Beccassino (2000, p. 96, translation by author).
[1208] As told to Beccassino (2000, p. 51, translation by author).

battles are fought at the beginning, it is easier to carry out successfully the subsequent ones."[1209]

To some readers, Peñalosa's views on planning and politics resemble what I found for Jaime Lerner in Curitiba.[1210] For instance, for Lerner and Peñalosa it is important to have a proposal. Both are also aware that politics and planning are integrated and that decisions are ultimately political. Both agree that in society in the developing world action that leads to change is needed; time wasted just hurts the people. Finally, both agree that as a result of politics a proposal might change in the path to adoption. All these characteristics favor planners' work and the adoption of plans. Because time matters, having a proposal almost ready when the window of opportunity saves time. Further, if the proposal is flexible it will adapt as the political forces that materialize during the window of opportunity react to the proposal.

There is, however, a difference between Peñalosa and Lerner.[1211] It is regarding the extent to which they effectively use marketing to sell policies and gather support. People close to Lerner repeatedly refer to him as a marketing genius.[1212] Asked about the lack of effective communications to gather support during his term in office, Peñalosa replied: "I think it is necessary to both seduce [through effective communications] and impose [through authority]. In effect, it would be much better if the people were convinced, persuaded, seduced towards change, but there are certain battles one has to fight...There are certain interests with which one has to fight...But maybe what's missing is to seduce people so that they understand the rationale underlying many things that happened here [i.e. the policies Peñalosa

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[1209] Peñalosa (2003, p. 86, translation by author).
[1210] See the section "The appointment of Jaime Lerner and his views on planning and politics," in Part II, above.
[1211] There might be another difference between Peñalosa and Lerner. Each values differently the importance of pursuing from government income generation policies. In his first tenure as mayor, Lerner implemented the Industrial City of Curitiba, which brought higher paying jobs to the city. As governor, Lerner brought the Renault assembly lines to the Curitiba Metropolitan Region, turning it into the second largest car-manufacturer region in Brazil after São Paulo. Peñalosa, like Lerner, believes in the role of public space, good public transit, and good entertainment as the mechanism to attract foreign direct investment. But Peñalosa does not believe in government policies that directly target income generation, such as promoting industrialization—something that Lerner strongly believes in.
[1212] See Sánchez-Garcia (1997).

pursued]."[1213] Put differently, Peñalosa is more confrontational and less prone to assembling coalitions of support than Lerner is.

Further, while Lerner followed a mostly incremental approach spanning a long period of time, Peñalosa pursued an ambitious policy package that affected many vested and entrenched interests. For example, Peñalosa pursued policies to free sidewalks from street vendors and cars parked on them.[1214] Retail strongly opposed the second part on the grounds that it affected business because customers could not park. Compounded with the problems his administration had at communicating the mayor's objectives, Peñalosa faced strong opposition particularly during the first two years in office. To make matters worse, the people of Bogotá had no point of reference to understand what Peñalosa's policies meant.[1215] Half way through his administration Peñalosa had an approval rating of 26% and 67% of respondents had a negative image of the Mayor.[1216] Some councilors backed by retail interests spearheaded an effort to recall the mayor. The Peñalosa administration changed its communications strategy. Part of the change was to have so many construction fronts at the same time as to force the media and the people to talk about the mayor's performance.[1217] Graffiti sprung up declaring "promises, yes, construction, no."[1218] As Peñalosa was able to show the results of his policies his approval ratings improved.[1219] The initiative to recall the mayor did not succeed.[1220] By the end of January 2000, Peñalosa's approval rating had increased to 53% and his negative image had decreased to 35%.[1221] Further, 40% of respondents to a survey said the Peñalosa administration had been excellent.[1222]

[1213] As told to Beccassino (2000, p. 56-7, translation by author).
[1214] For an analysis of Bogotá's public space policies see Donovan (2002).
[1215] Montezuma (2003, p. 50).
[1216] "Peñalosa, disparado." www.semana.com.co (2000, edition 924).
[1217] Interview with anonymous source.
[1218] Ardila (2003, p. 35).
[1219] See Portafolio "Sale el Sol en Bogotá," August 11th, 1999.
[1220] Montezuma (2003, p. 51).
[1221] "Peñalosa, disparado," www.semana.com.co, 2000, No. 924.
[1222] Montezuma (2003, p. 51).

"For the Bogotá that we want:" Peñalosa's Development Plan

As seen, Colombian law establishes that candidates for mayor have to register a program or platform. In theory, citizens vote not only for a candidate but also for the proposals contained in the candidate's program. The program is the basis for crafting the city development plan, which is enacted during the first months of a new administration. Not carrying out the proposals contained in the plan are grounds for holding a recall election. But if a mayor is uncompromising in the quest to achieve the goals in her platform, then her popularity might suffer. In mass transit, Peñalosa's program emphasized starting construction for the metro and revamping of the bus-based transit system. Regarding the metro, Peñalosa argued that if the national government had contributed US$ 2 billion to the Medellín metro it should contribute US$ 6 billion to Bogotá's. Peñalosa promised that: "As Mayor, I will lead the pressure groups to have the Nation [national government] give *Bogotanos* a fair treatment in this and other topics."[1223] Regarding the buses, Peñalosa argued that even after building a couple of metro lines, the buses would continue to be the main transit system in the city. "To reform the bus-based transit system in its entirety is one of the highest priorities of my project."[1224] Peñalosa proposed to give buses a preferential use of the road network, pay the operators per kilometer logged, have bus drivers earn a salary and not a commission per passenger, and to have clean and well-lit buses. He also proposed to have adequate bus stops and allow free transfers between routes.[1225/1226]

Based on this program, the Peñalosa administration passed in the City Council its development plan dubbed "For the Bogotá that we want" in June of 1998. In mass

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[1223] Peñalosa (1997, p. 37).
[1224] Peñalosa (1997, p. 38).
[1225] Peñalosa (1997, p. 38).
[1226] Peñalosa also proposed to turn into high-speed roads two of the main avenues that run north-south, Boyaca Avenue and 68th Avenue. His idea was to build bridges at the intersections. Peñalosa also proposed to review the city road plan. Specifically, he wanted to widen many of the streets that run east-west. This implied purchasing many properties and demolishing them. Peñalosa also proposed to define the alignment of all future roads and the metro in order to freeze the properties in the vicinity or have the city government purchase them. Finally, Peñalosa proposed the construction of two large highways one on the east end and another one on the west end of the city. "It is necessary to promote

transit, the development plan contemplated the creation of two new city-owned companies, the Third Millennium Transit Company or TransMilenio Co., and the Mass Transit Company of Bogotá or Metro Co. The first would be the base for the reform to the bus system and the second would be in charge of the metro. The plan argued that the metro "was the best alternative to achieve an optimal mass transit system. The metro constitutes an element to promote the urban renewal and modernization process that the city requires and deserves."[1227] The plan established as specific goals to purchase all the required land for the metro and to contract its construction through a concession.[1228] The plan made reference to an agreement signed in February of 1998 between Mayor Peñalosa and President Samper in which the national government agreed to fund 70% of the value of the project.[1229] I explain the events leading to this agreement below.

Regarding the reform of the bus system, the plan elaborated with respect to Peñalosa's electoral program. Specifically, the development plan spoke about the construction of busways, feeder routes, and stations. The plan also specified that the city would define the new type of bus that could operate on the new facilities. The plan also established that the Third Millennium Transit Co. would be in charge of contracting out with the private sector the operation of the new bus system. Finally, the plan established that the operators would be paid per distance logged. The plan was refining something that Mayor Peñalosa had clear: TransMilenio was more than building busways, as had happened with the Caracas Avenue project. TransMilenio was a change of paradigm that implied new contractual and institutional arrangements, as I show in the next chapter. The plan proposed to build 70 km of busways and to have the private sector purchase 2500 new buses to serve a demand of 1.2 million daily trips. While the plan mentioned some possible corridors for the busways, it did not establish in which order they would be undertaken.[1230]

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a large highway on the west, above the current Cincunvalar Avenue, with several tunnels and large bridges, through the concession system." (Peñalosa, 1997, p. 39).

[1227] Concejo de Bogotá (1998, p. 13).

[1228] Concejo de Bogotá (1998, p. 15 and 26).

[1229] Concejo de Bogotá (1998, p. 26-7).

[1230] Concejo de Bogotá (1998, p. 13-15 and 25-26).

The City Council enacted the "For the Bogotá that we want" plan on June 8th, 1998, five months into Peñalosa's term. The total cost of the investment plan, exclusive of recurrent outlays, was 13.5 trillion pesos[1231] (approximately US$ 9.3 billion over 4 years[1232]). This amount was more than twice the cost of Mockus' plan and was the largest in the city's history.[1233] Indeed, Peñalosa received the city finances at their peak (Table 22). Notice, however, how the revenue from the property tax and sales tax begin to decrease. It is the revenue from new taxes such as the tax on fuels that ameliorate the decrease in tax revenue.[1234] Furthermore, transfers from the national government and revenue from privatizing city-owned companies contributed close to 50% of total revenue. Specifically, in 1999, the city received a windfall of 1.24 trillion pesos of 2002 (approximately US$ 689 million[1235]). This amount came from a reduction in capital of the Bogotá Power Company.[1236/1237] The good financial situation allowed Peñalosa to carry out the largest capital investment program in Bogotá's history (Figure 18). The investment in transportation experienced a similar situation (Table 23). Finally, it is important to point out that during Peñalosa's term Colombia's and Bogotá's economies experienced deep recessions. In the case of Bogotá, income per capita fell from almost US$ 4,000 in 1997 to US$ 2,690 in 1999. Equally worrisome, the share of the population living below the poverty line

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[1231] Concejo de Bogotá (1998, p. 38).

[1232] Assuming a exchange rate of 1,400 pesos per dollar (source: www.altin-focus.com/latinfocus/countries/colombia/colexchg.htm)

[1233] El Tiempo, "Bogotá ya tiene plan de desarrollo," May 27th, 1998.

[1234] Notice the increased importance of the tax on fuels. For a city curbing car use, it is paradoxical to increasingly rely on revenue generated by car usage. Bogotá's finances might be becoming addicted to gasoline. The fight against the car might be lost unless the economy grows and other sources of revenue grow.

[1235] Assuming a exchange rate of 1,800 pesos per dollar (source: www.altin-focus.com/latinfocus/countries/colombia/colexchg.htm)

[1236] World Bank (2003, p. 105-106); and calculations by author.

[1237] The government of Bogotá owned the Bogotá Power Company. The company, however, was in financial trouble in part because of the mismatched construction of a hydroelectric plant. The solution was to privatize part of the company. This brought new capital that paid off most of the debt. When Peñalosa was mayor, the Power Company realized it had too much capital. The shareholders wanted their capital back to invest in other markets. Because the city government owns slightly above 50% of the company, half of any reduction in capital goes to the city government. See Orozco (2004); and El Tiempo "¿Sirvió la capitalización de la EEB?," December 18th, 1998.

increased from 42% in 1997 to 55% in 1999.[1238] Had it not been for the city's ability to expend more than ever, the situation would have probably been even worse.[1239]

Table 22. Summary financial indicators for the City of Bogotá, 1996-2001 (Values in billions of constant Colombian pesos of 2002)

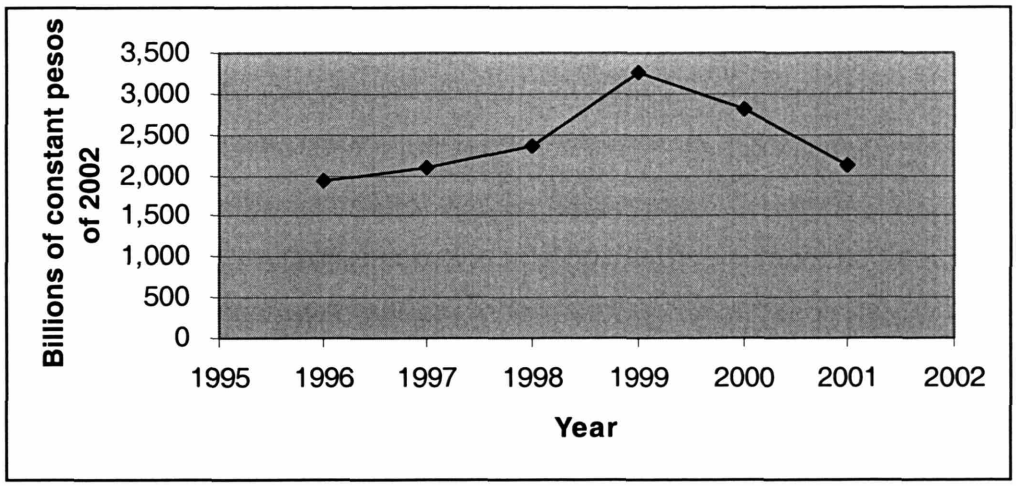
	1996	1997	1998	1999	2000	2,001
A. Total Revenue (Tax + transfers + privatization)	2,904	2,991	3,211	4,183	3,400	2,950
Tax revenue	1,527	1,572	1,644	1,508	1,492	1,451
Property tax	379	409	441	441	401	375
Sales tax	701	723	720	611	619	623
Tax on fuels	108	119	158	169	181	187
B. Recurrent expenditures	1,115	1,106	1,108	1,032	990	1,058
C. Capital expenditures	1,929	2,097	2,360	3,258	2,804	2,130
Surplus (Deficit) (A-B-C)	(140)	(212)	(256)	(107)	(394)	(129)
	Real increase over 1996 values (1996 values = 100)					
	1996	**1997**	**1998**	**1999**	**2000**	**2001**
A. Total Revenue (Tax + transfers + privatization)	100	103	111	144	117	102
Tax revenue	100	103	108	99	98	95
Property tax	100	108	116	116	106	99
Sales tax	100	103	103	87	88	89
Tax on fuels	100	110	146	156	167	173
B. Recurrent expenditures	100	99	99	93	89	95
C. Capital expenditures	100	109	122	169	145	110
Surplus (Deficit) (A-B-C)	(100)	(151)	(183)	(76)	(281)	(92)

Source: World Bank (2003, p.105); and calculations by author. The City Council approved the tax on fuels in 1996. The Council also approved to increase the rate for the tax on fuels from 15 to 20%, effective January 1st, 1998.

[1238] World Bank (2003, p. 105-106).

[1239] For example, Fedesarrollo (2000) found that the construction of TransMilenio BRT generated 17,000 jobs per year.

Figure 18. Evolution of capital expenditures by Bogotá's Government, 1996-2001



Source: World Bank (2003, p.105); and calculations by author.

Table 23. Expenditure in transportation by the City of Bogotá. (Billions of constant pesos of 2002)

Year	Mayor	Expenditure in road maintenance and construction	Percent change from previous year
1997	A. Mockus	$473.1	5.3%
1998	E. Peñalosa	$551.3	16.5%
1999	E. Peñalosa	$975.1	76.9%
2000	E. Peñalosa	$802.7	-17.7%
2001	A. Mockus	$353.4	-56.0%
2002	A. Mockus	$352.3	-0.3%

Source: Mayor column from Gilbert and Dávila (2003, p. 34); Expenditure figures from SHD (2003, p. 40); and calculations by author. Figures as of 1999 include expenditures in TransMilenio, bike-paths, and sidewalks, important elements of Peñalosa's program.

BRT or metro? Both!

When Peñalosa took office two plans were on the city's political agenda. First, Mockus and Bromberg were considering the network of busways proposed by the Transportation Master Plan. Second, the metro project promoted by President Samper. Peñalosa had a radically different view on the types of solutions for Bogotá's transportation problems. First, Peñalosa quickly rejected the Transportation Master Plan. Peñalosa found the plan's proposals to be very crude and therefore difficult to implement. For example, the plan's proposal for transforming the bus companies in Bogotá lacked any detail.[1240] Further, the plan did not consider in depth the impact on

[1240] See JICA-Chodai-Yachiyo (1996b, p. 305-6).

the critical stakeholders, the existing bus companies, nor the way to negotiate with them.[1241] Peñalosa also found unacceptable the plan's proposal to charge a bus fare proportional to distance, which would have the poor subsidize the wealthy. Finally, Peñalosa did not agree with the plan's proposal to build elevated highways throughout the city.[1242]

Second, Peñalosa even before taking office voiced strong support for Samper's metro proposal. For Peñalosa, however, the metro "made no sense only as a means of transportation because of its high cost."[1243] It was the metro's urban renewal impacts and the possibilities to structure the city's growth around its alignment that justified the project. This made the metro project very attractive for Peñalosa. Peñalosa explains his position: "President Samper wanted to honor his campaign promise and offered Bogotá to share up to 70% of the debt service [for the metro]. The alternative was to reject the President's offer, or receive these resources from the national government for a project that in any case would benefit the city and whose construction would contribute to reactivate the local economy."[1244]

But Peñalosa also had plans for a bus rapid transit system.[1245] Long before becoming mayor, Peñalosa was convinced that bus rapid transit was the future of mass transit. First, Peñalosa published an article in 1985 with his proposal for restructuring Bogotá's public transportation system. Peñalosa argued "the problem will not be solved by the mythical metro, which lies beyond the financial possibilities of the country." He then argued: "if [the city] gives priority to public transport for the use of roads, it is possible to design an excellent urban transport system, fundamentally based on buses and trolley-buses."[1246] Second, Peñalosa had been to Curitiba and

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[1241] El Tiempo, "Sin plata de Nación para troncales," January, 27th, 1998; and Suburbia, "Estamos aburridos de ser la vaca de ordeño del país: Conversación con el alcalde Peñalosa," January 23rd to February 5th edition, 1998.
[1242] Interview by author with Enrique Peñalosa, January 2003; and Peñalosa (Forthcoming, p. 48-50).
[1243] Suburbia, "Estamos aburridos de ser la vaca de ordeño del país: Conversación con el alcalde Peñalosa," January 23rd to February 5th edition, 1998.
[1244] Peñalosa (2003, p. 84).
[1245] Recall the difference between busways and BRT. Busways are just the segregated lanes for buses. BRT includes busways but adds the transformation of service provision by requiring modern buses, stations, fare collection technology, and adequate supervision (see Wright, 2002a, p. 2-3).
[1246] Peñalosa (1985, p. 4).

had seen the recently revamped BRT system.[1247] As seen in Part II, these were the innovations that truly put Curitiba in the international stage. These included the introduction of the speedy bus service and the tube stations in the early 1990s and the upgrading of the entire bus system in the mid-1990s. Getting to know what Curitiba had achieved had a great impact on Peñalosa. "Once I found out about Curitiba's BRT system and learned the essential about its functioning, to implement something similar in Bogotá became an almost obsessive illusion."[1248] In effect, Peñalosa would tell his planners in Bogotá: "What I want is what exists in Curitiba but with overpasses for passengers in all the stations." Peñalosa, however, knew that the busways—the physical component—were one element. What mattered the most were the institutional transformation BRT implied and the significant improvement in service.

Peñalosa, therefore, structured his public position in the earlier months of his administration around the metro, with his envisioned BRT project being a complement to the metro. If Peñalosa could secure an agreement with President Samper, the construction of the first metro line in Bogotá could eventually start. To give strength to this position and because the BRT project was not yet in the city's political agenda, Peñalosa let the media believe that the BRT project was going to be complementary to the metro.[1249] Privately, however, Peñalosa always supported the BRT project. Therefore, there was a gamble embedded in this strategy. On the one hand, the strategy could materialize as planned and Bogotá could end with a metro line and a BRT system. On the other, given the high budget deficit of the national government, the next president might not honor Samper's agreement with Peñalosa. In this case, Peñalosa could use the agreement as a bargaining tool to obtain a smaller but nonetheless significant transfer of funds from the national government to the city. In the end, the national government had not invested significantly in Bogotá in

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[1247] Peñalosa (2003, p. 83 and 100); and Peñalosa (Forthcoming, p. 39). In Curitiba, it was Carlos Ceneviva, then head of URBS, who toured Peñalosa around the city (Interview by author with Carlos Ceneviva, February 2004).
[1248] Peñalosa (2003, p. 83).
[1249] See for example El Tiempo, "Se descarrilaría el metro de Peñalosa," January 28th, 1998; El Espectador, "Complemento, los buses," February 13th, 1998; and Portafolio, "Samper se casa con metro de Bogotá," February 13th, 1998.

decades.[1250] Further, Peñalosa also knew his envisioned BRT project could move thousands of passengers. Consequently, the metro was not the only alternative to address Bogotá's mass transit problem. In sum, Peñalosa could support the metro knowing that if the process for the metro did not work he still had the BRT project to rely on. Risk for Peñalosa was therefore low in supporting the metro.

Peñalosa instructed his team to negotiate an agreement with the national government for the funding of the first metro line. In the negotiations participated Alberto Velásquez and Carlos Gómez, among others, representing the city. Velásquez headed the metro planning team and Gómez the team for what became TransMilenio. For the national government participated planners from the National Planning Department (DNP). Occasionally, President Samper and Mayor Peñalosa had to meet when planners could not reach an agreement. The city's position was that the national government should fund 70% of the total cost of the project. This included any cost overruns. Planners at DNP strongly objected. For them, the national government should only cover 70% of an agreed value. The city should pay any cost overrun. The national government and the city of Cali had recently signed an agreement with these conditions for the funding of that city's metro.[1251] Peñalosa argued that Bogotá's finances could not fund the project in those conditions.[1252] To strengthen his bargaining position, Peñalosa announced on January 28th, 1998, that all negotiations would cease. Mayor Peñalosa would negotiate with the new president, to be elected in a couple of months.[1253]

Samper, however, ordered the negotiations to continue. The crux of the issue was the cost overruns. Planners and politicians assumed that in the construction of the Bogotá metro there would be significant cost overruns. Therefore, the funding strategy had to consider how to fund them. The experience of Medellín's metro had

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[1250] See for example, Suburbia, "Estamos aburridos de ser la vaca de ordeño del país: Conversación con el alcalde Peñalosa," January 23rd to February 5th edition, 1998; and Peñalosa (1997, p. 35).
[1251] The agreement signed between the National Government and the City of Cali included a series of conditions and called for additional studies. DNP planners included these terms in an effort to avoid repeating Medellín's metro history (Interview by author with Dario Hidalgo, July 2004).
[1252] El Tiempo, "Se descarrilaría el metro de Peñalosa," January 28th, 1998; El Espectador, "Utopía de un mes con metro," January 29th, 1998; El Espectador, "Cali "embarcada" con un proyecto," January 29th, 1998.

clearly impacted Bogotá's process for the better. The cost of the Medellín metro had ballooned to over US$ 2 billion by this point in time from the initial estimate of US$ 653 million.[1254] The national government had ended up paying most of the bill.[1255] The solution planners found was to transfer any cost overrun to the concessionaire.[1256] Recall that IBS planners had proposed to procure Bogotá's metro through a 20- or 30-year concession. The concessionaire would finalize the designs, find in the international market most of the funds for the project, build the metro, and operate it for the specified time. In return, the national and city governments would make periodic payments to the concessionaire to cover capital costs and make a profit. The concessionaire would also keep the fare box.

Thanks to assigning construction risk to the concessionaire, the city and national governments were able to sign an agreement on February 12th, 1998. The agreement established that the national government would fund 70% of the cost of the project. The City of Bogotá the remaining 30%. The estimated cost for the first stage was US$ 2.72 billion.[1257] In addition, the plan contemplated the construction of a bus-based system to complement the metro service with 29.1 Km. of busways and 120 of other bus routes. In total the three stages of the metro had an estimated cost of US$ 4.59 billion.[1258] The next step in the process was to get the National Council of Economic Policy (Conpes) to issue a document assigning resources for the project.

In sum, Mayor Peñalosa set the course for his administration in mass transit. Peñalosa rejected the transportation master plan because the plan lacked enough detail to be adopted and ran against many of the mayor's values. Further, Peñalosa,

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[1253] The first round of the presidential election were scheduled for May of 1998, and the second round if needed for June.

[1254] El Espectador, "Transporte masivo a ritmo paisa," January 29th, 1998.

[1255] By June 30, 2003, the national government had paid US$ 2.187 billion and the Medellín metro had paid 460 million, for a total of 2.647 billion. However, law 310, or the metro law, established that the national government should have only paid US$ 1.059 billion and that the Medellín metro should have paid US$ 1.588 billion. The difference, 1.128 billion, emerges because the national government continued to pay the international loans, even though Medellín stopped paying its dues to the national government in 1997. Source: http://www.presidencia.gov.co/cne/2003/julio/04/04042003.htm

[1256] El Tiempo, "Centímetro a centímetro otra vez arman el metro," January 31st, 1998.

[1257] El Espectador, "Bautizo del metro fue en Monserrate," February 13th, 1998; La República, "¡Qué viva el metro!: Samper," February 13th, 1998; El Siglo, "Primer milímetro del metro," February 13th, 1998; and Portafolio, "Samper se casa con el Metro de Bogotá," February 13th, 1998.

contrary to other mayors, had developed mostly on his own a rather complete set of policies to change the face of the mass transit system in Bogotá. However, for strategic reasons, Peñalosa wanted the metro *and* the BRT component.[1259] Planners appear as negotiators for the city and national governments, each set of planners trying to protect the interests they represent.

Peñalosa assembles a planning team for the metro.

Soon after, Mayor Peñalosa and Velásquez started to assemble a planning team for the metro. By April 1st they achieved this. Dario Hidalgo would be the technical advisor. Hidalgo holds a Ph.D. in transportation planning. Hidalgo had worked at DNP between 1988 and 1991 and then after completing his Ph.D. after 1997. At DNP Hidalgo had participated in the planning of the Cali and Bogotá metros. Mauricio Arciniégas would be the financial advisor. Arciniégas had also worked at DNP between 1987 and 1992, and had worked on finding solutions to the Medellín Metro financial problems. Hidalgo and Arciniégas shared the vision that the metro had to be planned carefully to avoid the recurring problems with metro planning.[1260] And Elena Escobar would be the communications advisor.[1261] Peñalosa charged the metro planning team with the following responsibilities. First, to negotiate with planners for the national government and get the National Council of Economic Policy (Conpes) to issue what is known in Colombia as a Conpes document.[1262] The document would determine the total contribution of the national government to the project. Second,

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[1258] El Siglo, "Primer milímetro del metro," February 13th, 1998; and Portafolio, "Samper se casa con el Metro de Bogotá," February 13th, 1998.

[1259] Peñalosa's strategy in transport, as seen, went beyond a BRT and a metro project. It included favoring non-motorized transport by building a vast bike path network and improving sidewalks. The strategy also included curbing car use (see Ardila and Menckhoff, 2002).

[1260] Interview by author with Dario Hidalgo, July 2004. For problems with metro planning such as cost increases and lower demand see Allport and Thomson (1989); and Pickrell (1992).

[1261] Hidalgo (2000?, p. 1).

[1262] The Conpes gathers the president of Colombia and several cabinet members and the head of DNP, among others. Together they analyze projects requiring funds from the national government, such as metros. By issuing a Conpes document the Council sets policy that directs public investment. See http://www.dnp.gov.co/03_prod/conpes/Conpes.htm. Congress, however, has the last word when approving the yearly budget. The budget process in Colombia is radically different than in countries such as the U.S. In the U.S. congress gets to discuss which project will receive funds and in what amount. In Colombia, congress only allocates broad expenditure items. Technical planners are the ones that actually decide how to allocate these funds between projects.

metro planners were to agree with the national government on a schedule of payments by both levels of government. I cover the first of these tasks in this section.

First, metro planners approached planners at DNP and the ministry of finance to negotiate the text of the Conpes document. At a meeting, the minister of finance, Antonio Urdinola, announced that the fiscal situation of the national government was precarious. As a result the national government could not contribute resources for the metro project during the next four or five years. The minister offered, however, that the national government would cover the additional interest charges this approach would generate to the concessionaire. Planners for both levels of Government also agreed to set at 17% per year the rate of return the concessionaire would expect from its investment in Bogotá's metro.[1263] Despite the financial situation, Metro planners requested a small contribution from the national government during the first four years for the acquisition of the land needed for the project. The minister agreed. Planners also requested funding for the BRT element of the plan, but there minister made no decision.

The Metro planners kept Mayor Peñalosa informed of these negotiations. By this time the planners in charge of the BRT project had slowly advanced in the concept of what the project would be. Aware that the national government would not contribute to the metro project during the first four years, Peñalosa decided to introduce changes to the BRT project, by then known as Transmil. Specifically, the national and city governments had agreed to study the possibility of changing the metro alignment to the Caracas Avenue corridor. Mayor Peñalosa decided not to carry out these studies. Instead Transmil would use this corridor, the one with the highest passenger throughputs in the city. Metro planners informed their counterparts at the national government of this decision. The metro would go instead on 7th Avenue and would be underground in that segment. This increased the cost of the project and the risk for the concessionaire, at the same time that demand went down.

The Conpes issued the document for the Bogotá metro on April 28th, 1998. Following standard practice, the document offered a technical justification for

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[1263] Hidalgo (2000?, p. 2).

undertaking the project.[1264] The cost of the first metro line was now US$ 3.041 billion, after a cost update done by the Transportation Research Laboratory. Including the busway elements, the total cost of the first phase was US$ 3.278 billion, of which the national government would contribute 70%.[1265] The Conpes document indicated that the national government would only contribute to the project after the year 2003. The document also called for enacting constitutional amendments and reforming other legislation so that the national government would enjoy a better financial situation by the year 2003. The document estimated that enacting these reforms would take three or four years[1266]—but someone other than Samper would be president. The document mentioned the concession as the only procurement strategy.[1267] Finally, the document suggested that the national government would have to obtain loans to fund its payments to the concessionaire.[1268]

Concerned about the lack of adequate funding and the concession strategy for the metro project, a group of students and faculty[1269] at the Los Andes University in Bogotá organized the conference "The Bogotá metro: how can it be financed?" The event took place on May 14th and 15th, 1998. Three of the presenters directly or indirectly questioned the convenience of the concession scheme. Daniel Rodriguez analyzed several rail and BRT concessions in Latin America. He concluded: "Projects with considerable investment support required by the concessionaire, long payback period, and high revenue risk...are more difficult to finance than projects that require small capital and a shorter payback period."[1270] The concession for the Bogotá metro exhibited the characteristics that Rodriguez identified as making it more difficult to finance a project. Jorge Taboada, a lawyer, argued that it would be very difficult to find loans in the international market for an amount as significant as that needed for

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[1264] See Conpes (1998, esp. p. 1-15).
[1265] Conpes (1998, p. 25).
[1266] Conpes (1998, p. 16-17).
[1267] Conpes (1998, p. 17-18).
[1268] Conpes (1998, p. 17-18).
[1269] I was one of the faculty members involved in organizing this conference. I also presented a paper dealing with a general diagnosis of why Bogotá suffered an exaggerate congestion (Ardila, 1998b). My presentation sought to set the stage for the discussion and did not have to do with the core question of the conference which was how to finance the Bogotá metro.
[1270] Rodríguez (1998, p. 75, translation by author).

the Bogotá metro—approximately US$ 2.7 billion.[1271] Finally, Israel Fainboim of Fedesarrollo, a prestigious think tank, looked at the feasibility of the concession for procuring the Bogotá metro. Fainboim concluded that the concession scheme would very unlikely attract private investors, even with the promised periodic payments by the national and city governments. He recommended abandoning the concession scheme. Instead, he proposed a more traditional approach in which each stage of the project—definitive engineering designs, construction, and equipment purchases—would be treated separately. That is, Fainboim proposed to unbundle the project to be able to minimize risk, delays, and construction costs.[1272] The impact of the conference was minimal because by that point the choice of the concession as the procurement strategy almost definitive.

At the conference, Mayor Peñalosa spoke about the benefits the construction of a metro line would bring. Peñalosa also mentioned the TransMilenio BRT project, using probably for the first time in public the name he had given to this project. Yet it was the head of the National Planning Department (DNP), Cecilia Lopez, who delivered the bombshell at the conference. Planners at DNP convinced Lopez of announcing at the conference information the planners had sneaked in one of the footnotes of the Conpes document for Bogotá's metro.[1273] That footnote explained that the financing of the metros in Bogotá and Cali absorbed 49% of the available funds for capital expenditures of the national government for several years. Put differently, the national government would devote half the amount it had for investment in infrastructure and other projects to just two metros for a significant number of years. Lopez presented these figures at the conference. The next day, El Tiempo, one of the main newspapers in Colombia, had a front page headline announcing that the two metros would absorb 50% of the available funds in the national government.[1274] Lopez's statements led to a conflict between Mayor Peñalosa and Lopez that almost topples the process—probably what planners at DNP

[1271] Taboada (1998, p. 86).
[1272] Fainboim, Alonso and Rodríguez (1998, p. 59).
[1273] See footnote 28 in Conpes (1998, p. 16).
[1274] See El Tiempo, "50% de inversion de la nación irá a los metros," and "Para metros, mitad de libre inversion," May 16th, 1998.

wanted. Samper intervened and ordered Lopez and the DNP to work with Peñalosa to achieve an agreement regarding the schedule of payments for the project—the next step in the process.

Negotiating the payment schedule with the National Government

For many planners at the National Planning Department[1275] BRT was a better solution than heavy rail. Yet instead of taking an open position against the Bogotá metro, they opted for trying to obtain the best possible metro. For them, the decision was political and President Samper and Mayor Peñalosa had already made the decision.[1276] As planners, all they could do was to ensure that the planning for the metro was done correctly. With good planning, they thought, the experience of the Medellín Metro would not happen again. Acting along these lines, DNP planners requested a revision of the cost IBS estimated for the Bogotá metro. DNP hired the British Transport Research Laboratory (TRL). TRL argued that the cost estimates were reasonable but given the lack of final designs, the construction risk was high. For this reason, among others, TRL increased the estimated cost of the metro project to US$ 3.041 billion.[1277]

Velásquez and his planning team received the new cost estimate and realized the metro project was no longer feasible. The rate of return for the private investor in the concession would go down to 8 percent per year—too low for the high risk. The metro planning team went to see Mayor Peñalosa and the secretary of finance of the city, Carlos Sandoval. After two weeks of discussions, Peñalosa agreed to increase the contribution of the city government to the project by US$ 120 million over the years 2000-01. By then, Peñalosa would not be in office. The additional funds increased the profitability of the concession. With this information, planners drafted the terms of the payment schedule by the National and city governments.

[1275] Sadly, it is for safety reasons that I am completely omitting the identity of any DNP planner. While many agreed to be named as source, several requested total anonymity. To grant the wish of the latter group, I decided not to mention any DNP or national government planner by name. Further, I always use the term in plural even if it was only one planner that performed the action.

[1276] As I show below, while planners at DNP thought the decision was made, in reality the project was only in the political agenda.

[1277] El Tiempo, "Conpes dijo sí al metro de Bogotá," April 29th, 1998.

On June 12th, 1998, DNP on behalf of the national government sent a counter proposal. DNP proposed that the national government would finance 70% of the "debt service," and the city government would finance the remaining amount. The city objected because the National Government had agreed to fund 70% of the total cost of the project. The draft also contained a tentative schedule for the payments by the national government. These were lower than expected. Metro planners again concluded that the project was not feasible because the concessionaire would obtain a return lower than 10% on its investment.[1278] On June 16, Mayor Peñalosa, the metro planning team, and Secretary Sandoval, for the city government, met with Cecilia Lopez and other DNP planners, as well as representatives of the ministry of finance, for the national government. Lopez announced that the proposed payment schedule was not negotiable. Peñalosa argued that President Samper had agreed in December of 1997 to fund 70% of the total cost of the project. Unable to reach an agreement, Peñalosa and Lopez left the negotiations in the hands of planners.

Planners could not agree on the meaning of the term "debt service." Indeed, Law 310 was not clear in this regard.[1279] Planners also disagreed on the amounts the National Government had to transfer for the project. DNP planners wanted to minimize the impact on the already precarious finances of the national government. Metro planners, on the other hand, needed larger transfers to make the concession profitable and therefore feasible. Planners finally agreed that the payment schedule should translate into a reasonable rate of return for a private investor in the concession, 14.17% per year. To reach an agreement, metro planners had to increase the contribution of the city government to the project.[1280] The cost for the city continued to increase. On June 24th, days after the presidential election, the National and city government signed the payment schedule.[1281] This achievement was important for it showed the willingness of the national government to make the

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[1278] Hidalgo (2000?, p. 8-9).
[1279] El Tiempo, "Un proyecto para salvar el metro," October 13th, 1998.
[1280] Hidalgo (2000?, p. 9-10).
[1281] Hidalgo (2000?, p. 10-11).

payments. However, Colombia law does allow the government to modify the payment schedule.[1282]

The role of planners

The planning community involved with the metro project is divided. On the one side are the DNP planners who do not believe the metro is a sound solution given the conditions of the country. On the other side are the planners in the metro planning team. DNP planners cannot openly oppose President Samper's pet project nor they find this to be an effective route. Instead, DNP planners assume the decision to adopt the metro project had already been made. Their strategy is then to improve the quality of the planning process. This strategy has two consequences. First, it introduces delays in the process. Second, it improves the quality of the information for the actual decision to adopt the project. But contrary to what DNP planners assumed, the decision to undertake the metro project has not taken place yet. The metro project is merely on the political agenda. The likelihood of reaching a decision to adopt the metro is less as information improves. Improved information unveils the true costs of the project. The planners in the metro team are unable to counter the arguments for improved information presented by DNP planners. Nor do the metro planners want to because they also want "the best possible metro," and for that good information is critical. Further, to be feasible, the concession strategy requires excellent information on the cost of the project, the expected demand, and the construction conditions, among others.

A reality check: Pastrana President of Colombia

Andrés Pastrana won the second round of the presidential election of 1998 by defeating Horacio Serpa, Samper's candidate. In his campaign in Bogotá, Pastrana had vowed support for Bogotá's metro.[1283] Pastrana took office on August 7th, 1998 (Figure 1 above). Pastrana received the economy in a precarious situation with a recession looming. The Colombian economy experienced an economic boom in the

[1282] I have called payment schedule what in Colombia is known as "vigencias futuras." I did not use a more technical and close translation of the term (future budget allocations) to avoid technical terminology.

[1283] El Tiempo, "Hablan los candidatos," April 29th, 1998.

first half of the 1990s. Yearly income per capita reached a peak of US$ 2,145 in 1995. But by the year 2000 income per capita was only US$ 1,798 per year[1284]—a 16% drop in real terms. The economy began to decelerate in 1996, during Samper's term, and entered into a deep recession in 1999 (Table 24). As a result of the economic slowdown, unemployment skyrocketed to 20.5% by the year 2000. Likewise, an additional 10% of the population fell below the poverty line. By 2000, 59.1% of the population lived below the poverty line.[1285]

The finances of the national government suffered a severe impact. Expenditures grew faster than revenue. The national government had to resort to increased taxes, revenue from privatization, and issuing debt to cover its operations.[1286] Consequently, the government had to devote an increasing share of its revenue to paying interest[1287] (Table 25). In 1994 the debt of the national government was equivalent to 10% of the GDP. By 1998 the ratio had increased to 22% and by 2001 to 45%.[1288] In addition, at the beginning of Pastrana's presidency and as a result of the recession, the banking system collapsed. The national government had to intervene the sector and contribute resources equivalent to approximately four billion dollars[1289]—a figure well above the cost of the first metro line. Finally, months into office, an earthquake struck the city of Armenia and its surrounding area. The national government had to spend almost a billion dollars in reconstruction.[1290] This was the economic and social context in which Pastrana governed, forcing his administration to cut capital expenditures (Table 25) and introduce structural reforms to the social security system.[1291]

[1284] Garay (2002, p. 11).
[1285] Garay (2002, p. 11).
[1286] Fainboim and Rodríguez (2000, p. 140-141).
[1287] Garay (2002, p. 629).
[1288] Garay (2002, p. 616).
[1289] Portafolio. "Hechos que sacudieron al país," September 15th, 2003. The figure in this article is 9 trillion pesos distributed over several years during which the exchange rate fluctuated. The overall cost of the banking crisis was between 6 and 7% of the GDP (Ordoñez, 2003, p. 7).
[1290] El Tiempo, "Investigación de la ONU refleja la debacle del Eje Cafetero en la última década, "July 3rd, 2004.
[1291] See also Fedesarrollo (1999).

Table 24. Rate of Growth of Gross Domestic Product of Colombia and Bogotá and Growth in GDP per capita

	Real GDP Growth (percent per year)	
Year	Colombia	Bogotá
1995	5.2	2.7
1996	2.1	-1.4
1997	3.4	3.3
1998	0.5	0.5
1999	-4.3	-5.7
2000	3.0	3.5

Source: Secretaria de Hacienda de Bogotá (2000, p. 21).

Table 25. Revenue, Expenditure, Deficit and Debt of National Government of Colombia as a share of Gross Domestic Product

Year	Tax revenue (percent of GDP)	Expenditure (percent of GDP)	Capital Expenditures (percent of GDP)	Deficit (percent of GDP)	Debt (percent of GDP)
1995	11.28	13.57	2.07	-2.29	13.80
1996	11.96	15.67	2.30	-3.71	14.40
1997	12.56	16.26	2.60	-3.70	17.90
1998	11.98	16.82	1.62	-4.84	22.00
1999	12.59	19.78	1.51	-7.19	29.60
2000	13.36	19.80	1.58	-6.44	40.00
2001	14.65	21.55	1.55	-6.90	45.20

Source: Garay (2002, p. 629).

Jaime Ruíz appointed head of DNP

Pastrana appointed Jaime Ruíz to head the National Planning Department (DNP). Ruíz had headed the effort to implement a busway on the Caracas Avenue during Pastrana's term as mayor of Bogotá. As head of DNP, Ruíz was responsible for helping the president decide the infrastructure and social expenditures of the National Government. Ruíz received the metro project, which had significant political momentum given the agreement reached by Mayor Peñalosa and President Samper weeks before.

Recall that when Pastrana was mayor, Ruíz had found out that planners at DNP opposed President Barco's proposal for building a metro. When Ruíz became head of DNP, he called these and other planners and asked them why they had allowed the metro project to get to such advanced state. Planners replied that the circumstances and to some extent President Samper had forced them. Ruíz and

these planners shared the belief that BRT was a better solution to Bogotá's transportation problems. They also agreed that given the financial situation of the national government, metros were a lavish investment. Further, Ruíz believed that Bogotá should develop its own solutions and not copy what other cities were doing. For Ruíz, BRT offered the opportunity to innovate locally. Metros did not. Ruíz, like Mayor Peñalosa, agreed that public investment in transport should go primarily to public, and not private, transportation. But while at this point Peñalosa's solution for Bogotá included both heavy rail and BRT, for Ruíz it only included BRT (or most likely busways only). Finally, Ruíz believed that the construction of the metro in Medellín had contributed to worsening the economic and social situation in that city. This outcome had been the result of the cost overruns and probably because metros did not deliver the expected benefits.[1292/1293]

Ruíz, therefore, did not want the National Government to support the construction of the Bogotá metro. Planners at DNP supported Ruíz's position. However, president Pastrana had pleaded support for Bogotá's metro during the campaign.[1294] Equally important, the metro project had a significant political momentum. Ruíz could not go against this reality. But Ruíz had the power from his position to maneuver to delay the process for the metro. Further, from his position Ruíz had access to decision-makers such as Peñalosa. Ruíz, moreover, knew about Peñalosa's proposal for TransMilenio and trusted Peñalosa would be able to carry it out during his term. If Ruíz delayed the process for the metro, TransMilenio might be ready and people might think BRT was the solution. For Ruíz the problem was convincing other actors that BRT was a better solution than the metro.[1295] The fiscal crisis of the national government provided Ruíz with the opportunity to indirectly oppose the metro. Ruíz would let the process continue, for example by allowing the required studies, investment banking, demand modeling, urban impact, etc., to

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[1292] Interview by author with Jaime Ruíz, October 2003.
[1293] For a theoretical discussion of why metros in Latin America have not delivered the expected urban transformation see Montezuma (2000c).
[1294] El Tiempo, "Hablan los candidatos," April 29th, 1998.
[1295] Interview by author with Jaime Ruíz, October 2003.

proceed.[1296] But he would question the availability of resources to finance the metro.[1297]

Peñalosa, in the mean time, both in public and private was pressuring the National Government to continue supporting the Bogotá metro. Peñalosa spoke to the media seeking a definitive decision. Peñalosa also mobilized Bogotá's delegation to Congress, which held hearings to question Ruíz.[1298] Ruíz was feeling the pressure. In private meetings, Ruíz tried to convince Peñalosa that undertaking both the metro and TransMilenio was impossible. Ruíz preferred TransMilenio, the BRT project, which was in Peñalosa's agenda. Moreover, Ruíz would guarantee contributions from the National Government to that project. Ruíz also made clear that he opposed the national government contributing to the metro project.

Ruíz also knew Peñalosa valued the metro more for its urban impact than for its capacity to move people. Further, Ruíz knew Peñalosa had opposed the construction of the sewer treatment plants. These plants had an estimated cost of over US$ 1.0 billion. Even after building all the plants, the Bogotá River—located on the outskirts of the city—would continue to be polluted. For Peñalosa this was a highly ineffective solution and probably other technologies could do a better job. In fact, at the ceremony to inaugurate the first plant, Peñalosa was vocal about his poor opinion on the plants.[1299] Ruíz therefore argued that the metro was analogous to the sewer treatment plants. Specifically, after investing three billion dollars the metro would only transport eight percent of the demand. BRT, on the other hand, could provide a similar level of service to the metro. And for the same amount invested, BRT could provide service to a larger share of the demand. Peñalosa understood that the national government was not willing to support the metro but was willing to support his pet project, TransMilenio.

[1296] See Hidalgo (2000?, p. 15-19); and Hidalgo (2000, p. 10-8) for examples of some of the studies in the process of being contracted out during the first month of the Pastrana administration.
[1297] Lupo, Concord and Fowler (1971, p. 208) argue that "transit disputes boil down to a question of cost—who will pay how much for existing or proposed new service." See also p. 208-210 and 218-220. The Bogotá metro case corroborates this conclusion.
[1298] Hidalgo (2000?, p. 13-14).
[1299] El Tiempo, "Esta planta no era urgente," September 13th, 2000.

The problem, however, was that Peñalosa had accepted Samper's offer to finance the metro and had reached an agreement. Peñalosa knew very well he could not renounce to those resources because of the political cost and because those funds could help Bogotá in any case. Peñalosa therefore would pressure the National Government to transfer the funds initially earmarked for the metro to TransMilenio. But there was a problem. Announcing this would mean that the metro project was canceled. This would have a large political cost for Peñalosa and for President Pastrana. Peñalosa, therefore, could not simply change course. Peñalosa had to continue lobbying for funds for the metro and await the opportunity to announce the change of destination for the funds. Ruíz had a similar plan in mind. Ruíz was willing to have the national government fund BRT systems but not metros. But announcing that the Bogotá metro was cancelled was politically expensive. Time had to pass before the decision could be announced. Peñalosa met with Alberto Velásquez, the head of the metro planning team. Peñalosa commented to Velásquez that he regarded the metro as highly unfeasible given the current conditions. On December 23rd, 1998, Velásquez resigned to heading the planning team.[1300]

Planners vs. Planners

Ruíz and DNP planners continued their actions to derail the metro project. They seemed to have followed a strategy with the following elements. First, Ruíz and the planners supported the concession strategy because it was a way of sliming the chances that the metro would be adopted. For one thing, to lure the private sector a concession needs high-quality information and sound technical studies. Carrying out these studies takes time. As time passes, the window of opportunity for the project might close. At the same time, the BRT project, TransMilenio, would be almost ready for service. For another, the information requirements of the concession might show decision-makers that the project is not convenient. Under the concession strategy, therefore, the process can be more transparent and accountable.[1301] Finally, the

[1300] See also Peñalosa (Forthcoming, p. 52-7) for Peñalosa's account of the metro's demise.
[1301] See Flyvbjerg et al. (2003, ch. 9-11) for why concession and similar schemes can bring accountability. Clearly, the advantages of concessions including efficiency gains cease to exist if the

concession strategy increased the cost of the metro project. Specifically, the scheme required the concessionaire to obtain loans in the international market to fund the project. The interest rate for these loans was probably higher than that for sovereign debt. But given the precarious financial situation, the national government had to obtain other loans to cover its payments to the concessionaire, as the Conpes document acknowledged.[1302/1303] That is, the concession under the dire financial situation implied obtaining two sets of loans and not one to fund the project. Consequently, the national and city governments would pay a premium for undertaking the concession strategy.[1304] Ruíz and the DNP planners hoped the studies for the concession would find the scheme infeasible.

The second element of the strategy by Ruíz and DNP planners was to generate conditions so that the concession strategy would be the only feasible procurement strategy. Specifically, DNP and other government planners figured that the concession scheme allowed keeping the debt incurred in financing the metro off the accounting books of both levels of government. The payments to the concessionaire would appear, however.[1305] Removing the debt from the books was necessary because otherwise the government of Bogotá and probably the national government as well would violate their debt ceiling. Hence any strategy different to the concession would be infeasible because the debt was too high. With this in mind, Ruíz and DNP planners expected the consultant in charge of finalizing the procurement strategy to declare that the concession was also not feasible. Put differently, the strategy was to limit the flexibility of the procurement strategy for the project. Financial planners would face too many restrictions and have few or no feasible options.

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government offers poorly designed guarantees (see Zegras, 2002, esp. p. 3 and 20; see also Kerf et al. (1996, esp. ch. 6). For a critique of privatization in general see Sclar (2001).

[1302] Conpes (1998, p. 17-18).

[1303] Given the size of the project, Bogotá's government might have had to do the same.

[1304] It is important to emphasize that because of the deep recession of the economy and the bail out of the banking system, the national government did not have funds for the metro. If the economy had continued to grow and the banks had not required close to US$ four billion, the concession strategy might have lowered the cost of the project. But in a recessionary environment the concession raised the cost of the project.

[1305] See Rothschild Group (2000, p. 2 and 15).

Finally, Ruíz hired Fedesarrollo, in his quest to question the availability of resources to finance the metro. Fedesarrollo is a highly respected non-partisan think tank. Fedesarrollo would determine if the National Government was able to comply with the long-term commitments established by the Samper administration for the construction of metros in Bogotá and Cali.[1306] In reality, Ruíz wanted Fedesarrollo to say that the national government could not afford the metro.[1307]

Dario Hidalgo's tenure as head of the metro planning team started precisely with Ruíz announcing that the decision of the national government to support Bogotá's metro project was contingent on the study by Fedesarrollo. In effect, Mayor Peñalosa appointed Dario Hidalgo to head the metro planning team in January of 1999. Hidalgo vowed, "to work without rest to build the metro."[1308] Hidalgo also promised not to repeat Medellín's debacle and to achieve a "very good metro." Hidalgo, however, was not fully aware of Peñalosa's change of position. More so because Peñalosa continued to support the metro in public. But his support was to get the funds of the national government transferred from the metro to TransMilenio. Hidalgo was not fully aware either that Ruíz was slowly but effectively assembling a coalition against the metro.

In March 1999, Juan Echavarría and Israel Fainboim of Fedesarrollo presented the conclusions of the study on the metro.[1309] The conclusions were that the impact of the Bogotá and Cali metros on the finances of the national government was not excessively high, particularly when compared with the future expenses in social security and pensions.[1310] However, the overall financial situation of the national Government was very precarious and not sustainable in the long-term. Unless the pension system and other long-term commitments were reformed, the Government of Colombia would not be able to pay its local and international debts or obtain new loans.[1311] Finally, the Pastrana administration had undertaken some steps to reduce the deficit and reduce public spending. However, the effect of these reforms would

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[1306] Fainboim and Rodríguez (1999, p. 115); and interview by author with Jaime Ruíz, October 2003.
[1307] Interview by author with Jaime Ruíz (October 2003).
[1308] Hidalgo (2000?, p. 20).
[1309] Hidalgo (2000?, p. 29).
[1310] Fainboim and Rodríguez (1999, p. 148).

only last until the year 2003. This was precisely the year that the national Government had to invest the most in the Bogotá and Cali metros.[1312] Given this situation, Fedesarrollo concluded the expenditures in the metros were irrelevant. The finances of the national government were unsustainable with or without the metros.[1313]

This part of Ruíz's strategy failed. For one, Fedesarrollo did not say that the metro could not be undertaken. Fedesarrollo said that the national government was facing bankruptcy with or without the metros unless a structural reform was undertaken. Moreover, Fedesarrollo considered the Bogotá metro in particular a sound project.[1314] For another, Ruíz received many criticisms in the press and from politicians. Ruíz defended his position by arguing that the national government was just doing what the previous government should have done before committing such a large amount of funds. Specifically, the national government must be sure it can pay its long-term commitments to the Bogotá and Cali metros.[1315] At the same time, these commitments must not mean reducing the funding to other key sectors such as health and education.[1316] The polemic continued and the metro project was still in the political agenda—just as Hidalgo and his team wanted.

Ruíz and DNP planners also had hoped that the consultant in charge of finalizing the procurement strategy declared this strategy, and hence the metro, as infeasible. On the contrary, the consultants, Rothschild & Sons-Louis Berger International-Selfinver (RLBS), found the concession scheme to be feasible. To find the concession feasible, RLBS together with the metro planning team and DNP planners shortened the metro line from 30 Km and 24 stations to 23.4 Km and 20 stations. As a result, the cost estimate went down from to US$ 2.30 billion. In total the city government would contribute US$ 1.35 billion over 25 years, starting in 2001. The national government would contribute US$ 2.17 billion over nine years stating in

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[1311] Fainboim and Rodríguez (1999, p. 140-2).
[1312] Fainboim and Rodríguez (1999, p. 127 and 141-2).
[1313] Fainboim and Rodríguez (1999, p. 148). For an update of this study see Fainboim and Rodríguez (2000).
[1314] Fainboim and Rodríguez (1999, p. 115-31).
[1315] See Penagos (1998) for a cost benefit analysis of the Cali metro. Penagos found the metro not be desirable from a CBA point of view because the return on the investment was negative. Society was worse-off with the project. One reason for this result was the low value of time of the would-be users of the metro.

2003.[1317] The studies also found that the concession scheme did not need a guarantee from the national government to be feasible.[1318] This part of Ruíz's and DNP planners' strategy had not worked either. RLBS had found, at least in theory, that the concession scheme was feasible.[1319/ 1320] The metro project continued in the political agenda of the city.

The role of planners

Jaime Ruíz and the DNP planners are examples of planners that oppose a plan. They long ago concluded that the metro is not a sufficiently sound solution for Bogotá. They consider BRT a much better solution. Broadly speaking, they followed a three-pronged approach. First, they introduced delays in the process so as to stop the metro project and to give time to TransMilenio—Peñalosa's pet project—to show results. Second, Ruíz in particular slowly assembled a coalition against the metro. The end result, will not be a matter of rationality but of power. The position espoused by the most powerful coalition will win. Third, Ruíz and DNP planners wanted to back their position with studies that should have concluded that the metro was not feasible. This last element worked out partially for the studies did not arrive at the conclusion Ruíz and DNP planners wanted.

The planners that support the metro are effective at maintaining the metro in the political agenda of the city. Keeping the project in the agenda is critical for

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[1316] El Tiempo, "Deuda de la nación no deja arrancar el metro," January 22nd, 1999.

[1317] RLBS (2000, p. 5, 11, 24). The amount for each level of government includes capital and financial cost and hence the cost surpasses the initial amount.

[1318] Rothschild Group (2000, p. 16).

[1319] There is no way to know if the concession strategy was indeed feasible, because the actual tendering never took place. I consulted three experts in concessions in Latin America, who wanted to remain anonymous. All three coincided that the concession scheme was likely infeasible, because of the risk for the concessionaire. The main risk was that the Colombian government would not honor its commitments to the concessionaire given the near bankruptcy of the government. Interestingly, all three pointed out the need to have a guarantee and argued that it would be difficult to find a guarantee for several billion dollars. All three commended, however, the Colombian government's idea of not having a guarantee. The lack of a guarantee allows the market mechanism embedded in a concession scheme to work better and chose only projects that are truly good. See Cahillane (no date) for an example of how the Inter American Development Bank offered a guarantee to support the concession of a water treatment plan in Bogotá.

[1320] A big assumption of the study by RLBS was that the Colombian economy would recover by 2003. As a result, the Colombian government would be able to issue debt at a reasonable price. Otherwise, the concession seems infeasible (see Rothschild Group, 2000, p. 102). The Colombian economy did not recover as expected and the finances of the national government are still weak.

otherwise the window of opportunity for the metro closes. The project would be cancelled. But Hidalgo and his planners seem unable to assemble a sufficiently powerful coalition in support of the metro. Ruíz and his planners have a stronger coalition against the metro. The only way to change Ruíz's mind is by having a coalition powerful enough to make not supporting the metro politically very expensive. There is no such coalition.

The demise of the metro project

In June of 1999 the Peñalosa administration presented a proposal to pass legislation in the City Council creating the Metro Co. The metro planning team was in charge of getting the legislation passed. The councilors decided not to vote the legislation. Mayor Peñalosa decided not to present again the legislation to create the Metro Co. to the council.[1321] By not supporting the creation of the Metro Co., Peñalosa was showing more signs that his decision was not to support the metro project. Peñalosa's strategy now shifted to increasing the pool of funds for his pet project, TransMilenio. Ignacio de Guzmán, the political head of the planning team for TransMilenio, proposed in August of 1999 to shift the destination of some funds of the tax on fuels from the metro to TransMilenio. Peñalosa charged IDU, the agency in charge of constructing the TransMilenio facilities, with the responsibility to pass the required legislation in the City Council.[1322] The Council interpreted this as a sign that Peñalosa was burying the metro project. Hidalgo had to intervene by saying the city government was awaiting the decision by the national government. In the mean time, it was better to use the funds in TransMilenio.[1323] On December 23rd, 1999, the City Council approved making flexible the use of the fuel tax revenue. The city government could now devote the 50% of that revenue, originally assigned to the metro, to either the metro or TransMilenio. The remaining 50% continued to be devoted to road maintenance. The Peñalosa administration lobbied hard to get this legislation

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[1321] Hidalgo (2000?, p. 40, 42-3).
[1322] Incidentally, by the time of these events Peñalosa had appointed de Guzmán to the board of directors of IDU (Hidalgo, 2000?, p. 46). From there de Guzmán has influence over IDU.
[1323] Hidalgo (2000?, p. 46-7).

approved. Peñalosa himself,[1324] as well as de Guzmán, Hidalgo, Andrés Camargo, head of IDU, and other cabinet members participated in the lobbying effort.[1325] No similar lobbying effort was seen a couple of months before for the metro.

In parallel, Mayor Peñalosa began to meet with the new head of the National Planning Department, Mauricio Cárdenas. President Pastrana had shuffled his cabinet. Cárdenas went from being minister of transport to head of DNP. Jaime Ruíz stepped down as head of DNP to become one of Pastrana's top advisors, with decision-making power. Peñalosa wanted the national government to finally decide if it was going to fund or not the Bogotá metro.[1326] At the same time, Peñalosa wanted to secure additional funds for TransMilenio.[1327] The national government offered a smaller amount of funds for the next fiscal year (2000) but earmarked for TransMilenio and not the metro. The reason was that TransMilenio, under construction at that point, would generate much needed employment whereas the metro would not (the metro would purchase land with that money). De Guzmán proposed to devote 70% of the transfer to the construction of TransMilenio's busway and 30% to the acquisition of land for the metro. Cárdenas and Peñalosa agreed to this arrangement.[1328]

Regarding the decision on the metro, the national government also claimed that it could not make a decision because the studies to structure the concession were not ready. Hidalgo argued that the studies had enough information to make a decision.[1329] To strengthen his case, Hidalgo had leaked to the press earlier in November the preliminary results the studies by RLBS. The press published articles indicating the concession scheme was feasible.[1330] The national government, however, remained silent fearing a public backlash if it announced it would not finance the metro.[1331] By now Cárdenas, Ruíz, and Peñalosa all agreed that the national funds ought to go to TransMilenio and not the metro. But the national government did

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[1324] See for example of Peñalosa's way to lead the council to believe that the metro was still in his agenda his Sate of the City Speech in October of 1999 (Peñalosa, 1999, p. 47-8).
[1325] Hidalgo (2000?, p. 55-6).
[1326] Hidalgo (2000?, p. 52-3).
[1327] Interview by author with Enrique Peñalosa, January 2003; and Peñalosa (2003, p. 84-5).
[1328] Hidalgo (2000?, p. 52-53).
[1329] Hidalgo (2000?, p. 52-53).
[1330] El Tiempo, "Metro por concesión sí es viable," November 9th, 1999.
[1331] Peñalosa (2003, p. 84-5); sources at DNP confirmed this.

not make a final decision. Cárdenas had to resign to heading DNP in the midst of a corruption scandal. Mayor Peñalosa kept pressuring for a decision.

Worried that the metro project was close to being cancelled, Hidalgo worked hard to convince Mayor Peñalosa of keeping the project in the agenda. For example, in February of 2000, Hidalgo arranged a meeting between the mayor and a group of planners of the University of Pennsylvania. This group had been planning the metro station localities and had presented in the past its results. Ralph Gakenheimer, an MIT professor, was part of the group.[1332] At the meeting these planners defended the metro given its positive impact on the urban quality of Bogotá.[1333] Peñalosa, however, replied with the following question: "'why should I spend US$ 100 million per km on a metro when I could have BRT for US$ 5 million per km? Gakenheimer replied "Well, with the metro you can bring 70,000 passengers per hour per direction into the city center without reducing street capacity."[1334] This did not change Peñalosa's position.

Peñalosa was now pressuring hard the national government to transfer the funds from the metro to TransMilenio. In March of 2000 there was another meeting between Peñalosa, Ruíz, Juan Echeverry, the new head of DNP, and a couple of planners. Notice that no one invited Hidalgo to the meeting. Peñalosa presented a new plan to build a network of 24 TransMilenio busways throughout the entire city. The cost of the project was US$ 2.387 billion—less than the cost of the first metro line. This was clearly convenient to the national government because it implied smaller expenditures.[1335] Ruíz then intervened. "The metro has become a political problem and we have the perfect way out of it—TransMilenio. Let's decide to transfer the funds of the national government for the metro to TransMilenio." The national government had finally made a decision—it would not support the metro but it would support TransMilenio.

[1332] Prof. Gakenheimer is also the advisor of this dissertation.
[1333] El Tiempo, "Metro evitará polarización," February 19th, 2000. For the results of the study see DCRP (1999)
[1334] Interview by author with Ralph Gakenheimer, May 2004.
[1335] El Tiempo, "TransMilenio mataría metro," April 6th, 2000; and El Tiempo, "Bogotá debe olvidarse del metro por 6 años," July 27th, 2000.

Because no one in the national government announced the decision, Peñalosa then decided to make the announcement himself: "there will be no metro."[1336] The financial situation of the national government did not allow the large expenditures in the metro.[1337] But the national government could possibly finance a US$ 100 million a year contribution for TransMilenio[1338]—not yet operational. The metro project was cancelled.[1339] Even then, the Peñalosa administration had to lobby hard the national government to get the agreement to fund TransMilenio.[1340] Most likely, the national government was awaiting the outcome of the election for mayor, which Antanas Mockus, an independent, won against Emma Mejía of the party contrary to President Pastrana's. In November, weeks before TransMilenio opened doors, the national government finally issued the Conpes document stating its commitment to fund TransMilenio. The Conpes document summarizes the quandary between metro and TransMilenio in the following way:

> The estimated cost of the infrastructure for TransMilenio is US$ 1.970 billion of 2000 whereas the estimated costs for the first metro line, including financial costs (US$ 1.421 billion), are US$ 4.007 billion of 2000. The capital costs of the first metro line, including equipment depreciation, are US$ 2.586 billion of 2000. The estimated cost per kilometer for TransMilenio is US$ 5.0 million, equivalent to 5% of the estimated cost per kilometer of the first metro line (US$ 107 million).[1341/1342]

The role of planners

The coalition against the metro finally won thanks to the power it had. Ruíz headed this coalition. This coalition prevailed by sticking to its strategy of introducing delays to the process and supporting the concession strategy. The concession strategy brought

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[1336] Peñalosa (2003, p. 85).
[1337] Hidalgo (2000, p. 130).
[1338] El Tiempo, "Bogotá debe olvidarse del metro por 6 años," July 27th, 2000.
[1339] Peñalosa disbanded in July of 2000 the metro planning team by moving most of its members to TransMilenio Co. Hidalgo became deputy manager; Arciniégas became chief financial officer; Sandra Navas and Leonardo Vásquez moved to bus operations planning, and finance, respectively.
[1340] See El Tiempo, "¿Ni metro ni TransMilenio?," July 26th, 2000; and El Tiempo, "Bogotá debe olvidarse del metro por 6 años," July 27th, 2000.
[1341] Conpes (2000, p. 6, translation by author). The Conpes document also found that the internal rate of return—a measure of profitability of the investment—was 15.8% for the metro and 61.1% for TransMilenio (see p. 36).
[1342] The financial situation of the national government did not improve as expected. By 2003 the national government under president Álvaro Uribe renegotiated with the city government to postpone the transfers for TransMilenio (Custodio and Monguí, 2003, p. 28).

accountability to the process and reduced the flexibility for pro-metro planners.[1343] Pro-metro planners could not change the procurement strategy for one less expensive.[1344] Neither could they resort to artificially lowering the cost estimates in order to make the metro appear feasible. Pro-metro planners did not want to do that either—they vowed not to repeat the Medellín Metro debacle. The metro planning team defended the metro even by bringing world experts to present arguments. But metro planners did not have a political coalition supporting them. The end result was a matter of relative power. The decision to cancel the metro was announced by Mayor Peñalosa only when TransMilenio was months away from opening. An alternative solution to Bogotá's mass transit needs existed using buses and not rail.

With the advantage of hindsight, even the planners that supported the metro agree the outcome was the most convenient for the city and the country. Undertaking the metro was not convenient given the economic conditions. Further, the Colombian economy has not recovered as expected and the government continues to have large deficits. While the election of Samper to the presidency opened a political window of opportunity for the project, there was no economic window of opportunity because of the deep recession of the Colombian economy. Notice that despite the deep recession, anti-metro planners had to work hard to fight a project they believed would hurt the interests of the national economy. The recession merely fueled the arguments by anti-metro planners, but was not enough. A powerful anti-metro coalition was needed, together with the existence of a valid alternative to the metro—TransMilenio.

[1343] While concessions schemes have many benefits, they also entail many problems such as opportunistic behavior and rent seeking, which increase the cost of the project and lead to efficiency losses (see Guasch, 2004; and Garcia, Benavides and Reitzes, 2003).

[1344] See BB&J Consult S.A. (2000). Even if planners want the concession scheme for the metro next time it is in the political agenda, I argue that having the designs at the 50 to 100% level would reduce risks, improve risk allocation, and lower the cost of the project. Colombia's experience with road concessions led to the conclusion that designs should be at the 100% level before issuign the terms of reference (see Lozano (2000, esp. p. 17 and 21); and DNP (2000)).

Chapter 12

Planning and Implementing TransMilenio

Parallel to the events described in the previous chapter, the Peñalosa administration was planning and implementing TransMilenio—a BRT project. TransMilenio was a project that implied a change of paradigm in bus service provision in Bogotá. TransMilenio sought to replace a low-quality system that disrespected the user thanks to lack of supervision and excessive competition among bus drivers. TransMilenio implied eliminating the excessive competition, creating a new regulatory framework, and providing service with modern-looking articulated buses running on exclusive busways.

The situation of bus transport in Bogotá before TransMilenio

To understand the planning process for TransMilenio it is important to look in more detail at the relationships between city government, bus companies, and bus owners, among others, at the beginning of the Peñalosa administration (Figure 19). The national government through the ministry of transportation and Congress is responsible for regulating in general terms the provision of public transportation. For example, it is the national government that determines the number of years a bus is allowed to provide service.[1345] STT is an agency of the city government. Its responsibilities include issuing regulations specific to the City of Bogotá and enforcing those regulations, as well as those mandated by the national government.[1346] STT is also responsible for authorizing the creation of bus companies and for supervising them. STT is also responsible for authorizing new bus routes and determining the schedules, frequency, and determining the fleet a bus company needs to serve the assigned routes. In theory STT is the central authority in charge of planning and

[1345] Acero et al. (1999, p. 137-8).
[1346] Alcaldía Mayor de Bogotá (1999, p. 5).

supervising the provision of bus services.[1347] STT, however, does not have the organizational capacity to adequately perform these responsibilities. This translates into a poor operation of the transportation system, particularly because STT cannot supervise the bus companies or enforce regulations to the desired extent.[1348] This organizational weakness has also led to corruption.[1349]

Immediately under STT in Figure 19 are the bus companies. Colombian law allows only bus companies to provide public transportation services. The bus companies have rights over bus routes issued by STT. In theory, these bus companies ought to own buses. In practice, 96% of the bus companies owned less than 10% of their fleet.[1350] Colombian law, however, established that bus companies should own at least 10% of their fleet, which illustrates the lack of enforcement by STT. The bus companies' assets, therefore, were the bus routes. As such, bus companies would rent the routes to the owners of the buses, who by law could not operate their buses unless "affiliated" to a bus company. The affiliation implied that the bus owner would pay a monthly fee plus a lump sum (locally known as *cupo*) for the right to affiliate the bus to the company. [1351] Bus companies, therefore, had an incentive to increase the number of bus routes STT issued them. Because of its lack of organizational capacity, STT could not detect the need for new routes. It was individual bus companies that carried out a study to show the existence of an unsatisfied demand. The bus company would present the study to STT, which would then issue a request for proposals. In theory the bus companies interested in the service would bid and STT would choose a winner. In practice, the company that presented the original study would usually be the winner. The bus company would then advertise its new route to attract bus owners. Interestingly, this arrangement where bus companies own routes and bus owners affiliate their buses is not strictly

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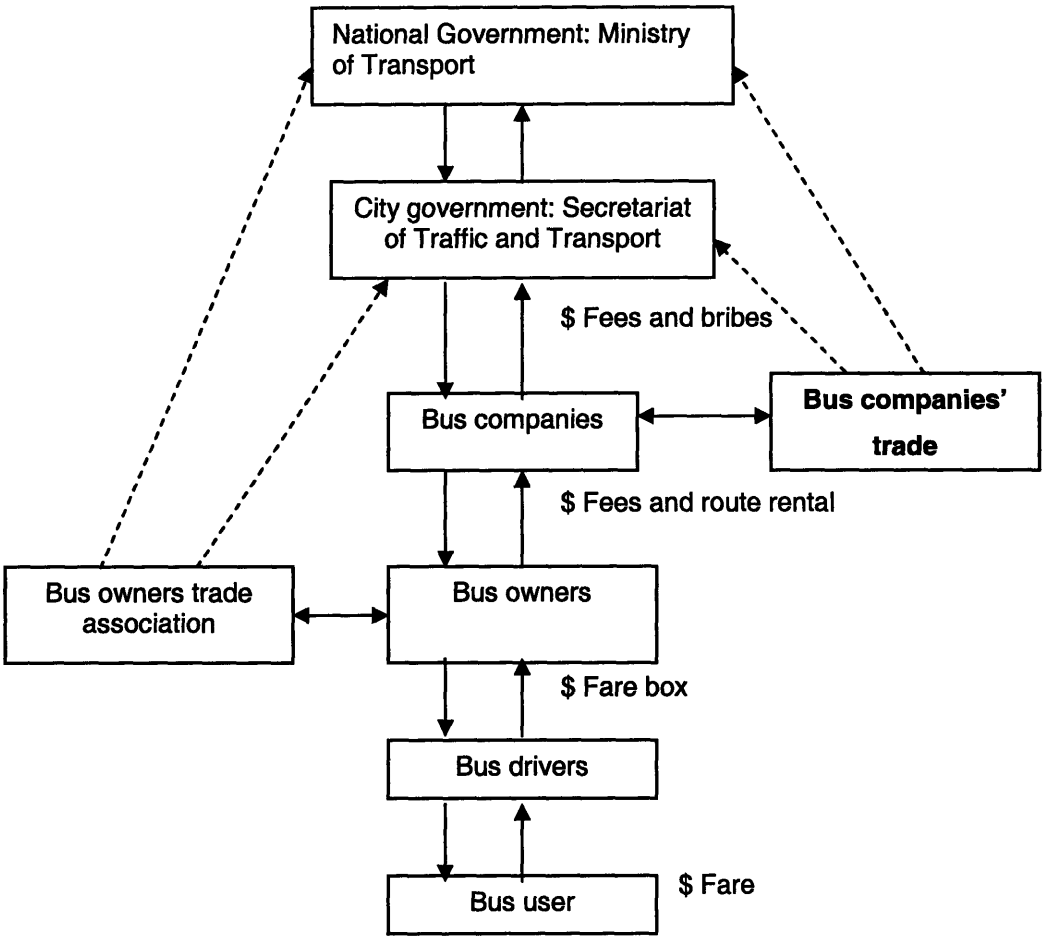
[1347] Montezuma (1996, p. 150).
[1348] Montezuma (1996, p. 150); Ardila (1998, p. 30-1); Acero et al. (1999; p. 138); and Bonilla (1997, p. 16).
[1349] Bonilla (1997, p. 16); and Gómez (2003, p. 13).
[1350] Montezuma (1996, p. 150-1); Alcaldía Mayor de Bogotá (1999, p. 8); and Acero et al. (1999, p. 138).
[1351] Alcaldía Mayor de Bogotá (1999, p. 8).

contemplated in Colombian legislation.[1352] Again, the lack of adequate supervision by the government allowed this to happen. In Bogotá there were 64 bus companies varying in size in terms of routes "owned" and affiliated buses.

To increase their effectiveness at affecting regulation, the bus companies belong to trade associations (Figure 19). The largest is Conaltur, which groups 60% of the bus companies in Colombia. Associations such as Fecoltran, Asotur and Asonatrac represent a smaller number of companies.[1353] These trade associations are usually headed by the CEOs of the largest companies. According to interviews with lobbyists at these associations, the associations have been rather effective at influencing legislation in their favor. Further, the capacity to pressure the government together with the weakness of the state had led to a situation in which the bus companies had disproportionate power. If the city attempted to enforce the regulations, the ministry of transportation could intervene to defend the operators' interests. A crucial example is when bus owners lobbied and obtained important extensions in the allowed duration of a bus to 30 years, when 15 is considered the norm.[1354]

[1352] Alcaldía Mayor de Bogotá (1999, p. 6 and 9).
[1353] Alcaldía Mayor de Bogotá (1999, p. 6-7).
[1354] Peñalosa (Forthcoming , p. 33-5).

Figure 19. Relationships between city government, bus companies, bus owners, drivers, and users in Bogotá in 1997.



Source: Author based on Montezuma (1996) and Alcaldía Mayor de Bogotá (1999).
Note: Straight lines show hierarchy or flow of funds. Dashed lines show lobbying effort to influence policy.

As seen, bus companies are not responsible for the actual provision of bus services; they are merely intermediaries between the bus owners and the government.[1355] As a result, the bus owners are the actual providers of public transport.[1356] The bus owners invest the largest amount of capital and make critical managerial decisions such as when and where to operate and maintain the bus. Bus owners also require the company to have routes that have a high volume of

[1355] Montezuma (1996, p. 151).
[1356] Montezuma (1996, p. 153-4); and Alcaldía Mayor de Bogotá (1999, p. 9).

passengers and a high turnover.[1357] Both characteristics determine total revenue. In 1997 there were 20,764 buses of different sizes and more than 25,000 owners. Only two percent of the bus owners owned more than 10 buses and 85% owned one bus or less.[1358] The large number of bus owners makes it difficult for the government to talk to them. Because trade associations represent the interests of bus companies, bus owners were at a disadvantage. As a result, some bus owners created the Association of Small Bus Owners, Apetrans, to help them gain leverage in policymaking (Figure 19).[1359] Given the institutional arrangements, the bus drivers become critical actors in the provision of public transportation services in Bogotá. Bus owners usually hire one bus driver to operate their bus. Occasionally, the owner might also be the driver.[1360] With a single driver per bus, the driver has to work shifts of 13 or 14 hours a day.[1361]

To motivate the driver to maximize revenue, bus owners pay drivers on the basis of a commission per passenger.[1362] To economists this situation should translate into healthy competition, which should increase the efficiency of the system. To some extent this happened for the fares tended to be rather low.[1363] However, the competition is rather extreme and it has lead led to what is locally known as the "penny war" or *guerra del centavo.*[1364] The penny war leads to perilous driving in an attempt by drivers to pick up as many passengers as possible. The penny war also motivates drivers to disregard schedules and to stop at any place where a prospective passenger stands. Boarding and getting off the bus become dangerous as the driver stops for a very small amount of time. Children, the elderly, and some women are more likely to have accidents and face injury. In their attempt to gain the competition,

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[1357] Acevedo (1986, p. 4-6).
[1358] Montezuma (1996, p. 153-4); and Alcaldía Mayor de Bogotá (1999, p. 9).
[1359] Alcaldía Mayor de Bogotá (1999, p. 6-7).
[1360]Twenty three% of the bus owners drive their own bus. Montezuma (1996, p. 153-4); and Alcaldía Mayor de Bogotá (1999, p. 9).
[1361] Peñalosa (Forthcoming , p. 35).
[1362] Montezuma (1996, p. 147-8 and 155-8); Alcaldía Mayor de Bogotá (1999, p. 10); Acero et al. (1999, p. 139-40).
[1363] Acevedo (1986, p. 3).
[1364] To some extent the penny war is analogous to the tragedy of the commons (see Ostrom, 1990, esp. p. 1-3). Buses circulate over roads that are a common property resource. There is therefore an incentive to overusing the roads. The end result is quite tragic in terms of low level of service and unsafe transport.

drivers block other buses and race against them hence spreading the lack of safety. Indeed, the accident rate was too high with 52,764 collisions and 1,174 deaths in car accidents.[1365] Finally, when ridership is low, drivers order all passengers off the bus and turn back to collect passengers in the opposite direction. All these characteristics lower the quality of service.[1366]

The incentives existing in the arrangement for the provision of bus service led to oversupply—which only aggravate the dire consequences of the penny war. The incentive for bus companies is to add routes to lure bus owners who would pay to operate in a route. By 2000, Bogotá had 631 routes legally authorized, 95 non-authorized[1367] and 22,031 buses.[1368] Routes were long, on average 29.48 Km, and most went through few corridors thus creating congestion and increasing competition.[1369] Because demand was not growing as fast as supply[1370] adding buses would lower revenue and profitability for bus owners. Bus companies solved this problem by using their influence to take advantage of the organizational weakness of STT. Specifically, after negotiations, bus companies and STT agreed to include the average number of passengers as an element in the fare structure.[1371] As the number of passengers per bus decreased the fare automatically went up. By 1998, on average buses mobilized 350 passengers a day, when the international standard is around 1,000.[1372] Between 1993 and 1997 the fare increased by 83% in real terms to compensate for the lower ridership per bus. Yet the quality of service did not increase significantly.[1373] In sum, bus users were subsidizing a significant portion of the inefficiencies in the system.

Bus owners were subsidizing the remaining cost of the over supply and inefficiency. Poor accounting created economic rents for bus companies, bus owners and bus drivers. These actors were earning profits above what they would in a

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[1365] Hidalgo (no date, p. 2).
[1366] Peñalosa (Forthcoming , p. 31-2); see also World Bank (2002, p. 96).
[1367] Alcaldía Mayor de Bogotá (1999, p. 11-12); and JICA-Chodai-Yachiyo (1996b, p. 82).
[1368] Echeverry et al. (2004, p. 6).
[1369] Alcaldía Mayor de Bogotá (1999, p. 12).
[1370] Alcaldía Mayor de Bogotá (1999, p. 14).
[1371] Castro et el. (2001, p. 11); Alcaldía Mayor de Bogotá (1999, p. 15).
[1372] Alcaldía Mayor de Bogotá (1999, p. 19);

competitive market.[1374] Yet this rent was possible in part because neither the fare nor the bus owners covered the depreciation of the buses. Bus owners were cannibalizing their own bus by not saving to replace it. This accounting trick artificially increased profits. Not surprisingly, if depreciation was taken into account most of the buses were actually loosing money.[1375] To make matters worse, actors faced incentives to perpetuate the arrangement even if it implied cannibalizing the system. Bus companies wanted to create more routes. Bus owners wanted to extend the legal useful life of buses to continue earning the rent without saving for depreciation. Owners and companies would mobilize and get the national government to extend the useful life of buses first to 25 years and then to 30.[1376] STT tried to freeze the size of the bus fleet. Yet this only motivated informality as "pirate" buses entered the market.[1377] Almost 9,000 illegal buses provide service.[1378]

In sum, the weakness of the governments of Colombia and Bogotá was the main cause of the increased fare above the true cost, the oversupply of buses, and the low level of service. A highly regulated system in the books was in practice quite deregulated.[1379] The user and the bus owners subsidized the inefficiency through artificially high fares and lack of proper accounting. Vested interests against change were strong. Furthermore, the user had (has) little or no political incidence beyond the right to vote at elections where candidates usually presented the metro as the solution. Most users were captive to public transportation for they could not afford a car.[1380] As a result, by 1997 the average user would spend 123 minutes a day inside a bus.[1381] Both figures can be considered excessively long because the average trip in Bogotá is less than 10 km.[1382] The situation begged for change for users deserved

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[1373] Alcaldía Mayor de Bogotá (1999, p. 15); Pablo Bocarejo & Co. (1997, p. 4) reports timid improvements in the quality of bus services as a result of better training to bus drivers.
[1374] Echeverry et al. (2004, p. 26-30).
[1375] Alcaldía Mayor de Bogotá (1999, p. 16-17); and JICA-Chodai-Yachiyo (1996b, p. 302).
[1376] El Tiempo, "Peñalosa pide más apoyo nacional," October 13th, 1998.
[1377] Trujillo (2000, p. 122).
[1378] Echeverry et al. (2004, p. 6).
[1379] Bayón (2001, p. 4).
[1380] JICA-Chodai-Yachiyo (1996b, p. 50).
[1381] Observatorio de Cultura Urbana (1997, p. 23). Hidalgo (nodate, p. 2) reports an average commute of 70 minutes.
[1382] JICA-Chodai-Yachiyo (1996b, p. 78).

better.[1383] Mayor Peñalosa seemed to have the answer with TransMilenio. Peñalosa understood the situation: "it is not the bus operators fault, but the poorly designed economic system. It is not feasible for the operators to change the situation by themselves. It is not a problem of investment or of the education of the drivers. It is a structural problem."[1384]

Peñalosa's proposal for TransMilenio

As seen in the previous chapter, Peñalosa rejected the Transportation Master Plan done during the Mockus-Bromberg administration on the grounds that it was too vague and was not feasible. Indeed, Peñalosa had a deep understanding of Bogotá's transportation problems and had crafted his own solution, a bus rapid transit project. Further, Peñalosa knew that even with the metro the buses would continue to be the main mode of transportation in the city. The metro could not offer the coverage that buses could.[1385] But Peñalosa knew that for buses to work a change of paradigm was needed.[1386] As long as the penny war continued, improving the quality of bus services would be impossible. Peñalosa, therefore, wanted to end the penny war and with it all the negative incentives analyzed above. Peñalosa also knew that any solution needed to improve the institutional side, probably more so than the physical side. On the institutional side, Peñalosa envisioned a new city agency with the capacity to plan the system and supervise daily service. This agency would contract out service provision with new and highly capitalized operators, collect the fares and then pay the operators per kilometer logged. The payment per kilometer was the way to eliminate the penny

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[1383] See Perea (2000) for an interesting explanation of why despite the low level of service, 53% of users qualified the bus system as good and five% as very good. Part of the answer for Perea lies in the myth built around the metro as the only possible solution. Perea (2000, p. 75, translation by author) admits: "we journalists allowed ourselves to be seduced by the politicians' game and we helped sell the metro as the Promised Land."

[1384] As quoted in Fuquen (2000, p. 15, translation by author).

[1385] Peñalosa (Forthcoming, p. 36-7).

[1386] Several analysts in Bogotá, including me at one point, supported the following hypothesis. Peñalosa initially backed the metro and not a bus-based solution. Only once he saw the metro was not feasible Peñalosa changed his position and adopted the bus-based component of the Transpiration Master Plan (See Ardila (2003, p. 34);and Baquero (2004, p. 50-3)). The deep review of the evidence in this dissertation suggests that Peñalosa always backed the BRT solution and equally important that TransMilenio was not a progression emanating from previous studies. TransMilenio was a change of paradigm because it included all the elements of BRT and not just the construction of busways as the previous studies suggeste.

war complemented by the new contractual arrangements. On the physical side, Peñalosa wanted to build an adapted version of Curitiba's system.[1387] Peñalosa envisioned high-capacity buses, articulated or bi-articulated, not used until then in Bogotá. The buses would be designed for transporting people and would use exclusive busways; passengers would pay upon entering the station.[1388] Peñalosa later on baptized this project as TransMilenio.[1389] In short, Peñalosa understood all the elements of a BRT proposal, which go well beyond building a busway.[1390]

Peñalosa assembles a capable planning team for TransMilenio

Peñalosa was well aware that in order to ever get his pet project implemented he needed a capable planning team in charge.[1391] As seen, Peñalosa assembled a small planning team for the TransMilenio project even before he took office. Peñalosa appointed Carlos Emilio Gómez to head the team. Gómez, an engineer, had worked with Peñalosa at Arthur D. Little. Peñalosa headed the Bogotá office before running for the third time for mayor.[1392] By March, Juan Carlos Díaz had joined the TransMilenio planning team. Díaz is a young civil engineer with experience in project management and finance. By June, Pilar Rodriguez, a recent graduate of civil engineering joined the team. Soon after Catalina Valencia was hired as press secretary.

The planning team led by Gómez determined what studies were needed to adequately plan TransMilenio.[1393] The team also designed, together with planners at STT, the terms of reference for contracting out these studies with specialized consulting firms.[1394] Peñalosa had also set the basic framework for these studies. In essence, Peñalosa wanted the existing bus companies and bus owners to be the owners and operators of TransMilenio's fleet—under completely different contractual

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[1387] Peñalosa (2003, p. 83 and 100). See also Hidalgo (2003b, p. 9).
[1388] Peñalosa (1997, p. 38); and interview by author with Enrique Peñalosa, June, 2004.
[1389] Peñalosa (2003, p. 86).
[1390] For definitions of BRT see Wright (2002a, p. 2); and Peñalosa (2003, p. 86-7).
[1391] Interview by author with Enrique Peñalosa (January, 2003).
[1392] Peñalosa (2003, p. 83).
[1393] See STT-Alcaldía Mayor de Bogotá (1998).

terms.[1395] The team determined that the adequate planning of TransMilenio needed the following studies. First, a detailed demand modeling of the corridors to determine the operational characteristics of the new buses—type of bus, number of lanes per direction, location of stations, frequency and schedules. Second, a study to determine the characteristics of the new city-owned TransMilenio Co. This consultant would also help the city set up this company and help coordinate the entire project to take it to completion. Third, a study to design the busways, stations, terminals, and other facilities.[1396] Fourth, the city needed to hire legal advisors for the project. These consultants would help structure the TransMilenio Co. and advise the critical issue of how to negotiate with the old operators and structure the new contracts. Fifth, because Peñalosa wanted the old operators to be part of the new ones, the city needed financial consultants. The objective of this study was to financially engineer the project so that the "operations of the new buses are profitable for the current operations."[1397] Lastly, these planners were thinking about hiring studies to determine the cost structure of the buses, structure the fare box collection technology, and define the system to control the operation of the bus system.[1398] Later on a set of world-class consultants carried out these studies, as I explain below.

In the first months of 1998, the administration was designing its development plan. Part of this exercise implied determining the availability of funds. The city's finances were in better shape than ever (see Tables 9 and 10, and Figure 18, above). Peñalosa, moreover, wanted to privatize the Phone Company, which could bring in a windfall of resources.[1399] Peñalosa and his planners, therefore, realized the city had enough resources to undertake a much larger version of TransMilenio than originally expected. The planning team for TransMilenio did not consider this feasible. Gómez and Díaz thought it was impossible to implement seven busways in three years, more

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[1394] At this point, Gómez was also responsible for passing in the city council the privatization of the phone company. This task too up a significant part of his time.
[1395] See Peñalosa (2003, p. 85).
[1396] Gómez (2003, p. 26).
[1397] Proyecto Sistema de Transporte Masivo – Buses, "Avance del Proyecto de TransMilenio, June 3rd, 1998, p. 1.
[1398] Proyecto Sistema de Transporte Masivo – Buses, "Avance del Proyecto de TransMilenio, June 3rd, 1998.
[1399] Concejo de Bogotá (1998, p. 39-40).

so given the impacts of the project on the existing operators. Peñalosa was not willing to change his position and told his planners: "You have not understood what this project is about. It will cover the entire city and we are going to start with seven corridors." The planners and Peñalosa agreed on the seven corridors. Fearing that Peñalosa might change his mind and increase the number of corridors, the planners had Peñalosa sign the map with seven corridors. The planners then negotiated with Peñalosa to have only three corridors completed during his tenure. The other four corridors would be fully designed for the next mayor to carry out. Peñalosa agreed, but had the seven corridors included in the Development Plan enacted by the City Council. In the Plan, undertaking the seven corridors was contingent on privatizing the Phone Company.[1400] Notice how these planners were trying to make the plan more realistic by lowering Peñalosa's expectations.

The Development Plan was flexible in that it did not establish in what order the TransMilenio corridors were to be built. Gómez and Díaz wanted to start with 7th Avenue. As Díaz told me: "We chose 7th Avenue in essence out of fear. Our argument was that on that corridor we could easily "test" the TransMilenio technology, see if it worked and then implement it in other corridors." Indeed, a relatively small number of bus routes used the 7th Avenue corridor. Displacing the existing operators from the corridor would therefore be easier than on Caracas Avenue, the backbone of the system and the corridor Peñalosa wanted. Díaz continued his reflection on those days: "We lacked experience. We did not know Bogotá; we knew only the section where 7th Avenue is located. We really did not have major technical arguments to suggest this corridor. We feared making mistakes and we wanted to test the technology."[1401] Gómez supported this position and tried to find other arguments to back his position. Gómez consulted even some outside experts who recommended the Caracas Avenue corridor and not 7th Avenue.

Mayor Peñalosa was not willing to do a test busway to see if TransMilenio worked. Rather, Peñalosa would instruct these and other planners to think in terms of

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[1400] Concejo de Bogotá (1998, p. 25-6).
[1401] Interview with Juan Carlos Díaz (October, 2003).

planning a project that achieved the objectives he had set.[1402] Peñalosa wanted the Caracas Avenue to be the first corridor where TransMilenio was implemented. Peñalosa knew this would imply a strong conflict with the operators. But Peñalosa, contrary to Gómez and Díaz, argued that it was precisely for that reason that TransMilenio should target that corridor first. First, Peñalosa had the political will to support the negotiations with the old operators and induce them to change. Second, Peñalosa was aware that if he did not carry out the most difficult part of the project his successor would not do it either. In the end, TransMilenio was Peñalosa's pet project. Third, Peñalosa knew that if TransMilenio worked as intended, choosing the Caracas Avenue corridor would probably force his successor to continue the project. Finally, Peñalosa wanted the Caracas Avenue corridor because communities of different income levels neighbored the alignment. Peñalosa did not want the people to associate TransMilenio to transport for the poor. For him, TransMilenio ought to be "the place where the vice-president of a large corporation or the doorman of a building would feel good. A place where they would meet as equals in an environment that respected human dignity."[1403]

Even then, Gómez continued to argue in favor of the 7th Avenue corridor. Gómez even toyed with the idea of proposing a rail-based instead of a bus-based system. Probably, a rail option would avoid much of the conflict with the existing operators that implementing TransMilenio implied. Finally, Peñalosa told the planners: "TransMilenio is like the new kid in school. On the first day, the new kid has to look for the bully and go fight that kid. In that way the other kids respect the new kid." Peñalosa then added: "Do not waste time. Every time you think about implementing a corridor different to the Caracas Av. you waste precious time." Peñalosa then chose the three corridors he wanted: first, Caracas Avenue, second, 80th Street, and third, Auto Norte. Once Peñalosa chose Caracas Avenue the other two corridors followed automatically. For one, the two corridors are connected to Caracas Avenue. Implementing the TransMilenio technology only on Caracas Avenue would inconvenience passengers on those two corridors by forcing them to transfer. For

[1402] See Gómez (2003, p. 26).
[1403] Peñalosa (2003, p. 86, translation by author).

another, the Mockus-Bromberg administration had contracted out the retrofitting of the 80th Street corridor to busway technology—not the BRT technology TransMilenio eventually built.[1404] Further, the Mockus-Bromberg administration had purchased the necessary properties to widen the corridor in certain areas so that the busway lanes could fit. Gómez accepted Peñalosa's decision sometime in July of 1998 (see Figure 20, for a map of the TransMilenio network actually built and the feeder routes).

In August 1998 Mayor Peñalosa decided he needed to change the leadership of the team. Peñalosa was aware that the main aspects to get TransMilenio implemented were political.[1405] Specifically, Peñalosa knew that the negotiations with the bus operators had to lead to one outcome: the involvement of the operators in TransMilenio. The support of the operators was essential to insure TransMilenio's political feasibility. Peñalosa believed that the size and importance of the TransMilenio project was such that he could not delegate the responsibilities to a member of his cabinet. Cabinet members already had too many responsibilities running their agencies. Instead, Peñalosa wanted to create an independent unit that could coordinate the many city agencies involved in the project.[1406] Finally, Peñalosa was looking for "a creative executive, action oriented and focused on results, experienced, with contacts among the business elite, and with a great capacity to communicate ideas and convince."[1407]

[1404] A World Bank loan was funding the retrofitting of the 80th Street Corridor. The TransMilenio team had to convince World Bank planners that upgrading the designs to TransMilenio's standards was feasible. World Bank planners were reluctant to accept designs for buses with doors on the left side and stations on the median. By then Mauricio Cuellar worked for the World Bank's office in Bogotá in charge of the projects in transportation. Cuellar was instrumental in convincing other Bank planners of accepting TransMilenio's designs.

[1405] Prieto (2001b, no page numbers).

[1406] Montezuma (2003, p. 49). According to this author Peñalosa created several teams outside the existing agencies to handle the main projects in his administration's development plan.

[1407] Peñalosa (2003, p. 87, translation by author).

Figure 20. TransMilenio Network Phase I.

Source: TransMileno Co.
Note: Maps of Bogotá usually have the North direction pointing toward the left side of the page and not the upper end.

Peñalosa found the person he was looking for in Ignacio de Guzmán. De Guzmán holds degrees in law and political science.[1408] De Guzmán has a long experience in private business. Initially, de Guzmán managed the Center for Research and Social Action, a non-governmental organization owned by the Jesuits. This NGO would later on become CINEP, a well-known think tank and human rights center.[1409] He then managed the Workers Circle Foundation, also owned by the Jesuits.[1410] From this position, de Guzmán and others founded the Social Group *(Grupo Social)*. The Social Group owns several banks, insurance companies, and other large corporations. Owned by the Jesuits, the Social Group directs all of its profits towards the poor and other social programs. De Guzmán headed the group for more than ten years. Additionally, de Guzmán had been CEO of one of the largest privately owned financial groups in Colombia.[1411] De Guzmán's experience is therefore one that blends private enterprise with an emphasis on social issues.

[1408] Montezuma (2000b, p. 15).
[1409] Peñalosa (2003, p. 87).
[1410] Montezuma (2000b, p. 15).
[1411] Montezuma (2000b, p. 15); and Peñalosa (2003, p. 87-88).

Peñalosa admired the Guzmán's "ability for dialogue without losing his temper and his capacity to convince others." Peñalosa wanted de Guzmán to head the planning team for the TransMilenio project.[1412] Peñalosa wanted Carlos Gómez to be second in command, but Gómez had an offer to go to graduate school in the U.S. and resigned.

Peñalosa and de Guzmán agreed to the following at the outset. First, de Guzmán would have a high level of autonomy and direct access to the Mayor. Second, de Guzmán would have a highly qualified planning team complemented by best consultants in the world. The bidding processes for several studies started by Gómez yielded the consultants. By November, de Guzmán hired Catalina Navarro, German Lleras, Felipe Camargo, Rafael Arango and Jose A. Torres. De Guzmán organized the planning team so that each planner would accompany the work of one or more consultants. Each planner would know what the consultants were doing. This allowed the planning team to coordinate the many studies needed for planning TransMilenio. Thirdly, Peñalosa granted de Guzmán direct access to the main city agencies that would have to do with implementing TransMilenio. Peñalosa had already appointed de Guzmán to the Board of Directors of IDU, the agency in charge of building a physical infrastructure of TransMilenio. The Mayor also granted de Guzmán access to the STT's Secretary.[1413] Incidentally, there was a turf war between STT and the nascent TransMilenio planning team over which agency would be in charge of TransMilenio.[1414] Maria Elvira Perez, then STT's secretary would have to resign soon after for an unrelated issue. During Peñalosa's three-year term, he had six secretaries of transportation.[1415] Secretaries would not last in office in part because of their lack of support for Peñalosa's pet project. This partially hurt the implementation of TransMilenio.[1416]

Mayor Peñalosa and de Guzmán also agreed on the next steps. In the short term, the objective was to put TransMilenio in the political agenda of the city. While Peñalosa had been talking about his intention to transform the bus-based transport

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[1412] Peñalosa (2003, p. 87-88).
[1413] Interview by author with Enrique Peñalosa, June 2004; and Gómez (2003, p. 26).
[1414] Peñalosa (Forthcoming, p. 41).
[1415] Ardila (2000, p. 59)

system since the election, people were paying more attention to the metro. De Guzmán and his team needed to figure out how to put the people to talk about TransMilenio. Second, de Guzmán and his team needed to get approved in the City Council the creation of the Third Millenium Bus Company, TransMilenio Co. This company would be in charge of planning the system and concessioning the new and exclusive routes to the private sector. Finally, before Peñalosa's term ended, de Guzmán and his planning team had to carry out all the necessary tasks to implement TransMilenio and open it to the public. There were 26 months left in Peñalosa's administration. Among the tasks needed to implement TransMilenio one was critical. It was to negotiate with the bus operators, convince them of investing in the new buses, and finding ways to finance the then under-capitalized bus companies and bus owners.

De Guzmán had his own view on how the planning process for TransMilenio ought to take place. De Guzmán believed that the planning process ought to be dynamic and rich in feedback from stakeholders. To assemble the project, de Guzmán needed feedback from several stakeholders. But for the feedback to be useful, de Guzmán needed to understand very well the problem. More importantly, for de Guzmán it was critical to understand very well the interests of each stakeholder. Furthermore, for the Guzmán TransMilenio was not only a solution to a transportation problem. TransMilenio had clear political, economic, and social components that the planning team had to address. For all these reasons, de Guzmán needed an interdisciplinary planning team backed by the "best consultants in the world."[1417] Indeed, by that time Steer Davis Gleave was working on the transportation planning aspects of the project; McKinsey on the organizational aspects; Capital Corp. on the financial analysis; and Durán, Acero and Osorio on the legal aspects.[1418]

The planning team would therefore devote its initial efforts to understanding the problem and in particular the interests of the critical stakeholders. At the same time, the planning team would engage these stakeholders in order to get to know them,

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[1416] According to sources, career bureaucrats at STT issued permits and other documents to operators at a point in the process when this could hurt TransMilenio.
[1417] Interview by author with Ignacio de Guzmán, June 2001 and August 2000.
[1418] Peñalosa (2003, p. 86).

build relationships, and obtain feedback. For de Guzmán if in a planning process "one has to use force, something was done badly." Therefore, de Guzmán wanted a planning process that involved the key stakeholders. His experience at CINEP and Social Group had taught him the importance of finding simple yet creative solutions to problems. Equally important, de Guzmán knew that the process had to lead to win-win solutions. But finding these solutions required involving key stakeholders. However, for de Guzmán the participation of stakeholders is meaningful only if the planners and the politicians have absolute clarity on the strategic objectives.[1419]

Peñalosa agreed with de Guzmán's broad approach. For both men it was essential that the existing operators participated in the process. Peñalosa, however, wanted to follow what I dubbed the "good cop, bad cop" strategy. In this strategy, the bad cop approaches suspects with the intention of scaring them. The good cop then is nice to the suspects and usually obtains cooperation. Mayor Peñalosa would be the bad cop. Since the campaign Peñalosa had told the existing operators that he would do TransMilenio "with them, without them, or even against them." As the planning process advanced, Peñalosa would repeat this message, among others in the same line to reinforce his image.[1420] De Guzmán, on the other hand, would be the good cop. De Guzmán would emphasize to the operators that the TransMilenio project was "for them," that the reform of the transportation industry had to be done with the industry and not against it, and that it was possible for the operators to transform into modern and profitable bus companies.[1421] Peñalosa summarized the approach by saying: "I built an image of being a tough guy while de Guzmán built the image of being approachable and trustworthy. The operators figured it was infeasible not to participate in TransMilenio."[1422]

The role of planners

The previous section tells the story of how Mayor Peñalosa assembled a capable planning team for TransMilenio. Peñalosa knew that a solid team was needed. Leaving the project in the hands of a weak agency like STT would probably result in

[1419] Interview by author with Ignacio de Guzmán, June 2001 and August 2000.
[1420] Interview by author with Enrique Peñalosa, January 2003.
[1421] Interview by author with Ignacio de Guzmán, August 2000.

the quasi capture of the agency by the bus operators, as I showed above. The capable planning team for TransMilenio increases the chances that the government would the able to plan independently of vested interests. Yet at the same time, de Guzmán is aware of the need to interact with the critical stakeholders in order to get to know them and obtain feedback. By knowing the stakeholders the planning team will figure out ways of lowering power differentials as I show below. By obtaining feedback the team will be able to find out a project that is politically feasible.

The planning team also had to negotiate with Mayor Peñalosa—with limited success. Planners want to be cautious while the mayor is overly confident. Planners use a different political assessment than the mayor. Planners want to reduce risk for the city government in adopting TM. Peñalosa is aware of the risks and the political requirements. While Peñalosa agrees with the planners to implementing only three corridors, he wants planners to tackle Caracas Avenue—the corridor that embeds the highest conflict with the existing operators. Peñalosa's solution is to increase the political capacity of the planning team by appointing de Guzmán to head the team. De Guzmán is someone able to understand basic technical aspects. More important, de Guzmán is also an excellent negotiator and has excellent political abilities. De Guzmán values feedback and the participation of stakeholders in the planning process, provided there are clear strategic objectives. De Guzmán is a clear example of a project champion. As such, de Guzmán assembled an inter-disciplinary planning team to tackle the several aspects that planning a large transportation project entails.

Putting TransMilenio in the political agenda

As seen above, one of the objectives was to put the TransMilenio project in the political agenda of the city. To achieve this, de Guzmán and his planners followed a two pronged approach. First, they began their approach to the operators in order to get to know them, understand their business "even better that the operators themselves," and obtain some feedback. This alerted the operators. The Peñalosa administration was serious about TransMilenio. Second, the planning team staged a lavish event at the Municipal Theatre on December 10th, 1998. Inside the theater a

[1422] Interview by author with Enrique Penalosa, January 2003.

video showed how TransMilenio would look. Peñalosa spoke and announced his goal of building 104 Km. of busways on seven corridors.[1423] Yet the main event was outside the theater. Twenty two buses, mostly articulated and even one bi-articulated from Curitiba, were parked ready to ride people to the Bolívar Square, the main square in the city.[1424] The objective was to give people the chance to see high-quality buses, used in actual BRT projects around the world, and imagine the city with TransMilenio. As a result, the media began to report on the plans for TransMilenio. The planning team had plans to exhibit the buses in several other places in the city with high affluence of people. People began to talk about the new buses. TransMilenio was slowly creeping into the political agenda of the city.

Juan Carlos Díaz, who continued to work in the planning team under de Guzmán, had been responsible for bringing the buses from abroad to Bogotá. Díaz had started to learn about buses with the intent of figuring out what would be the optimal design for TransMilenio's buses. Díaz contacted 22 manufacturers in 12 countries. He visited many of the manufacturers and showed them the plans for TransMilenio. Díaz also convinced many of the manufacturers to send a bus to Bogotá not only for the December 10th event, but more importantly for testing. TransMilenio planners needed to know how these buses would work at the altitude of Bogotá. Planners, moreover, needed to determine the costs of operating those buses in Bogotá. The TransMilenio team hired the Mechanical Engineering Department at Los Andes University to carry out the tests.[1425] Hence, the media event that helped put TransMilenio in the political agenda of the city was in reality part of a broader effort to learn about the buses that could be used in TransMilenio. The ultimate intent was to design the ideal bus for TransMilenio and to learn on the actual operating costs of operating the buses.[1426]

[1423] Peñalosa (2003, p. 90).
[1424] Surrounding Bolívar square are the mayor's office, the supreme court, the capitol building and the national cathedral.
[1425] Interview by author with Juan Carlos Díaz, November 2001 and October 2003. See Huertas et al. (1999).
[1426] See Huertas et al. (1999, esp. ch. 2, 4, and 5).

Creating TransMilenio Co. in the City Council

The second objective established by Mayor Peñalosa and de Guzmán was to pass in the City Council the law creating the TransMilenio Co. This step was needed for two reasons. First, Peñalosa believed that the existing city agencies lacked the capacity to be in charge of the TransMilenio BRT project. Second, if the City Council approved the creation of the new agency the project would receive a huge political boost.[1427]

De Guzmán started to plan the strategy for passing the law in the City Council. No one in the planning team at the time knew well how the City Council worked. De Guzmán therefore hired Pedro Rodriguez to complement the planning team. Rodriguez had been Budget Director for the city government for five years. From this position he had been able to learn how the City Council worked.[1428] Rodríguez told the team that a common held belief in Bogotá was most likely untrue. Many people in Bogotá believe the City Council is in the hands of the bus companies and bus owners who hold a monopoly on the city's transit system.[1429/1430] Rodriguez argued that the influence of the bus operators on the council was much smaller. For Rodriguez, the councilors responded to any interest that mobilized but was not hostage of any particular group. Rodriguez therefore warned that the City Council would introduce amendments to the law creating TransMilenio Co. The team should be open to negotiating in order to secure the necessary support. De Guzmán then decided to approach the council by constantly having members of the planning team at the City Council to address any question the councilors might have.[1431] De Guzmán would later on recall: "We literally moved our quarters to the council." And a planner told me: "We were at the council from 7 a.m. to 7 p.m., talking to the councilors, answering

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[1427] Gómez (2003, p. 27).

[1428] Pedro Rodríguez became a City Councilor in the next election. He was in the third line in a list that got enough votes to elect one councilor. The first in the list could not swear in because he was under disciplinary investigation. Mockus appointed the second in the list to his cabinet. It fell of Rodríguez to take office as councilor. He is currently Secretary of Finance in the administration of Mayor Luis Garzón.

[1429] See Gómez (2003, p. 27-38).

[1430] Montezuma (1996, p. 155, translation by author, emphasis in original) says in this regard: "Ideas as popular as "the existence of a monopoly in Bogotá in transport" and that "renowned politicians are linked to the transport sector because they own buses" are not quite correct. The people who own more than two dozen buses are very few, marginal. There is some concentration of the most profitable routes in the hands of some companies, but *the ownership [of the buses] is not concentrated.*"

[1431] Interview with Pedro Rodríguez, October 2003; and other sources.

their questions, thinking about our next steps, and thinking how to best structure our arguments."

The Peñalosa administration submitted the draft legislation for the first time in November of 1998, but the council did not consider the bill.[1432] This happened two other times. Nonetheless, some council members began to gather opinions on the content of the proposed legislation. At the same time, the bus companies and bus owners began to draft their positions and demands in response to the bill. The original legislation submitted in November by the Peñalosa administration proposed the creation of a city-owned transportation company known as TransMilenio and defined the tasks it could carry out. The bill had seven articles.[1433] Following usual practice, the administration attached an analysis to justify the creation of TransMilenio Co, as well as the project's outline at the time.[1434]

The document explained that TransMilenio Co. would be in charge of managing and planning a BRT system that included new institutional arrangements for the provision of bus services.[1435] The remaining description contained several messages for the existing companies and bus owners, probably seeking to appease them. For example, the system would have feeder routes, initially operated by the existing buses.[1436] TransMilenio Co. would contract with private bus companies the acquisition and operation of the bus fleet.[1437] The document also mentioned that TransMilenio Co. would assume in its entirety the demand risk. TransMilenio Co. would pay the operators per kilometer logged and would guarantee a minimum payment enough to cover costs and a minimum profit.[1438] Further, the payment per

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[1432] Gómez (2003, p. 27).
[1433] See Alcaldía Mayor de Bogotá (1998).
[1434] See Alcaldía Mayor de Bogotá (1998, p. 29-44).
[1435] Lacking better pictures to illustrate their plans for a busway with modern buses, the planners used a diagram taken from the Transportation Master Plan done a couple of years before by JICA-Chodai-Yachiyo (See Alcaldía Mayor de Bogotá (1998, p. 36); and JICA-Chodai-Yachiyo (1995, Figure "Vista Perspectiva del Proyecto de Buses Expresos Propuesto," located at the beginning of the document). Notice that using a picture from the Transportation Master Plan that Mayor Peñalosa rejected can be interpreted as evidence that TransMilenio was originally conceived by the Transportation Master Plan. This is misleading since the TransMilenio project is quite different from what appears in the Transportation Master Plan.
[1436] Alcaldía Mayor de Bogotá (1998, p. 31).
[1437] Alcaldía Mayor de Bogotá (1998, p. 32).
[1438] Alcaldía Mayor de Bogotá (1998, p. 34).

kilometer would cover the depreciation of the bus,[1439] something that did not happen under the old fare structure.[1440] The document specified that the current bus owners and bus companies should assemble to form the new operators. But contrary to the prevailing arrangement, the bus companies would own the buses and could not affiliate other people's buses.[1441]

Many of these elements of the TransMilenio project alerted the bus companies and bus owners because of the impact on their interests. But it was probably three additional elements that not only alerted but also alarmed the bus companies and bus owners because they could entail the demise of their industry. First, the document mentioned that the TransMilenio project implied renewing the bus fleet with modern buses. Equally important, the document outlined plans for using a fleet of single-body buses for the off-peak and a separate fleet of articulate and bi-articulate buses for the peak period.[1442] Requiring one set of new buses for the off-peak period and a different set of buses for the peak period increased the capital investment beyond the possibilities of the existing operators. Most likely they would not be able to participate in the project. Foreign-owned companies would have to invest in TransMilenio.

The second aspect that alarmed the bus companies and bus owners was the centralized collection of the fare box by a concessionaire contracted by TransMilenio Co.[1443] In the existing system, the fare box money was always in the hands of the three actors involved in the provision of bus services in Bogotá—driver, bus owner, and bus company. But TransMilenio was proposing to handle directly the fare box and not allowing the new bus companies or drivers to be involved. Further, TransMilenio would only make periodic payments to the new bus companies. Based on their experience with STT and other government agencies, the bus companies and owners had reasons to doubt the proposed system would work. Risk was too high.

The final aspect that alarmed the bus companies and bus owners was the implementation schedule. The document established that by June of 2000 the city

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[1439] Alcaldía Mayor de Bogotá (1998, p. 42-3).
[1440] Alcaldía Mayor de Bogotá (1999, p. 18).
[1441] Alcaldía Mayor de Bogotá (1998, p.34-5).
[1442] Alcaldía Mayor de Bogotá (1998, p. 38).
[1443] Alcaldía Mayor de Bogotá (1998, p.39-41).

government would retrofit seven corridors with the TransMilenio technology. By the end of year 2001 the plan established that three additional corridors would be transformed into TransMilenio's technology. Finally by the year 2006 the TransMilenio network would cover 90% of the trips in the city. This accelerated pace meant that the local transportation industry would have to invest very large sums of money in very short periods of time if they wanted to participate in TransMilenio. Because the existing bus companies and bus owners were undercapitalized, this pace of investment was out of reach for the existing operators. Most likely, an international investor would have the capital and obtain the concessions. Further, as structured in this plan, they would have no alternative corridors in which to operate in just eight years. The local bus companies and bus owners would disappear.

Councilman Alejandro Ortiz contacted the bus companies and the bus owners and heard their opinions on the TransMilenio project. Councilman Ortiz was in constant contact with de Guzmán and the planning team. Ortiz found that the companies and owners seemed to agree that the bus system needed to change and that TransMilenio could offer a way out. But underlying was the fear that TransMilenio would be for foreigners and that the existing companies would not be able to participate in the project. Apetrans, the association of small bus owners, whom Ortiz had also contacted, shared this concern. Apetrans argued that TransMilenio would displace old buses. Given their lack of capital, the small owners would not be able to invest in the new buses. Miguel Angel Perez, the head of Apetrans, warned that TransMilenio would leave thousands of people without a job. This argument ringed with Ortiz and other councilors.[1444]

Ortiz consulted with Councilman Samuel Arrieta and with de Guzmán. Together they came up with the idea of including in the law that created TransMilenio several provisions to maximize the chances that the existing bus companies and even the bus owners would become the concessionaires of TransMilenio. The bus companies and bus owners agreed in principle. Ortiz and other councilors then amended the proposed bill to reflect the discussions with the bus companies and bus

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[1444] Interview by author with Miguel Angel Perez, October 2003.

owners.[1445] First, the bill now specified that TransMilenio would contract bus services taking into account in the bidding process the experience operating buses in Bogotá. The bus companies and bus owners had that experience and could bid with or without an international investor. But an international investor could not bid without the local companies and bus owners. Second, the bill now specifically prohibited TransMilenio from directly operating buses. TransMilenio had to contract out the services with the private sector. This prevented TransMilenio from becoming a state-owned monopoly. Third, the bill included provisions that forced TransMilenio to adequately manage the revenue raised in the fare box and insure prompt payment to the concessionaires. In sum, the amendments introduced by Ortiz and other councilors reflected many of the concerns of the bus companies and bus owners mentioned above. Moreover, the changes lower the risk to these stakeholders.

Councilman Mario Upegui, of a left-wing party, introduced another modification to the bill. Upegui had held hearings to understand the position of the bus owners. The bus owners pointed out that they were victims of the lack of proper state action. The bus owners argued that several provisions in Colombian law ordered the creation of escrow accounts to save funds for replacing the buses. However, neither the bus companies nor the state agencies had created accounts that worked to benefit the bus owner. The bus owners complained "Instead of promoting, supervising and enforcing the creation of the escrow accounts to renew the bus fleet, the state goes after the bus owner threatening to remove the old buses from the streets."[1446] Upegui therefore introduced an article in the bill to protect the bus owners. The article established that the Mayor of Bogotá would create an escrow account that *would* purchase the old buses displaced by TransMilenio. The account would also be used to help the bus owners and drivers become part of TransMilenio's concessionaires.[1447]

[1445] Interview by author with Councilman Alejandro Ortiz; and Ortiz et al. (1999, p. 113).
[1446] Upegui (1998, p. 3); see also Pérez (2001).
[1447] See Ortiz et al. (1999, p. 115-6).

Finally, Ignacio de Guzmán also modified the bill that created TransMilenio.[1448] His change sought to give TransMilenio Co. the possibility of receiving funds from the National Government.[1449] Recall that by this point in time, January of 1999, Peñalosa had decided he would not support the metro. Instead, Peñalosa wanted the national government to transfer the funds promised for the metro to TransMilenio. By amending the bill, the national government would be able to transfer the funds to TransMilenio.

The modified bill reached the Governance Committee of the City Council by the end of January of 1999. In the debates, de Guzmán spoke to defend the TransMilenio project and emphasize that the bus companies and bus owners would be included in TransMilenio. In turn, several representatives of the bus companies and the bus owners spoke opposing the project or some of its aspects. Finally, the article introduced by Upegui generated a large controversy. Thanks to the discussion, the councilors modified the article so that the escrow account *could* be used to compensate the bus owners affected by TransMilenio. As originally drafted the article forced the city to buy the buses. This gave planners the flexibility to use the funds in the escrow account to compensate the bus owners or transfer that responsibility to a third party—i.e. the new concessionaires.[1450] The committee approved the bill with 12 out of 13 votes.[1451]

The next step to approve the bill took place in the plenary session of the City Council. There, Councilman Bruno Díaz questioned the responsibilities assigned to TransMilenio. Díaz argued that STT was already supervising and planning the public transit system.[1452] The bill remained intact, however, because the Council's rules establish that the plenary may not modify the text of a law approved by a committee.[1453/1454] Other councilors raised the question of the impact of TransMilenio

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[1448] De Guzmán used the structure for the Metro Co. found in the draft bill to create this company. As seen, the City Council never created this company.
[1449] Gómez (2003, p. 30).
[1450] The planning team chose the latter approach because it reduced the chances of corruption.
[1451] Gómez (2003, p. 31-35).
[1452] Gómez (2003, p. 37).
[1453] Miranda (2001, p. 19-20).
[1454] Yet this issue would play out years later when a court suspended the law that created TransMilenio Co., precisely because the Council had assigned TransMilenio Co. responsibilities that belonged

on the bus owners and drivers. The bill, however, already had measures that tried to protect the interests of the existing bus companies, owners, and drivers. In parallel to these events, Mayor Peñalosa smoothed the process by allowing some councilors to name people of their clientele to the city's bureaucracy. Peñalosa told Miranda: "What we gave [some councilors] was support for their candidate for local mayor,[1455] third-level jobs or lower, and long-term contracts for some blue collar workers."[1456] Councilors interviewed by Miranda also agreed that not approving a law important for Peñalosa—such as the creation of TransMilenio—would have meant loosing contracts and jobs that the mayor was willing to give the councilors.[1457] The City Council approved the creation of the TransMilenio Co. on February 4th, 1999.[1458]

Interacting with the bus operators

The approval of the creation of TransMilenio Co. did not mean that the project could go ahead without facing other hurdles.[1459] That is why one of the broad objectives of Mayor Peñalosa and de Guzmán was to negotiate with the bus operators to convince them of participating in TransMilenio.[1460] Peñalosa had been to Curitiba and Quito,

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exclusively to STT. The City Government appealed the decision to a Superior Court (Consejo de - Estado). This court has not made a final decision at the time of this writing. If the Superior Court agrees that the creation of TransMilenio Co. is not valid, then the contracts between TransMilenio and the concessionaires might be declared void. (El Tiempo, "Suspendido Decreto," March 2nd, 2004). See also Tribunal Administrativo de Cundinamarca (2004), which contains the ruling.

[1455] Bogotá is divided into 20 localities. Each locality has a local mayor. Local mayors are appointed by the Mayor of Bogotá from a short-list submitted by the locality's council. City Councilor can have influence in the locality's council (See Secretaria de Gobierno, 1997).

[1456] As told by Peñalosa to Miranda (2001, p. 29, translation by author).

[1457] Miranda (2001, p. 29-30).

[1458] See Concejo de Bogotá (1999, p. 1).

[1459] Another major hurdle was the environmental permitting process. Initially the Samper government had determined that CAR, an environmental agency not belonging to the government of Bogotá, would issue the license for the metro. CAR, however, argued that the project was local and that therefore it should DAMA, the city's department of the environment. By the time Peñalosa became mayor, this agency was in the hands of supporters of Jaime Castro, former major of Bogotá. As seen, Castro supported an expensive set of sewer treatment plants. CAR demanded Peñalosa to invest hundreds of millions of dollars in expanding these plants. Peñalosa did not consider the plants a good solution and did not support CAR's petition. CAR, in turn, requested back to authority to issue the environmental permits on the metro and TransMilenio in September 1999. Peñalosa and de Guzmán, among others, lobbied President Pastrana and Jaime Ruíz to solve the issue through a decree to remove CAR from the process. After some controversy with the Ministry of the Environment, Pastrana issued the decree establishing DAMA as the authority, except for its own projects (see Peñalosa, Forthcoming, p. 58-60). For a summary of how the environmental permitting process for large transportation projects works in the U.S. see Ardila and Salvucci (2001, p. 119).

[1460] Peñalosa (Forthcoming, p. 61-2).

which had by 1995 adapted Curitiba's tube-station technology.[1461] Peñalosa was impressed by Curitiba's system, which used private operators under strong government supervision—major tenets of BRT service.[1462] Peñalosa also saw Quito's system but did not like the public company that owned and operated the electric buses, which did not cover operational costs.[1463] Peñalosa had also learned that in Quito the army's tanks had had to intervene to crush a strike by the bus owners who did not want to let the new system open.[1464] In Quito the existing operators were excluded altogether from owning and operating the new buses. Peñalosa therefore reinforced his conclusions that the private sector should own and operate the TransMilenio buses and that the local operators should participate in the project. Peñalosa and de Guzmán were unwilling to call the army's tanks on opening day.

In addition, McKinsey, the consulting firm in charge of structuring the project and designing TransMilenio Co., analyzed the situation and found that the bus companies and bus owners were critical stakeholders. For one, the bus companies and bus owners had power. First, they had established strong linkages to the ministry of transportation and STT and were able to obtain favorable legislation and supervision. Second, they could resort to strikes and protests that had yielded good results in the past. Finally, the bus companies and bus owners could file lawsuits to protect themselves against actions by the city government.[1465] For another, not including the current bus companies and bus owners in TransMilenio could have severe social impacts. Finally, the existing operators had some business experience that was valuable for TransMilenio.[1466]

In sum, the city government needed to interact with the bus companies to involve them in the TransMilenio project. Otherwise, the project would not politically feasible. But the existing bus companies could not participate unless they underwent a major transformation. They could no longer be companies that rented out routes to

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[1461] See "El Trolebús," www.quito.gov.ec/upgt/trole/sindex.html, accessed July, 2000; see also Arias (no date).
[1462] See Wright (2002a, p. 2); and Wright (2002b, p. 1-2).
[1463] Peñalosa (Forthcoming, p. 62).
[1464] Peñalosa (2003, p. 86-7).
[1465] McKinsey & Co. (1999a, p. 88); and McKinsey & Co. (2000, p. 7).
[1466] McKinsey & Co. (1999b, p. 5).

bus owners. TransMilenio operators had to be highly-capitalized and well managed firms that owned large fleets of articulated or bi-articulated buses, operated them, and maintained them to provide a high quality service under strong supervision by TransMilenio Co. Further, the new companies could no longer engage in the penny war; instead they would pay bus drivers a salary. In turn, the city would pay the operators per kilometer logged and not per passenger transported. The interaction and negotiations with the existing bus companies therefore had to minimize their opposition to the project and seek to transform them into modern firms.

Peñalosa and de Guzmán structured the negotiations with the operators around the "good cop, bad cop" strategy. Peñalosa did not admit in public his willingness to have the local operators be part of TransMilenio. On the contrary, Peñalosa, the "bad cop," would question the ability of the existing bus companies to transform themselves into the modern ones required by TransMilenio. Further, Peñalosa argued that the business would go to foreign investors because the local ones did not have the capital or organizational capacity. Peñalosa even used the Quito experience to argue that if needed the army would intervene. De Guzmán, on the other hand, acting as the "good cop" would always encourage the operators to transform themselves into the ones needed by TransMilenio. For de Guzmán, under different contractual conditions and incentives, the industry could be profitable and provide a high quality service. All this without having to change the actors. As the CEO of a bus company told me: "de Guzmán always told us that TransMilenio was a business that had to include us, that TransMilenio was for us. He never told us that TransMilenio was going to be against us."

In order to carry out the negotiations in an effective manner, de Guzmán reinforced the planning team by hiring Jose A. Torres. Torres had just finished in France an MBA with an emphasis in negotiation. De Guzmán put Torres in charge of the negotiations with the operators. De Guzmán and Torres approached the bus companies, bus owners, and the trade associations that represented them. Thanks to this initial interaction, de Guzmán and Torres discovered that the trade associations were not truly representative of the industry. Any decisions reached with the trade associations would most likely lack support from the bus companies. The experience

with Metrobús proves this point. Second, de Guzmán and Torres realized that the key stakeholders were the bus companies. There were 64 bus companies and this is a manageable number of actors to interact with. The bus owners and bus drivers, on the contrary, were too many and, according to de Guzmán and Torres, lacked any representation able to negotiate meaningfully with the city. The bus owners had many conflicts among themselves and lacked mechanisms to build consensual positions in response to TransMilenio's plans. Miguel Perez, of Apetrans, later on corroborated this argument.[1467] Therefore, de Guzmán and the planning team focused on the bus companies. Their next step was to identify who were the "natural leaders" among the managers and owners of the bus companies. De Guzmán and Torres figured that these leaders would be able to influence the remaining companies and convince them of participating in TransMilenio. Some of the CEOs of the bus companies emerged as the main leaders to talk to.

To approach the CEOs of the bus companies without alienating the trade associations and bus owners, de Guzmán and Torres followed a two-pronged approach. First, Torres and other planners went to talk to the CEOs to show them the project and obtain their reaction. Torres found that the CEOs were initially distrustful because of past experiences dealing with STT. Torres and his fellow planners had to show they were different. They admitted the project was not fully structured and needed further definition. Defining the project would be done considering the opinions of the operators together with a solid technical component. As Torres told me, "we approached the CEOs in a sincere, serious, and honest manner, showing managerial capacity." Torres contacted 95% of the CEOs.[1468]

These contacts led to a meeting at STT where the CEOs and TM planners agreed to create thematic committees. This was the second part to the approach. The committees would discuss the plans for TransMilenio with the bus companies, bus owners, and trade associations. The parties agreed to five committees: First, the technical committee was set to analyze the results of the transportation modeling and planning exercises. Second, the infrastructure committee was established to analyze

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jillo[1467] Interview by author with Miguel A. Perez, November 2001.
[1468] Interview by author with José A. Torres, November 2001.

the proposed designs for TransMilenio's busways. Third, the financial committee was created to study how to finance the acquisition of the buses and the profitability of TransMilenio's concessions. Fourth, the legal committee was set up to analyze legal aspects of the project. Fifth, a committee to analyze the restructuring of the existing bus routes, which had to take place to guarantee that TransMilenio's buses faced no competition.[1469] Planners regarded these committees as a "source of recommendations to support the decisions needed for planning TM."[1470] Each committee met once a week from 7 to 10 a.m., each on a different day of the week. Torres attended each committee meeting. Torres managed to have representatives of the trade associations, bus companies, and bus owners' attend the committees. Torres told me: "We had to take all these stakeholders into account and let them participate."[1471] The committees met for six months.

The objectives of holding both meetings with individual CEOs and meeting through committees were several. First, Torres and his fellow planners wanted to understand the transport sector. Second, the planners wanted to know what the bus companies, owners, and trade associations believed should be the future of the transportation system of Bogotá. Third, the planners wanted to obtain feedback on their tentative ideas on how to structure the many details of a complex project like TransMilenio. Fourth, the planners wanted to build a strong relationship with these stakeholders in order to build trust. Fifth, de Guzmán, in particular, wanted to convince the transport stakeholders that the planning process was going to take them into account in a meaningful way. Finally, de Guzmán wanted to convince them that TransMilenio was the way to continue in the business. As structured, the business of transporting passengers in Bogotá was not financially sustainable, as explained above.

The results of this interaction in two different settings were several. First, the planners were able to take into account the feedback from the stakeholders. The planners then went to the several consultants carrying out planning studies. Together

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[1469] "Informe de Avance del Proyecto TransMilenio," February 17th, 1999.
[1470] "Informe de Avance del Proyecto TransMilenio," March 3rd, 1999.
[1471] Interview by author with Jose A. Torres, July, 2001.

they analyzed the feedback from the stakeholders. At the next meeting, the planners presented an updated version of their plans in order to obtain more feedback and reactions. In many occasions the stakeholders agreed to the changes. But in many others, the stakeholders were reluctant to accept the proposals by the planners. One example was the financial projections that the planners with the help of consultants were building. These projections suggested that investing in the new buses and operating them under TransMilenio's conditions would be profitable. The stakeholders would suggest changes to the model. But very frequently they doubted altogether the figures used by the planners. As the CEO of a bus company told me: "in paper you can write any result you want, we wanted hard evidence and the TransMilenio planners did not have it." Slowly, therefore, the planners were defining the many details of TransMilenio aided by a constant interaction with the critical stakeholders. This interaction allowed planners to validate their ideas with the critical stakeholders and in the process make progress at convincing them of investing in TransMilenio. Yet doubts on the profitability of TransMilenio remained.

Second, the planners, but in particular Torres and de Guzmán, noticed that when they held meetings with a single CEO, the CEO was rather enthusiastic about participating in TransMilenio. At the committee meetings, however, probably as a result of peer pressure, the CEOs were less likely to be supportive of TransMilenio. De Guzmán realized that the negotiations where effective decisions would be made would have to be held CEO by CEO. "Never negotiate with a group of CEOs," said de Guzmán. Just as the planners for the Caracas Av. Busway in the late '80s, the TransMilenio planners had discovered that when in a group the representatives of the transport sector rarely agree with the Government. But individually these very same representatives were likely to agree to negotiate meaningfully with the city government.

Third, de Guzmán and Torres discovered that many CEOs were the sons and daughters of people who had started as bus drivers. Through sacrifice and saving, these drivers had managed to acquire several buses and even establish bus companies. With time, the sons and daughters of these former drivers became the CEOs of the bus companies. Some of these people had university degrees. But, due

to the poor image of the transport sector, the children of the current CEOs were not as likely to be proud of their parents' business. In fact, many hid from their friends what their parents did because they felt ashamed. De Guzmán figured that TransMilenio offered the opportunity to change this situation around. If the bus companies modernized and transformed into a real industry, then the children of the current CEOs would be proud of their parents business again. This argument helped lure some CEOs into paying attention to the proposal made by TransMilenio. As the CEO of a company that invested in TransMilenio told me: "people regarded us before as peasants who owned buses; now they see us as industry captains."[1472]

In the mean time, de Guzmán and some of the planners in the planning team, such as Jose A. Torres, Catalina Navarro and Pilar Rodríguez, met every week with Mayor Peñalosa. In those meetings, de Guzmán and his team reported on the progress of the planning for TransMilenio.[1473] There is evidence that the planners informed selectively the mayor on the results of their interaction with the transport stakeholders. For example, Peñalosa wrote regarding how de Guzmán and the planning team convinced the bus companies of participating in the project: "How he [de Guzmán] did it, I still cannot imagine it. But he did it."[1474] The planners reported some of the results but did not provide a detailed account. The constant interaction with the mayor, nonetheless, served the planners to contrast the demands of the stakeholders with those of the mayor. Pilar Rodriguez, one of the planners, told me in this regard: "Peñalosa had a very clear idea of what he wanted and it was very difficult for us to maneuver outside his objectives. The process with the citizenry, the bus operators, and others, was one of negotiating, of convincing them little by little that we were taking them into account so that at the end the conclusion they reached was the same one we wanted."[1475] Through this constant interaction with both the mayor and the stakeholders the planners were able to understand what was feasible and what

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[1472] For an example of how the media now regards those that invested in TransMilenio as industry captains see Revista Dinero, "Un empresario Innovador," December 2002. This article talks about Victor Raul Martinez, whose story I tell below.
[1473] See Peñalosa (Forthcoming, p. 76).
[1474] Peñalosa (2003, p. 90).
[1475] Interview by author to Pilar Rodríguez, June, 2004.

was not; at the same time that they convinced the stakeholders of the convenience of TransMilenio.

The role of planners

The previous sections illustrate very well the main arguments of this dissertation. Planners' main role is to interact with politicians and stakeholders. A first forum for this interaction is the City Council. A second forum is the individual meetings with CEOs and the committee meetings together with the periodic meetings with Mayor Peñalosa. The interaction shows planners ways of lowering the power of the critical stakeholders. The prime example is planners' discovery that meaningful negotiations[1476] had to be held with individual CEOs. At the same time, the interaction allows planners to expose their plans, persuade stakeholders, and discover what adjustments are needed. As a result of the changes, risk for the stakeholders is going down, as is the extent to which they oppose the project. Notice, however, that the changes are not major ones. The planners change some of the aspects the stakeholders care for. The broad essence of the plan remains. Yet this small changes are enough to lower stakeholders' risk and increase support for the project. At the same time, planners have in the mayor someone who knows very well the broad objectives of the project. The mayor does not allow planners to change these objectives and therefore offers planners a useful benchmark. The TransMilenio project, however, is flexible in many of its details. That is were planners have leverage and introduce small changes resulting from the interaction while keeping the broad objectives constant.

Finally, this entire dynamic is possible because the planning team is highly capable. The interaction validates plans formulated by the technical side of the planning team and suggests necessary adaptations. Notice, however, that this technical capacity is useful in the context of the interaction with politicians and stakeholders. Absent this interaction the technical capacity is not productive in terms of lowering risk and building support. The political side of the planning team, on the

[1476] This conclusion on the meaningfulness on the negotiations with individual stakeholders is valid only for the conditions of Bogotá. It is by no means a call to negotiate at the back of other stakeholders. The point is just that by interacting planners discovered ways of minimizing power differentials.

other hand, is in charge of interacting with politicians and stakeholders. At times this interaction demands "body-contact" politics, which many planners can find difficult to cope with. But the planning team has a high level of political capacity that is able to carry out the "body-contact" politics with the stakeholders—and with the mayor.

An operator says Yes to TransMilenio

By May of 1999 a group of bus companies incorporated a consortia known as SI99, or Integrated System 1999. The name embeds a symbol, for *sí* is yes in Spanish. This group of bus companies was saying yes to the plans for TransMilenio. SI99 manifested its interest of participating as a concessionaire in TransMilenio. Part of the reasons that explain why the companies assembled SI99 lies in the planning process followed by de Guzmán and his team. The constant interaction of planners and stakeholders through direct meetings and the committees gave information to the CEOs of the bus companies. Further, the interaction showed the CEOs that the plans for TransMilenio were flexible and could be adapted to incorporate many of the stakeholders' concerns. Further, it showed the CEOs that the TransMilenio planners were different to other planners they had seen before. For example, many CEOs I interviewed argued that the Metrobús project a couple of years before had set a negative precedent. In addition, the CEOs were used to a city agency, STT, which frequently demanded bribes and that they could not trust. "If TransMilenio had been planned by STT we would have never participated," one CEO told me. The TransMilenio planning team changed this around thanks to its leadership and the blend of capabilities of its members.

While the work of the planning team played a critical role, there was also an interesting process led by the CEO of one company and her siblings.[1477] The Martinez family interacted with other bus companies and convinced them of participating in SI99. Recall that the planners had had trouble showing financial figures that the transport stakeholders would believe. The planners had financial models suggesting the profitability of becoming an operator for TransMilenio. But the transport

[1477] This section is based on interviews by author with Milena Martínez, Victor Raúl Martínez, and Otto Sarmiento, aide to Mr. Martínez.

stakeholders doubted for the most part these analyses. The Martinez family, on the other hand, owned a bus company, Sotrandes, which years before had started a new practice after Milena Martinez, one of the siblings, returned from a Masters in Transportation Engineering in Israel. Sotrandes invested in a fleet of busetas, paid its drivers a salary and not on a commission basis, and had computers installed in each bus to supervise the operation. As a result of these changes, the quality of service had gone up. The user had noticed and rewarded Sotrandes by preferring this company's buses. Ridership went up as did profitability. The Martinez family, therefore, had the balance sheets suggesting that modernizing the industry would be profitable.

At the same time, the Martínez were among the leaders of Asonatrac, an association of bus companies. The Martinez started to promote their experiment but other members were reluctant to believing a company that owned buses would be profitable. Milena and her brother Victor Raul Martinez organized more than 10 trips to Quito, Curitiba, São Paulo, and Rio de Janeiro, among others. Victor Raul used to work for British Petroleum and holds an MBA. At the same time, Victor Raul began to argue with the other CEOs in Asonatrac about the business, its profitability and the need to change. The CEOs were reluctant to admit the need for change. Victor Raul and Milena then began to organize conferences and seminars with the CEOs of the bus companies grouped under Asonatrac. At the conferences, they would question the current model, argue the need for change, and present the figures from Sotrandes' balance sheets. Finally, in Rio de Janeiro, Victor Raul and other CEOs met with Eurico Divon Galhardi, owner of a large bus company in that city. Galhardi showed his company's facilities and told them the business was quite profitable. Galhardi recommended the CEOs to invest in TransMilenio.[1478]

Through all these mechanisms Victor Raul finally convinced the members of Asonatrac to form a group to bid for TransMilenio's concessions. Victor Raul came up with the name, *Sistema Integrado 99,* SI99, in November of 1998. Victor Raul would be the CEO of SI99 and his mission would be to assemble a team capable of negotiating with the TransMilenio planning team. In March 1999 de Guzmán

convinced several CEOs of travelling together to Curitiba, São Paulo, and Quito to see together those successful experiences.[1479] On May 13th, 1999, the members of SI99 officially announced they would incorporate the firm. Victor Raul called the mayor's office and spoke with Edgar Sandoval, then private secretary of Mayor Peñalosa. Sandoval and Peñalosa could not believe it. Peñalosa said: "These people have to be crazier than me!" The approval rating for Peñalosa was very low. The movement to recall the mayor had enough momentum to make even Peñalosa fear the election would take place. Peñalosa might not finish his term in office. Moreover, TransMilenio Co. had not been incorporated yet, despite the City Council's approval to create it, because the funds from the reduction in capital of the Power Company were not available yet.

In conclusion, the Martinez family knew that modernizing a bus company by acquiring buses and operating them under sound managerial practices was profitable. The Martinez family was awaiting an opportunity for expanding their practices. Mayor Peñalosa's idea to implement TransMilenio presented that opportunity. Three factors allowed the Martinez family to finally create SI99—the would-be largest operator of TransMilenio. First, the leadership of Milena and Victor Raul Martinez to pull together the companies belonging to Asonatrac into SI99. Second, Milena and Victor Raul could use the experience of their own company, Sotrandes, to backup their claims that a modern bus company was profitable. Third, the planning team for TransMilenio was open to interacting with stakeholders such as the Martinez family. The significance of SI99 in the process is high for without it "the definition and execution of the BRT project would have been much more difficult, almost impossible."[1480] Planners in the TransMilenio planning team agree with this statement.

Shaping the TransMilenio project

Parallel to these events, the TransMilenio planning team and the teams of consultants were advancing in defining many details of the project such as the terms of reference

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[1478] Interview by author with Eurico Galhardi, April 2003.
[1479] Gómez (2003, p. 38); and Peñalosa (2003, p. 90). Notice that many CEOs had already travelled on their own to many of the cities they visited with de Guzmán.
[1480] Montezuma (2003, p. 60).

for the concessions to operate the TransMilenio buses. The shaping of the project, however, did not happen in a political vacuum. There was a constant interaction between planners, Mayor Peñalosa, and stakeholders such as those related to the transport sector as well as neighboring communities. The team of top-level consultants helped the planners resolve the technical problems that the interaction with other actors continuously unveiled.

At one of the first meetings of the consultants and the planning team, Peñalosa emphasized that he did not want consulting reports that recommended solving the problem by calling "customer" the bus passenger. Peñalosa, further, did not want the consultants to follow the usual planning approach of studying the problem, establishing alternatives, evaluating them, making a recommendation, and having the decision maker choose one for adoption. Peñalosa knew that the solution was BRT. Instead, Peñalosa wanted the consultants to establish how to get this BRT project implemented. Peñalosa told the consultants that they should be working out of the offices of the TransMilenio planning team, side by side with the planners. Notice that Peñalosa narrowed the broad options planners could consider to BRT and its implementation. This decision by Peñalosa to narrow planners options can be understood in the context of the criticality of time and the limited duration of the window of opportunity. Peñalosa himself had chosen BRT before the election and therefore it is this proposal that can be considered during the window of opportunity. Allowing planners to consider other alternatives will only waste precious time towards achieving the mayor's main goal of seeing TransMilenio implemented.

By telling the consultants to focus on how to implement his plans and by having consultants and the planning team work together, Peñalosa achieved three things. First, the planning team and the consultants had to think in terms of how to implement what they were planning. Planning and implementation were strongly linked together. This brought about technical, political and financial realism, among others. Second, the consultants benefited from the interaction by the members of the planning team with relevant stakeholders and the mayor. Each planner in the planning team was a liaison to one consulting team. The liaison could report any new information to and

from the consultant. The consultants were able to provide better recommendations than if they had been working alone from their offices.

The third point is a result of the previous two and is the most important one. At the same time that the interaction between planners and stakeholders enriched the consultants' work, the recommendations by the consultants forced the planning team to interact further with stakeholders. The end result was a continuous interaction among actors that generated further feedback for all parties involved and that continuously shaped the project. The final reports by the consultants certainly capture some of this interaction. But because the interaction among actors went beyond, the final reports fall short of the work actually developed by most of the consultants.[1481] Put differently, the consultants' work improved in quality because of the proximity to the planners who were interacting with the mayor and relevant stakeholders.

To illustrate the three previous points I use examples from one of the most important consulting studies done for the planning of TransMilenio. This study did the transportation planning for the project. The British firm Steer Davis Gleave (SDG) carried out the study. The study implied estimating the demand, designing the busways, determining the size of the bus fleet, and planning the operations of the system and its implementation.[1482] This study was critical because its results served as inputs to the other studies. For example, the demand estimates were needed for the financial structure of the project and to design the stations. SDG subcontracted most of the work with the firms Logit of São Paulo and Logitrans of Curitiba.[1483] To head the project SDG hired Paulo Custodio who had ample experience in BRT planning in the city of São Paulo.[1484] Custodio believes that technical models are limited. Therefore, stakeholders and politicians need to validate any technical result.[1485] And Custodio and his team offered a solid technical foundation to plan and

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[1481] The dynamic process involving consultants did not occur in Curitiba. According to several sources, the City of Curitiba has made little use of consultants for its planning needs.
[1482] See Steer Davis Gleave Inc. (2000).
[1483] Custodio and Mongui (2003, p. 13).
[1484] Pedro Sazs, also from São Paulo, was part of the team. Sazs had participated in the planning of the Caracas Av. busway in Bogotá 10 years before. For Logitrans participated planners such as Garrone Reck and Eraldo Constanski, both of whom had worked with Mayor Roberto Requião.
[1485] Interview by author with Paulo Custodio, November 2002

engineer TransMilenio. SDG started its work in January of 1999 and turned its final report in April of 2000.

First, because planning and implementation were linked together, SDG planners faced strong pressure to produce results that would allow the project to open before the mayor's term was over. SDG's report, therefore, consistently made reference to issues that will only happen if the project is implemented. For example, the report states that "the main obstacle for the [TransMilenio] project lies in traffic management and control of the existing bus system."[1486] That is, the expected demand on TransMilenio's busways depended on whether the existing routes were modified to eliminate direct competition. SDG planners found that if the existing bus route system was not modified then demand on TransMilenio would go down by 10%, the fare would go up by 15%, and risk would increase by 25%.[1487] The adequate implementation of TransMilenio was contingent, therefore, on modifying the old route system.

Second, an example of how the interaction between planners, stakeholders, and politicians benefited the consultants' work comes from the location of the stations along the busways and the design of the feeder routes. As the community began to learn about the plans to build the busways, some people requested information at the TransMilenio offices. Some people even requested the planners to go to the neighborhood to present the project and the designs. At these meetings planners received feedback from the community. In all, TransMilenio planners held more than 300 meetings with the community.[1488] Planners would face the problem of convincing the community that it was still possible to introduce some changes to the project. People were used to past practices where government representatives would come to inform decisions already made. Planners for TransMilenio then went to talk to SDG consultants who would provide a technical opinion. The location of some stations as

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[1486] SDG (2000b, p. 24); and SDG (2000a, ch. 3). exucutive summary.
[1487] SDG (2000b, p. 38).
[1488] At one point, the TransMilenio planning team sent "technical" planners to the meetings with the community. These planners did not know how to interact with a community and how to present the project. The community got irate because the planners suggested all the decisions had been made and the project could not change. Aware of the potential political cost, de Guzmán sent "political" planners

well as the designs of the accesses to some stations were changed as a result of this interaction. This brought about political support from these communities for the project. In other cases, however, it was impossible to agree to the change suggested by the community. In these cases, planners offered to explore the issue and see if there was another way of addressing the community's concern. Occasionally, planners could not do much and had to go against the community. En example is the location of one of the bus depots on 80th Street. This last case, however, was not frequent, according to my interviews. But the interaction was not limited to neighboring communities. Members of the planning team also reached out to community-based stakeholders such as associations of handicapped people in order to improve the design of the stations and buses.

Planners also interacted with the mayor and the nascent technical team of SI99 and other would-be concessionaires. Mayor Peñalosa had been to Curitiba and had decided he wanted a similar system but with pedestrian overpasses to access the stations. Passengers would therefore use a pedestrian bridge to enter the station. In that way passengers would by pass traffic to enter a station. This idea was feasible only in the 80th Street and Auto Norte corridors. But along the Caracas Av. Corridor it was not feasible because to build the over passes, the city government would have had to demolish several houses. SDG planners argued that with traffic lights and proper signage passengers would have safe access to the stations. The team of architects supported this position. Peñalosa did not want to change his original idea. Finally, de Guzmán and other planners figured that building overpasses along Caracas Av. would delay the project because the city would have to expropriate hundreds of properties. This argument convinced Peñalosa.

For the design of the operations of the buses, the SDG team benefited from the interaction between the TransMilenio planners and the would-be concessionaires. The would-be concessionaires did not have the equivalent technical capacity of SDG. Their main interest was to learn and voice initial concerns. For example, the original plan for TransMilenio called for having two sets of buses, one for the peak and

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to the same community. This time, the planners followed the approach described in the main text of suggesting that there was a possibility to modify the plans for TransMilenio if needed.

another for the off-peak period. Would-be operators argued that this would unnecessarily increase the cost of the project. SDG planners agreed after some analysis. The solution was to have only one set of buses. Initially SDG planners wanted to use bi-articulated buses as in Curitiba, given the high ridership. Planners from McKinsey objected on the grounds that only Volvo in Curitiba manufactured the engines and chassis for bi-articulated buses. The limited competition would increase the cost of the project. SDG planners argued that this had not happened in Curitiba. In the end Mayor Peñalosa backed McKinsey planners and the decision was to use only articulated buses for the main corridors. The scheme benefited also the stakeholders. Victor Raul Martinez, of SI99, summarizes the process: "The discussions with TransMilenio and its consultants was very valuable, because they were the ones with all the theoretical knowledge and we had the local experience and the will to learn."[1489]

A similar debate between planners and would-be concessionaires took place regarding whether the buses should be high-platform or low-platform. Many would-be concessionaires wanted low platform buses, because they could be resold once the contract with TransMilenio Co. expired. High-platform buses, on the other hand, had no value because they can only be used if there is a station. Mayor Peñalosa wanted high platform buses, with doors on the left side, to minimize the chances that the existing buses could use TransMilenio's facilities. Further, Peñalosa believed the high-platform buses prevented the driver from stopping outside the station and minimized user fraud. Technically speaking there was not much difference between the two types of buses. However, planners estimated that low platform buses could cost US$ 10,000 to $20,000 more per bus. To ensure the support of the would-be concessionaires, the decision was to allow proponents to decide which type of bus they wanted to use. The conditions of the bidding process would then have a clearly defined process for determining which type of bus would be finally used. Bidders proposed to use the high-platform bus, the one Peñalosa and the planners favored.

Finally, as said above, the process was such that the recommendations by the consultants motivated the planners to interact further with relevant stakeholders. A

[1489] Prieto (2001a, no page numbers).

critical example is the finding by SDG planners that the project would be feasible only if the existing routes where modified to eliminate direct competition with the new system.[1490] Once TransMilenio Co. assigned the concessions, de Guzmán, Torres, and other planners devoted most of their energy to convincing the CEOs of the bus companies to accepting changes to the routes that competed with the project. I describe these negotiations below to maintain the chronological development of the case.

While I used the example of the transportation planning study, it is important to highlight also the roles of the other consultants. One example is McKinsey & Co., which was in charge of designing and helping set up TransMilenio Co. In addition, McKinsey provided advice on many issues that emerged as the process advanced. Peñalosa wanted a large consultant such as McKinsey because of the pool of expertise world wide it could use. [1491]Other studies were the financial one done by an investment banking firm, Capital Corp, and the legal advisor, Durán, Acero & Osorio. BRT projects are highly complex and they entail much more than building busways. Further, the planning cannot be limited to standard transportation practice. Legal, financial, and other issues are part of adequately planning a BRT system. In particular, the institutional arrangements are critical. For one, a capable agency is needed to supervise the operators and plan bus service. For another, the participation of the private sector is essential in cities such as Bogotá and Curitiba where private investors already operate buses.

Finally, it is important to offer a counterexample. The consultants that won the bid to carry out the architectural designs, Guía, were from Medellín and carried out most of their work from that city. Consequently, these consultants did not interact as much with the planning team. As a result, the designs Guía submitted had two flaws. First, the level of detail did not allow IDU—in charge of building TransMilenio—to contract out the manufacturing of the metallic stations (Figure 21). The lack of detail

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[1490] Planners estimated that the first phase of TransMilenio, with three busways, would affect the routes owned by 51 bus companies. Twenty companies had to eliminate and modify routes; and 31 only had to modify routes (McKinsey & Co., 2000, p. 6).

[1491] Peñalosa (Forthcoming, p. 64); and Peñalosa (2003, p. 85-6).

could have delayed opening date beyond Peñalosa's term in office.[1492] Second, the original designs had a cost the budget allocation for TransMilenio could not afford. Planners at IDU and TransMilenio, including Andrés Pacheco, Carlos Torres, María Bolaños, and Pilar Rodríguez, had to contract out the detailing of the designs and figure out ways of lowering the costs by 60% or more.[1493]

Figure 21. TransMilenio Station Inside

Concessioning TransMilenio's bus routes

To design the concession contracts and the terms of reference for the competitive bid, de Guzmán and his planning team followed the same approach described in the previous section. First, the team had talked for months to the bus companies and bus operators and knew what they could accept. Second, legal consultants, mostly lawyer Nohora Acero, structured the backbone of the concession contracts.[1494] To maximize the level of feedback, de Guzmán and his legal advisers had the idea of issuing an

[1492] Peñalosa (Forthcoming, p. 80-4); and Peñalosa (2003, p. 88-9).
[1493] Interview by author with Pilar Rodríguez, February 2001.

informative memorandum. This memorandum contained the draft terms of reference for the bidding and a draft contract. Not only would-be concessionaires but also a series of interested parties and citizens reacted to the memorandum. The planning team issued the memorandum in June 1999.

The memorandum established that out of the 1200 total possible points for awarding a concession, 400 were for showing experience operating bus routes and buses in the City of Bogotá.[1495] Any interested investor would have to make an alliance with local bus companies. The local bus companies, moreover, had the highest chances of ending up being the concessionaires of TransMilenio's bus services. The CEO of a bus company told me: "the informative memorandum showed us that the city government was honoring the commitments made by de Guzmán and his team." Another one told me: "some of us suspected the city government had pre-chosen the concessionaires from international investors. The informative memorandum showed us the process would be competitive and local bus companies had the best chance." Further, the memorandum also gave 50 points to proponents that bought their bus fleet in Colombia.[1496] Indeed, planners had also interacted with the manufacturers of bus body works who convinced the planners about their eventual capacity to produce the articulated buses—the first time this would happen in Colombia.[1497]

The bus companies submitted a set of comments to the draft contracts and terms of reference, many of which were incorporated. Specifically, the bus companies wanted to minimize their risk on investing in the new buses. The bus companies suggested a demand guarantee, which TransMilenio planners rejected. The bus companies then suggested that the city paid a minimum of 850,000 Km during the lifetime of the bus. The city accepted but on the condition that once the fleet reached

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[1494] See Baquero (2004, p. 86) for why a concession scheme was the most convenient from a legal perspective.
[1495] TransMilenio (1999, p. 55).
[1496] Trans Milenio (1999, p. 55).
[1497] SI99 is the only operator that used Brazilian-made buses. The other concessionaires used buses assembled in Bogotá on Brazilian-made chassis and engines. Indeed, TransMilenio generated a south-south technology transfer between Brazil and Colombia. Ardila and Morrison (2002) explore the reasons why the technology transfer was successful.

850,000 km of usage the concession will come to an end.[1498] By now TransMilenio planners had assigned the demand risk to the operators and not to the city as originally intended.[1499] Some bus companies accepted this because their own analysis indicated that demand was going to be higher than originally estimated. If this happened then profits would be higher. Further, the bus companies had learned that the operational measures proposed by the SDG study would lower the costs of operation. Risk was low, therefore.

Other issues were the following. The draft contract specified that the operators would be paid once a month for the number of km logged during that period. The bus companies, used to seeing the money on a daily basis, balked at the idea. Finally they agreed that the payment would be every week. Further, the operators, as seen above, were reluctant to have the city government manage the funds directly. TransMilenio planners proposed that a fiduciary company be in charge of managing the funds and paying the operators. The bus companies were glad to see that the contract included provisions for setting the fare in a technical way. Before it was a political game between the city government and the bus companies. Finally, Otto Sarmiento of SI99 noticed that the environmental management provisions were not stringent enough and recommended changes. Sarmiento, as Victor Martínez, had worked in the oil industry and knew the damage the improper handling of lubricants can do to the environment. TransMilenio planners accepted and expanded the recommendations. SI99 also recommended to establish an anti corruption agreement for the bidding process. De Guzmán called Transparency International, an NGO that fights corruption, to oversee the bidding process but they could not reach an agreement. The parties then agreed to put in the contract clauses to prevent corruption.

The informative memorandum and subsequent adjustments to the contract lowered enough the risk for the would-be proponents. In September 1999, 25 bus

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[1498] See TransMilenio (2000, p. 147).

[1499] See TransMilenio (2000, p. 132). Note that as in Curitiba, in TransMilenio the payment to operators is per distance logged. But contrary to Curitiba where the city bears the demand risk, in TransMilenio this risk is assigned to the operators. In Curitiba operators receive a payment per km logged regardless of actual demand. If demand is too low the city has to find the additional funds. In TransMilenio the agreed payment per km logged is the basis, but what determines the final payment to the operator is

companies and over 500 bus owners incorporated SI99,[1500] the first proponent. In that same month, a group of 28 bus companies created Express del Futuro. Soon after a large industrial group from Cali and CGEA Transport from France partnered with Sidauto, a large bus company, to create the Consorcio Internacional del Transporte Masivo, the third bidder. A fourth bidder, Metrobús S.A., assembled later on, involving again large local investors partnering with some bus companies.[1501] In total, 58 out of the 64 bus companies became part of these four bidders.

On October 13th, 1999, the city government officially incorporated TransMilenio Co. Mayor Peñalosa appointed Edgar Sandoval as TransMilenio's first CEO. De Guzmán continued as general coordinator of the project, without an official post at TransMilenio. On Dec. 6, 1999, TransMilenio Co. issued the request for proposals for the concessions to own and operate the new buses.[1502] By April, 2000, TransMilenio Co. signed contracts with three of the aforementioned bidders. SI99 won the concession for the largest number of articulated buses with 160. Express del Futuro won a concession for 120 buses; and Consorcio Internacional del Transporte for 100 buses. The bid, however, was not as successful; planners expected four proponents and only three submitted a bid. The city government had to open a new bid, which Metrobús won for 90 buses.[1503]

TransMilenio opens doors

Parallel to the events in the previous section construction of the three busways advanced at full steam. The objective was to have them ready before the mayor's term was over. IDU, headed by Andrés Camargo, was in charge of the construction.[1504] This objective was partially achieved late in December of 2000. Pilar Rodriguez was the liaison between the TransMilenio planning team and IDU; Maria

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the actual demand. If demand is above the estimated one, the operators receive a higher payment per kilometer logged.

[1500] Prieto (2001a, no page numbers)

[1501] This Metrobús S.A. company has nothing to do with the Metrobús company that won the bid during the Castro administration and unsuccessfully tried to plan and implement a BRT system during the Mockus administration.

[1502] Gómez (2003, p. 41).

[1503] Fuquen (2000, p. 43). For TransMilenio's second phase the existence of a precedent, and planners work at structuring the terms of reference, resulted in five bids for three slots.

[1504] Peñalosa (2003, p. 88).

Bolaños was the IDU liaison for TransMilenio. This structure insured a good communication and cooperation between the two organizations.

Three critical issues remained to be solved before TransMilenio could open doors, however. First, the local banks were not willing to lend millions of dollars to the concessionaires for purchasing the buses. The bus companies participating in the concessionaires lacked, for the most part, proper balance sheets and could not show sufficient assets. Members of the concessionaires had to look for additional funds and negotiate with the banks. In parallel, Mayor Peñalosa began to pressure the banks to issue the loans. In turn, de Guzmán and Sandoval explained the TransMilenio project to the banks trying to convince them of issuing the loans.[1505] Specifically, they explained the way McKinsey had designed the formula to compensate the operators. As said, the payment per kilometer logged is only the basis for the payment; the final payment depends on actual ridership, which resulted higher than anticipated.[1506] The banks agreed to finance all four concessionaires.[1507] SI99 had to go to Brazil in search of supplier loans and loans from the National Development Bank of Brazil (BNDES). In the end, the project was so successful because ridership exceeded expectations that the concessionaires obtained better loan terms and paid some loans in advance.

Second, the existing bus routes needed to be changed to eliminate any direct competition with TransMilenio's busways. Trade associations such as Conaltur argued that the CEOs should not negotiate any change. This would force the city to modify the routes on its own. This could allow the bus companies to file lawsuits seeking compensation.[1508] The city government, on the other hand, had legal studies and even a ruling by the Supreme Court suggesting that it could modify the routes on

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[1505] Peñalosa (2003, p. 90-1).
[1506] Financial planners designed the payment to cover operational and capital costs plus a profit under the assumption that demand in the first three busways in TransMilenio was going to be around 672,000 passengers per day. Actual demand is close to 760,000. Profits are higher than initially estimated. Notice, however, that risk was also high and that therefore higher profits compensate for the risk.
[1507] Anecdotal evidence indicates that Express del Futuro and Metrobús are now owned mostly by large capitalist investors who bought out the original bus companies they partnered with. SI99 continues to be owned entirely by the bus companies that created it, and Consorcio Internacional del Transporte Masivo continues to have the original property structure, with one bus company.
[1508] See Trujillo (2000, p. 126-7).

its own.[1509] However, to minimize risk for the city the TransMilenio planning team decided to negotiate with the CEOs. Recall, however, that earlier on the planners had discovered that the CEOs would agree in private to things they would reject in public. De Guzmán and his team met with each CEO and offered them to negotiate the changes to the routes. De Guzmán, moreover, played a trick on the CEOs. He told each CEO that he or she was the first one his team visited. This would translate into a first mover advantage. De Guzmán also told the CEO not to communicate with other CEOs, because this might endanger the entire scheme. All of the CEOs believed this plot. Once the routes were changed, the CEOs discovered that the excessive number of buses in the city made most of the routes marginally profitable. None of the CEOs I interviewed complained about de Guzmán's strategy. One told me "de Guzmán got to know us very well and simply used our internal divisions to achieve peacefully something that was needed to make TransMilenio work." The last CEOs signed the changes to the routes on December 15, 2000—three days before TransMilenio's first buses started rolling.[1510] Conaltur's strategy of seeking compensation did not work.

Third, and related, the bus owners knew the TransMilenio project would displace them. They demanded compensation from the city government. TransMilenio planners estimated that the first three busways would displace 5000 old buses. But TransMilenio planners had negotiated for the most part with bus companies. It was therefore up to the bus companies whether they would include or not the bus owners in the new operators. As seen, SI99 included more than 500 bus owners. Express del Futuro might have included a few hundred, and the other two included none. The bus owners were therefore the ones excluded and most affected by TransMilenio. The negotiations at the City Council to approve the creation of TransMilenio Co. resulted in the creation of an escrow account that could be used to purchase the buses displaced by TransMilenio. Mayor Peñalosa and planners for TransMilenio were reluctant, however, to use these funds to acquire buses. In essence they feared a city agency could mismanage the funds. Because of these reasons planners proposed

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[1509] Peñalosa (Forthcoming, p. 78).

[1510] The corridors on which the old buses displaced by TransMilenio operate now have deteriorated because of the increased traffic, associated pollution, and road damage.

that for each new articulated bus, the concessionaires would have to purchase and destroy 2.7 old buses. Showing proof of the destruction of the old buses would be a requisite for the city to allow a concessionaire to start operating a new articulated bus. This mechanism compensated 1,318 bus owners for the removal and complete destruction of their old bus.[1511] In addition, to mitigate the impact on bus owners, planners had foreseen the use of 1,500 of the existing buses to serve the feeder routes. This mechanism worked partially because companies such as Sotrandes and Sidauto offered to provide the service with new and better-designed buses.

Bus owners led by Miguel Angel Perez, of Apetrans, led the demand for compensation. Apetrans organized several strikes. Some strikes targeted directly TransMilenio's plans. Yet most of the strikes sought from the national government provisions to extend the useful life of the buses and to create a fund to finance the acquisition of new buses.[1512] As the day to open the project loomed, the strikes became more frequent[1513] forcing Mayor Peñalosa to negotiate with Apetrans. The Mayor and Perez agreed to create a commission to study how to mitigate the negative impact on the bus owners.[1514] But because Peñalosa was days away from leaving office, the agreement had little value—it was up to the new mayor, Antanas Mockus, to follow through. Perez was aware of this reality but showed the agreement as a victory. For Perez it was clear that the bus operators had no choice but to seek ways to participate in TransMilenio. As structured, the business of owning old buses was not sustainable. TransMilenio's future stages offered the way out for them. Perez told me: "the future of the bus owners is to organize themselves and become part of the

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[1511] Gómez (2003, p. 54).

[1512] Apetrans soon convinced the Ministry of Transportation and Congress of enacting a law extending the useful life of buses to over 30 years (El Tiempo, "Peñalosa, más críticas al Ministerio de Transporte," June 23rd, 2000. On August 23rd, 2001, Congress passed a law creating a national fund to renew the bus fleet. The law also established that for the first time the fare charged to the user would have a component to compensate the capital invested in the bus. Bus owners are expected to deposit daily in the bank this amount. Bus companies are responsible for supervising this operation (see Law 688 of 2001).

[1513] See El Tiempo, "Bogotá fue bloqueada," December 5th, 2000; and Portafolio, "TransMilenio aseguro recursos por tres años," December 5th, 2000.

[1514] El Tiempo, "Arranca TransMilenio," December 16th, 2000.

concessionaires of the new stages of TransMilenio. We want to be part of TransMilenio. They have to let us in. "[1515]

Peñalosa understood the need to involve the bus owners in the next stages of TransMilenio. From his position as a former Mayor and creator of TransMilenio, he lobbied Sandoval and other planners at TransMilenio Co., now working for Mayor Mockus. Peñalosa wanted TransMilenio to establish as a condition for the new concessionaires to have bus owners among the shareholders.[1516] Mayor Mockus supported the TransMilenio project as a candidate. Mockus instructed his team to work towards carrying out the second stage of the project, which included three new busways. Indeed, the coalition supporting TransMilenio was strong enough to insure that the project continued at least during the Mockus administration.[1517] For the second stage of TransMilenio, the three new concessionaires have 1,850 bus owners

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[1515] Interview by author with Miguel Angel Perez, December 2001.

[1516] Peñalosa (2003, p. 93-4).

[1517] Claudia Vásquez, Secretary of Transportation during Mockus' second term argued that TransMilenio's first stage improved the service to less than 10% of demand. Vásquez also argued that the subsequent stages of TransMilenio would take much longer to complete than originally planned. She proposed to implement an intermediary system that would improve the quality of service while TransMilenio arrived to those corridors. Originally, Vasquez's plan implied the construction of small facilities and re-assigning the bus routes to the bus companies that offer to use the newest part of their fleet. She called the project the Circuitos project. Vasquez assembled a planning team with "technical" planners only, and no "political" planners. The technical planning team designed its plans with little or no interaction with the key stakeholders, the bus companies (or the users). The bus companies were split. A few supported the idea. But most companies saw in the Circuitos project a threat. Specifically, after investing in TransMilenio many lacked the required capital. Bus owners also regarded the initiative as a way of accelerating the pace of change, which was already hurting them. Finally, Peñalosa saw in the initiative a direct threat to TransMilenio. For Peñalosa the Circuitos project was a way of empowering the regular bus companies and making them impregnable. Peñalosa moved his allies in the City Council and told them to oppose any initiative Secretary Vasquez presented. At the same time, many bus companies and bus owners demanded Mockus to fire Vásquez. Interviews with the CEOs of the bus companies reveal that they missed someone like Ignacio de Guzmán or Jose A. Torres in the planning team. CEOs complained of finding no planner willing to listen in a meaningful way. As the CEOs voiced concerns about the initiative, the response by the planning team was, "we can introduce these changes, because we are the government and we know what is better for you." Early in 2002 Vásquez resigned. Vásquez's successor, Javier Hernández, implemented a watered down version of the project that implied the construction of no facilities. Some bus companies liked the idea and invested in new bus fleets. Others still adamantly opposed the initiative. Lawyers filed lawsuits and the courts struck down several measures. The city government appealed and the cases are still in litigation at the time of this writing. Not knowing the final outcome is the reason for not including this case in more detail in this research. Further, much of the implementation of this policy is in the hands of the new mayor, Notice, however, how the Circuitos initiative fits some of my conclusions. First, to become feasible the policy had to change. Second, the lack of a planning team able to manage the political part of the project led to unnecessary conflict. While Vásquez managed to hire many of the same consultants that participated in TransMilenio they did not benefit from a team that interacted.

among the shareholders, including members of Apetrans. The bus owners provided between 20 and 30% of the capital. Furthermore, for the new feeder routes TransMilenio planners established similar requirements and close to 4600 bus owners are involved.[1518] For the second phase, moreover, TransMilenio planners required that for each new articulated bus, 7.7 old buses were scrapped. This would compensate 2,588 bus owners.[1519]

The role of planners

Underlying the TransMilenio project was a solid technical component that involved first-class consultants. The work of these consultants, however, did not take place in a political vacuum. The existence of a planning team willing to interact with stakeholders and politicians supplied the consultants with political feedback on their proposals. Consultant's advice is therefore more realistic, better informed and tightly suited to the client's needs. The feedback resulting from the interaction served to adjust the plans incrementally, but the planning and the consultants discussed any adjustment. The solid technical component gave power to the team, which only accepted the changes that were convenient for the project and that maximized the chances that TransMilenio would be implemented. This interaction between consultants and the planning was possible because the two groups worked side-by-side and their mandate was to focus on implementation. Again, the changes to the plan were small but on areas that mattered to stakeholders. The interaction preserved the broad objectives of the project thanks to a solid technical component and a constant interaction with Mayor Peñalosa.

The interaction between planners, politicians, and stakeholders had an additional consequence. The interaction generated a coalition of support for TransMilenio. On the one hand, planners got to know the stakeholders and persuaded key actors of participating in the project. Further, planners went to communities to present the project and discuss any concern. At a minimum, communities would not oppose the project and at best they would support it. On the other hand, as planners and politicians were able to incorporate stakeholders' feedback they reduced the

[1518] Gómez (2003, p. 55).

opposition to the project. The interaction among actors and the resulting changes to the project also reduced the risk of supporting or participating in the project. The critical stakeholders, the bus companies, are the main example. At the beginning of the process they were for the most part opposed to TransMilenio. But as the planning team was able to interact and incorporate their feedback, the bus companies found it attractive to transform themselves into modern firms and become TransMilenio's concessionaires. TransMilenio planners, however, interacted mostly with bus companies and very little with bus owners. The planners left it up to the bus companies to decide whether or not to involve the bus owners in the new concessionaires. This was probably a mistake. Yet even if it was, the resulting coalition of support was strong enough to counter the bus owners' opposition. Peñalosa realized that the subsequent stages of the process couldn't exclude the bus owners. Planners also realized they needed to involve the bus owners and the second stage specifically required their participation.

The significance of TransMilenio

The first section of TransMilenio's first stage opened to the public on December 18th, 2000, 12 days before the end of Peñalosa's term in office. Initially users were allowed to ride for free. Revenue service started on January 6th, 2001. Gradually, the remaining segments opened and by early 2002 the three busways with 41 kilometers in length were ready.[1520] The cost of the infrastructure was US$ 213 million;[1521] the bus fleet had a cost of US$ 112 million.[1522] The idea of giving buses exclusive lanes, having passengers pay upon entering a station, and having passengers board and exit from a station at the same height as the buses translated into significant time-

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[1519] Gómez (2003, p. 54).

[1520] TransMilenio (2002, p. 5). The first three lines also have 65 stations, including 8 integration points with feeder buses (Hidalgo, 2003b, p. 16). See also Hidalgo (2004a) for a description of the implementation of phase 2 of TransMilenio.

[1521] TransMilenio (2002, p. 6). The US$ 213 million figure includes about US$ 80 million for the rehabilitation of the mixed traffic lanes adjacent to the busways (Ardila and Menckhoff (2002, p. 133)). The figure does not include US$ 38.8 million for property takings. Including them, the total cost of the civil works is approximately US$ 254 million (see Custodio and Monguí, 2003, p. 21).

[1522] Custodio and Monguí (2003, p. 21). The first three busways used originally 470 articulated buses (Hidalgo, 2003, p. 16).

savings.[1523] Before the TransMilenio busways, buses achieved a speed of 12 kilometers per hour on 80th Street and 18 on Caracas Avenue. Articulated buses on TransMilenio busways go on average at 26 kilometers per hour.[1524] A survey in March of 2002 indicated that 83% of the people surveyed used TransMilenio because of the time-savings they could accrue.[1525] Figures 22 to 25 show pictures of TransMilenio's facilities and buses.

Demand estimates indicated the three busways in the first stage would move 672,813 passengers per day.[1526] By February 2002, barely a year into operation, ridership was already above 600,000 passengers per day—twice the total ridership of the two lines of the Medellín Metro.[1527] By October 2002 the system was moving 760,000 passengers per day[1528]—close to 110,000 trips above average ridership for the Washington DC metro system,[1529] which has a network roughly 4 times TransMilenio's. Further, TransMilenio was moving 35,000 passengers per hour per direction, most than most metros in the world.[1530] But while metros rarely cover operating costs with the fare they charge, TransMilenio covered operational and capital costs of the bus fleet charging a fare of approximately US$ 0.40. Further, the infrastructure cost per kilometer was less than a tenth of the cost of a metro line. The city will be able to cover a larger share of the demand with BRT technology than with heavy rail. Further, surveys showed that TransMilenio was attracting even car users because of the savings in time.[1531] Over 60 technical missions from over 30 countries have visited Bogotá to see TransMilenio first hand.[1532] In addition, the project won the Stockholm Partnerships Award in recognition to TransMilenio's contribution to

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[1523] For an ex-post cost benefit analysis of TransMilenio see Hidalgo and Illera (2001); and Chaparro (2002).
[1524] TransMilenio (2002, p. 8).
[1525] Gómez (2003, p. 68).
[1526] SDG (2000, p. 3.1)
[1527] Ardila and Menckhoff (2002, p. 133).
[1528] TransMilenio (2002, p. 1).
[1529] The Washington D.C. Metro moved on average 650,000 passengers per weekday during the fiscal year 2003-4. See "June Metrorail Ridership shatters records," See http://www.wmata.com/about/MET_NEWS/PressReleaseDetail.cfm?ReleaseID=443, July 2, 2004.
[1530] Hidalgo (2003b, p. 16).
[1531] El Tiempo, "Demanda, 40 por ciento por encima de lo previsto," March 29th, 2001.
[1532] Peñalosa (2003, p. 98).

sustainable urban development.[1533] TransMilenio's buses and stations are accessible by handicapped people (Figure 25). Further, properties neighboring the stations have increased in value.[1534] TransMilenio's success—and other policies in transportation followed mostly by the Peñalosa administration—put Bogotá on the international map. Finally, while Curitiba is a medium sized city, Bogotá showed that similar innovations are possible in large cities. Peñalosa says:

> "The World Bank and the Inter American Development Bank cast TransMilenio as an example for cities in the rest of the world. What is particularly interesting is that it was adopted in a large city, poor, with grave transportation problems, where the system typical to third-world countries prevailed, namely a myriad buses and *busetas* owned by small investors competing strongly in the penny war. And it was done within a democratic system."[1535]

Epilogue

By March 2004, with the first busway of the second phase open, ridership reached 900,000 passengers a day. On March 9th, 2004, the users of TransMilenio "spontaneously" walked out of the stations and sat on the busways to protest a decrease in the level of service—overcrowded buses seem to have been a critical issue. A delay in the service caused by an accident on a busway sparked the protest that extended to all three lines in less than an hour.[1536] In addition, for the last couple of months repairs to the pavement on the three busways had disrupted service.[1537] The user was not experiencing the level of service it had become used to.[1538] All these problems can be solved. More so because TransMilenio Co. instituted mechanisms for allowing the user to input its opinions on the level of service. Hopefully these mechanisms will empower the user. The example of Curitiba, however, suggests that occasionally users have to mobilize to achieve enough power to generate change for the better. User pressure in Curitiba eventually led to the adoption of the payment per kilometer logged and a lower fare. In Bogotá users have

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[1533] See http://www.partnerships.stockholm.se/index.html and El Tiempo, "'Es una recompensa a Bogotá': A. Mockus," June 12th, 2002.
[1534] See Rodríguez and Targa (2003).
[1535] Peñalosa (2003, p. 98).
[1536] El Tiempo, "Crean Defensor del usuario en TransMilenio y aumentarán la frecuencia de las rutas," March 11th, 2004.
[1537] El Tiempo, "Alcalde de Bogotá, Lucho Garzón, exige a contratistas de TransMilenio responsabilizarse por daños," March 12th, 2004.
[1538] El Tiempo, "Caos durante 4 horas por bloqueo en el sistema de TransMilenio," March 10th, 2004.

already started user associations and TransMilenio together with the Chamber of Commerce created an Ombudsman position.[1539]

While user dissatisfaction is certainly one interpretation for the protest in March of 2004, Peñalosa and his supporters claim that members of the party controlling the mayor's office staged the walk out.[1540] Whatever the true version, what is at stake is the political survival of the system and of BRT as the solution for Bogotá's mass transit needs. Indeed, while Mayor Garzón has voiced support for continuing the system,[1541] councilors of his party have proposed a light rail solution instead of BRT.[1542] The debate between rail and bus—now fully fledged BRT—continues. But what underlies the debate, I argue, is not which technology is better for Bogotá but the political support of the old bus companies and bus owners. As in Curitiba, the political support of the operators is becoming critical in determining who wins an election. But contrary to Curitiba where the operators always back Lerner's group, operators in Bogotá are divided between those who invested heavily in TransMilenio and support Peñalosa and those who invested marginally and could benefit from policies that preserve the status quo or that decrease the pace of change. Most likely the actions by Peñalosa and his political group as well as those by Garzón's group will determine whom the bus companies and bus owners ultimately support. In turn, this will probably determine the shape of Bogotá's mass transit.

[1539] El Tiempo, "A partir de agosto 150 cámaras de vídeo vigilarán portales y estaciones de TransMilenio," July 20th, 2004.

[1540] Among the evidence in support of Peñalosa's claim are that to negotiate with the protesters went the Secretary of Transportation and not the Head of TransMilenio Co. and that within the committee that represents the user are a couple of unionists. See Semana, "Señales de alerta," www.semana.com.co, 2004, No. 1143.

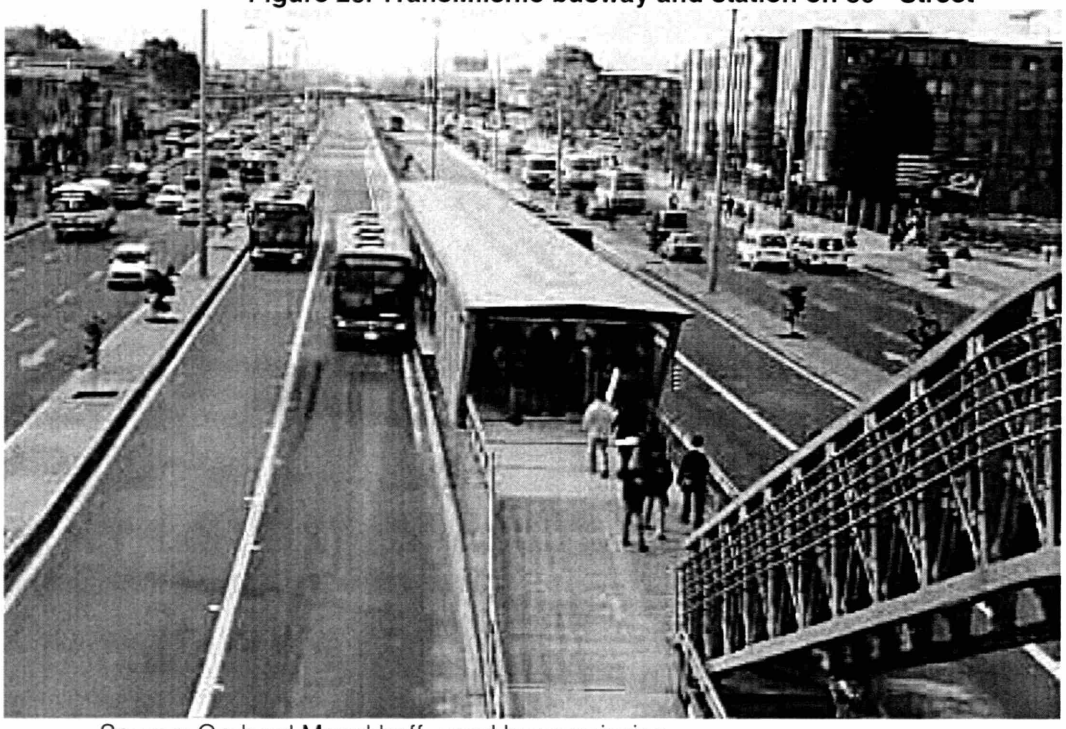
[1541] See El Tiempo, "Alcalde Luis Eduardo Garzón continuará TransMilenio por las Carreras 10a., 7a. y la Calle 26," March 1st, 2004; El Tiempo, "Garzón reafirma su compromiso con TM," May 18th, 2004; El Tiempo, "Fase III the TM es irreversible," May 30th, 2004.

[1542] Díaz (2004); El Tiempo, "El Polo pide frenar TransMilenio," May 17th, 2004; and El Tiempo, "'Freno de mano' a TransMilenio," May 18th, 2004. For a response from Peñalosa's group see Hidalgo (2004b).

Figure 22. TransMilenio Station

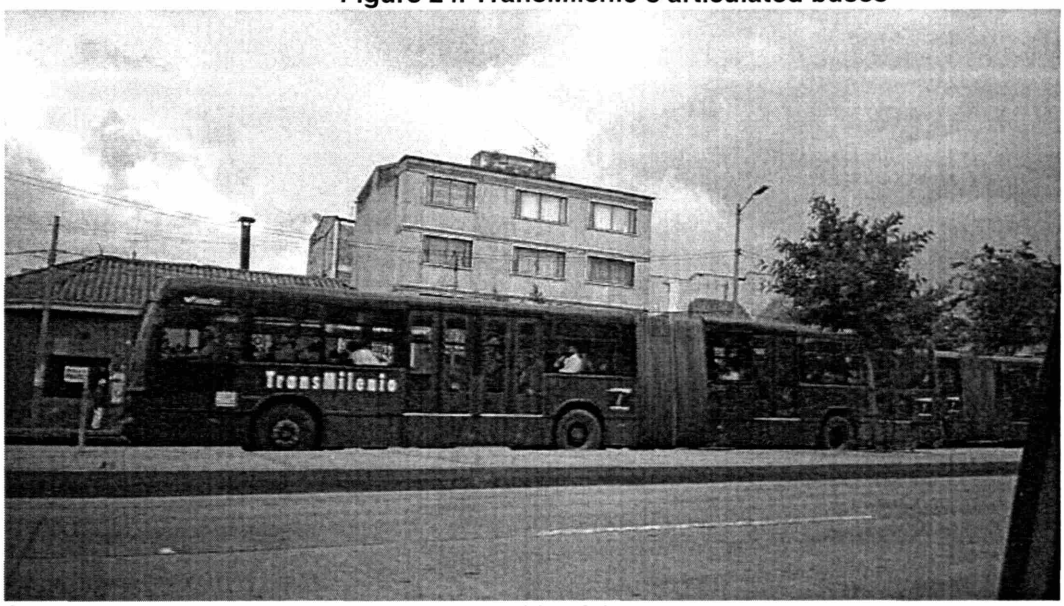
Source: Author

Figure 23. TransMilenio busway and station on 80th Street



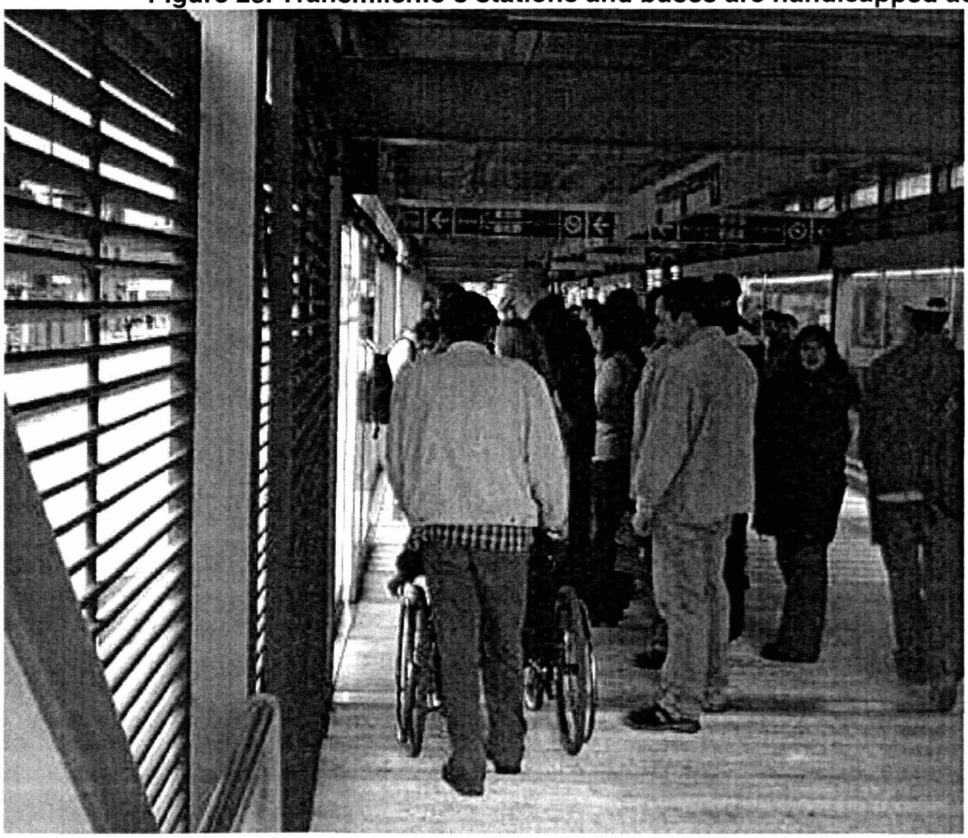
Source: Gerhard Menckhoff, used by permission.

Figure 24. TransMilenio's articulated buses



Source: Author. Notice the door on the left side of the bus.

Figure 25. Transmilenio's stations and buses are handicapped accessible



Source: Author

Part 4

Conclusions

In this part I bring together the themes I analyzed in the sections the "Roles of planners." I try to offer an answer to my guiding research question: "What is the role of planners in the planning process?" I build a single representation of the roles of planners by comparing the two cases in search of commonalities.

Chapter 13

The roles of planners in the planning process

In the previous two parts I explored in detail the planning processes in Curitiba (1955-95) and Bogotá (1986-2001) by looking at the actions by planners, politicians, and stakeholders. From a process perspective the planning processes in Curitiba and Bogotá were quite similar. In the instances where the end result was the adoption of a plan, Curitiba and Bogotá had similar processes, particularly regarding the roles of planners that supported the plans, the flexibility in the original plans, the interaction between planners, stakeholders, and politicians, and political continuity during key phases. Likewise, the processes in the two cities were rather similar when the outcome was the plan not being adopted. Specifically, opponents tended to keep proponents honest, sought ways to reduce the flexibility of the plans, and sought to build a coalition against the plan. Consequently, the similarities between the two cases allowed me to build a single representation of the roles of planners in the planning process. [1543/1544]

[1543] From a process perspective, the roles of planners went beyond roles already in the literature, such as being advisors, technicians, administrators, analysts, communicators, advocates, negotiators, and

Some of the similarities between the two cases, however, put planners' roles in special context. First, in both cases the mayors were strong leaders, particularly Jaime Lerner and Enrique Peñalosa. Their strong leadership benefited planners' work by offering a benchmark against which planners contrasted stakeholders' demands. Further, these mayors pressured planners to think in terms of implementing their plans and not just of crafting plans. This action strongly linked planning, decision-making, and implementation turning them into a single process—i.e. the planning process. Second, many of the mayors had firm understanding and appreciation of technical planning services, thus being receptive to interacting with planners. The significance and unusual nature of this situation cannot be overemphasized. At the same time, these politicians understood that planners needed to interact with stakeholders.

Third, the cases were framed by innovative technologies entailing large scale system changes such as Bus Rapid Transit (BRT).[1545] In effect, Curitiba practically invented the BRT concept with the introduction of tube stations and at-grade bus boarding. Bogotá then adapted this concept to a larger scale—one where metros were thought to be the only feasible alternative. Because of the innovations embedded in BRT, planners had difficulty producing credible forecasts on revenue and demand, among others. This uncertainty forced planners to interact more with stakeholders and politicians to build credibility. Fourth, at the same time, BRT offered the advantage of being highly flexible, particularly when compared to heavy rail proposals. This flexibility allowed planners to adjust the plans in response to the

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mediators, among others (Stevens, 2001; and Hoch, 1994). Certainly, planners' roles cannot be summarized as planners supplying technical advice to decision-makers (see Meyer and Miller, 2001, ch. 2).

[1544] It is important to stress that my intent is *not* to explain why a plan was adopted or rejected. The decisional outcome is just a marker in my analysis but not the object.

[1545] Bus rapid transit (BRT) is a technology designed to increase the overall efficiency of bus traffic. BRT has three complementary elements. First, BRT involves the construction of busways or segregated lanes for buses. The busways can be either at-grade or grade-separated. Second, BRT implies comfortable and modern buses, stations that facilitate passenger boarding and alighting, fare collection technology, modal integration, a marketing identity, and overall excellence in customer service (Wright, 2002a, p. 2). Third, BRT usually implies an institutional transformation that implies the creation and/or strengthening of the city agency in charge of managing the BRT system. This agency usually contracts out and supervises the operations of the new buses with the private sector (Peñalosa, 2003, p. 86-7).

feedback produced by their interaction with politicians and planners. The discussion that follows on the roles of planners, therefore, builds on the commonalities between the two cases. At the same time, however, the discussion reflects the special context in which the cases place planners' roles.

Recapping the framework

In the introduction I put forth a framework. Here I offer a summary. A simple model of a city government would assume a city government consists of elected and appointed politicians, and planners. In theory, the city government is interested in enacting policies that satisfy legitimate and collective goals and not just the preferences of particular individuals such as politicians, planners, or stakeholders.[1546] If policies and plans follow the preferences of a particular stakeholder, then most likely the plan will disproportionately benefit that stakeholder at the expense of other actors in society. Likewise, if the plan follows the preferences of particular politicians or planners there is no assurance that once adopted the plan will benefit collective and legitimate goals. For one thing, what is a legitimate goal for politicians or planners need not be a legitimate goal for stakeholders or even society at-large. For another, plans that follow politicians' or planners' goals need not have a relatively fair distribution of costs and benefits. Put differently, for the plans of a city government to reflect collective and legitimate goals, the government needs a minimal space for action.[1547]

A city government achieves this minimal space for action, first, by building capable government agencies and, second, by promoting the interaction between planners, politicians, and stakeholders.[1548] Capable government agencies have the structure, funding, human resources[1549] and knowledge[1550] needed to craft plans that are technically sound. Capable agencies also have the knowledge to counterbalance the power of capable stakeholders. Absent this capacity in the government agency, a capable stakeholder can capture the agency and bias the allocation of benefits in its

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[1546] My argument builds on the idea of state "autonomy." See Chapter 1.
[1547] I mean two things by plans that satisfy collective and legitimate goals. First, government plans do not reflect the individual preferences of planners, politicians, or stakeholders. Second, the distribution of costs and benefits is relatively fair.
[1548] See Evans (1995, p. 12 and 57) for an analogous argument.
[1549] See Goggin et al. (1990, ch. 5).

favor.[1551] Government agencies also need to *interact* with stakeholders and politicians. By interacting, members of these agencies—i.e. planners—build the channels for negotiating goals and policies so that policies do not favor any participant disproportionately. The interaction, therefore, allows agencies to build a minimal space for government action and obtain plans that reflect collective goals.

Finally, organizational capacity and interaction reinforce one another in the objective of creating a minimal space for government action.[1552] Absent a capable organization, the interaction will probably lead to capture by interests that stand to benefit from the plan. Similarly, a capable agency that does not interact misses out on the opportunities for obtaining feedback from politicians and relevant stakeholders. The agency will be unable to lower power differentials among actors and adapt the plan according to the results of the interaction. But if there is a capable planning organization that interacts with politicians and stakeholders then planners can mediate between actors, lower power differentials, and adjust the original plan. Plans then reflect legitimate interests and not just the preferences of any particular actor.

The second element in the framework introduces the idea of process. I use the notion of window of opportunity. Windows of opportunity are junctures in time where there is a chance that a plan will be adopted. I conceptualize the planning process as consisting of two stages that occur recurrently. The first stage is before the window of opportunity opens and the second is during that window. The planning process spans over long periods of time during which windows of opportunity open and close. Windows of opportunity open because of political reasons, such as elections, or because of crises. When the window of opportunity opens, actors begin to interact and the plan begins to evolve as a proposition. This interaction can put the plan in the political agenda of the city, which in turn intensifies the interaction because the chances of adoption are even higher. When the window closes, the interaction ceases or becomes minimal, because the chances of adoption are virtually zero.

Time is critical: windows of opportunity

As said, the planning process can be understood as a series of windows of opportunity that open and close. As a result, planners' roles are not constant in time; they differ depending on whether a window of opportunity has opened. Before the window of opportunity opens, planners for the most part are those who craft plans or

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[1550] See Ardila (2002, ch. 2).
[1551] See Ardila (2002, esp. ch. 2).
[1552] These ideas comes from Evans (1995, p. 56-58).

proposals, among others. The election of a politician to office or a crisis typically opens a window of opportunity.[1553] Windows of opportunity last for limited amounts of time. During the window of opportunity plans can enter the political agenda of the city and stand a high change of being adopted. During the window, therefore, the main objective of planners in the cases was to get the plans adopted. Planners' roles therefore changed once the window of opportunity opened. The cases show that planners' main role, then, was to interact with politicians and stakeholders, as I explain in detail below.

Let's see some examples that illustrate how windows of opportunity matter in the planning process. Recall in Curitiba in the 1960s how Mayor Arzua opened a window of opportunity when he announced the need to revise the Agache Plan—not to change it for a new plan. Further, when Arzua and Garcez announced the construction of disruptive works in downtown Lerner and his fellow planners mobilized seeking a new plan—one that would not disrupt downtown. By interacting with the mayor and other stakeholders such as CODEPAR's Rischbieter, Lerner and his partners put the need to change the plan in the political agenda of the city. After a series of interactions with politicians and stakeholders, they got the Director Plan adopted and enacted by the city council as a city law. But when Mayor Arzua resigned the window of opportunity closed. The plan was no longer in the political agenda and despite being a city law the plan was not implemented. The new mayor, Omar Sabbag distrusted the planners, IPPUC, and probably the plan itself. Planners at IPPUC, including Lerner, devoted their time to refining the plan, adding components such as busways, and defending IPPUC from Sabbag's attempts to eliminate it.

The next window of opportunity for the plan came when Lerner was appointed mayor of Curitiba. Lerner understood the criticality of time and therefore pressed his team to show results. To put the plan in the political agenda Lerner and his team of planners started to interact with the retail interests on XV of November Street. Retail interests opposed the plan to pedestrianize the street. They were too powerful and the plan could not proceed. Lerner started a strong marketing campaign and figured that a demonstration of the actual plan was needed. Lerner's objective was to diminish the

[1553] See Kingdon (1995, ch. 8).

power of the retail interests. Lerner ordered the pedestrianization of a short 100-meter leg of the street. The demonstration was a success; sales increased and quickly retail interests demanded the expansion of the pedestrianized area. The Director Plan entered the political agenda of the city. The Director Plan remained in the agenda during the extraordinary length of 12 years thanks to a large extent to the continuous interaction between planners, politicians and stakeholders, the resulting adaptations to the plan, and the gradual implementation of specific elements of the plan. The window closed when Mauricio Fruet was appointed mayor of Curitiba. Lerner and his team went back to crafting new proposals, such as the tube station. The next window of opportunity for Lerner's plans opened in 1989 when he was elected mayor of Curitiba. During this period Curitiba witnessed the adoption of a set of innovative transformations—tube stations, bi-articulated buses, and fully-fledged BRT—that put the city in the international arena.

In Curitiba, further, not only the mayor but also the planners were aware of how windows of opportunity and the plan being in the agenda affect planning practice. Recall what Rafael Dely said: "What troubled us [the planners at IPPUC] the most was the question: What is a plan in paper and what is a plan that can be implemented? Things completely change in the second part because it is then necessary to take into account economic, political, and operational conditions."[1554] Dely later on added: "The proximity of implementation [because of the window of opportunity] generated realism."[1555] Carlos Ceneviva, another planner, told me "Time is critical in a planning process. You can't control time; you can't stop it. Conditions change. Your solution is good at a specific moment in time [during the window of opportunity] and you can't miss the opportunity."[1556] Dely and Ceneviva therefore produced plans that were possible to implement during the limited duration of the window of opportunity.

In Bogotá, Enrique Peñalosa ran three times for mayor carrying around his plans for upgrading the bus-based transit system. People paid little attention, because

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[1554] Dely (1990, p. 13, translation by author).
[1555] Interview by author with Rafael Dely, April 2003.
[1556] Interview by author to Carlos Ceneviva, February 2004.

the plan that was in the city's political agenda was for a metro line. Until Peñalosa got elected and opened the window of opportunity for the plans for TransMilenio. Peñalosa assembled a capable planning team for the project. This team began to interact with stakeholders such as the bus companies and other politicians such as the city councilors. In December 1998 the team staged a lavish marketing event. The interaction and the marketing finally put the plans for TransMilenio in the political agenda of the city. The interaction among actors intensified as a result of the plan being in the agenda. As seen, TransMilenio was adopted and implemented after a complex process rich in interaction among actors. Peñalosa's successor, Antanas Mockus, offered support for TransMilenio and hence the window of opportunity continued open. Mockus could not have done otherwise because TransMilenio enjoyed large political support.[1557]

The brief narrative from the two cases illustrates my claim that time matters in the planning process. Before a window of opportunity opens planners' roles are mostly to elaborate proposals, circulate them within the planning community, and convince fellow planners that the proposals are sound solutions. But once the window of opportunity opens planners' main role changes to interacting with politicians and stakeholders. This interaction allows planners to lower power imbalances between stakeholders and politicians. Further, the interaction allows planners to persuade stakeholders about the soundness of the plans. But persuasion is not enough. The interaction is a source of feedback for all parties involved. This feedback allows planners to slowly adjust the original plans. The interaction and the resulting changes lower risk for all parties and help assemble a coalition of support. Put differently, the interaction with politicians and stakeholders helps the planning team arrive at plans that benefits legitimate interests.

The analysis, therefore, identifies a relationship between windows of opportunity, interaction among actors, and the minimal space for government action.

[1557] At the time of this writing it is uncertain whether the window of opportunity has closed or not. While Mayor Luis Garzón has offered support for the project, he has also cautioned that the pace of implementation will be slower. Other proposals for light rail and watered-down busways--not bus rapid transit—float in the air. Will Garzón open a window of opportunity to those alternative plans? Will Peñalosa and his supporters mobilize to oppose these plans? Time will tell.

The opening of a window of opportunity generates interaction among actors because the plan stands a chance of being adopted. The interaction allows planners to mediate between politicians and stakeholders and to introduce adjustments to the plans. These actions create the space for government action that allows plans to satisfy legitimate goals. This legitimacy, in turn, engenders political support that can extend the duration of the window of opportunity, thus extending the interaction and the space for government action.[1558] Hence window of opportunity and space for government action are interrelated concepts via the interaction among actors. The opening of the window of opportunity generates the conditions for seeking this space for government action. In turn, the space for government action can extend the duration of the window. And this result occurs to a large extent because planners interact with politicians and stakeholders.

Finally, the analysis suggests that windows of opportunity can be, one, quite conspicuous or, two, difficult to notice. The appointment of Jaime Lerner in 1971 and the election of Enrique Peñalosa in 1997 opened windows of opportunity for the Director Plan and TransMilenio, respectively. Both politicians knew the plans they wanted to see adopted during their tenure. Both took advantage of the opportunity. Further, both knew the importance of having a capable planning team that would interact with stakeholders and politicians. Other windows of opportunity, however, are not as evident. Take Mayor Arzua's statement in 1962 that Curitiba's master plan could be modified. Lerner and his fellow planners took advantage of this event to begin interacting with planners in office and other politicians. Slowly they widened the window of opportunity until they created the conditions for crafting a new master plan.[1559] It takes very creative people—project champions such as Lerner—to notice the less conspicuous windows of opportunity. By interacting with other actors, project champions can therefore extend the window of opportunity. I now turn to discussing

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[1558] Notice that if the window of opportunity extends in duration it means that subsequent mayors will offer support for the implementation of the plan. In Curitiba, Mayor Saul Raiz continued the implementation of the Director Plan, in part because the plan had ample political support after Jaime Lerner's first tenure. In Bogotá, Mayor Antanas Mockus continued with the adoption of TransMilenio thanks, in part, due to the political momentum the project had after Peñalosa's tenure.

[1559] Notice that because there was interaction, the master plan was not what Lerner and his fellow planners wanted, but a plan that gathered input from a diverse, but limited, array of actors.

the roles of planners before the window of opportunity opens and then focus in depth on the roles during the window of opportunity.

Planners' roles before the window of opportunity opens

The analysis of the cases indicates that before the window of opportunity opened planners played several roles in the planning process. First, in the cases planners analyzed problems and crafted tentative solutions. For example, in Curitiba planners crafted the Director Plan in 1965 and began to refine it during the Sabbag administration.[1560] These refinements added a mass transit component to the plan that included building an exclusive busway. Lerner before becoming mayor for the third time had an idea for a tube station that could be used to speed up bus services. In Bogotá, Jorge Acevedo had a plan for a busway along the Caracas Avenue corridor. Peñalosa had a well-structured idea of how a BRT solution ought to be like in Bogotá. All these plans were waiting for a window of opportunity. Because the proposals were minimally ready before the window of opportunity opened they stood a better chance of being ultimately adopted.

The cases therefore reveal the importance of having a somewhat crafted plan *before* the window of opportunity opens. Contrast with these experiences. In Curitiba during the tenure of Mayor Fruet planners lacked a proposal to address effectively the continually increasing bus fare. Thanks to organized civil society, namely MAB—a neighborhood movement representing the user—Roberto Requião and his planners were able to conclude that to address this problem part of the solution was to pay the operators per kilometer logged. Requião's election opened the window of opportunity for this measure. In Bogotá Mayor Mockus tried to carry out two "rational" planning exercises–i.e. analyze the problem, design alternatives, evaluate, and decide on one alternative. These exercises took most of Mockus' term in office. By the time he left office a single busway was approaching adoption. On the contrary, in Curitiba the Director Plan, the mass transit plan and Lerner's idea for a tube station, and in Bogotá Acevedo's plan for a busway and Peñalosa's plans for TransMilenio were somewhat ready before the window of opportunity opened. Notice also the difference mayors

[1560] Citations from the cases are limited to points not documented previously.

Lerner and Peñalosa made because they believed in the importance of taking an existing proposal, instead of carrying out new studies to determine what to do.[1561]

A second role for planners before the window opens was to introduce flexibility into the tentative plans they craft. In Curitiba planners fought a hard political battle at the city council to defend a scantily detailed master plan. "We were not going to send a straightjacket to the city council...we would do the detailing [of the plan] later on," said a planner. The plans for TransMilenio also incorporated a high degree of flexibility. Despite being flexible, in both cases the plans also incorporated a set of specific but broad goals that had political significance. During the window of opportunity planners interacted with stakeholders that demanded adaptations to the plans. These broad goals were important because they defined the lines along which the plan could and could not change. And it was politicians in office who knew the goals that mattered, hence the importance of planners' interaction with politicians (more on goal setting and its importance below).

Finally, the cases reveal a third role for planners before the window of opportunity opens—to build a minimum consensus in the planning community regarding the validity of the proposed plan as a solution to one or more problems.[1562] The cases suggest that achieving this consensus is easy to say but more difficult to achieve. Yet it is critically important. In Curitiba, the planning community slowly accepted the idea of undertaking a bus-based solution. In contrast, the planning community never reached consensus regarding the validity of rail as a solution to Curitiba's mobility problems. Likewise was the situation in Bogotá. The planning community slowly accepted the convenience of improving bus services through plans such as the Caracas Avenue busway and TransMilenio BRT. But the planning community was always bitterly divided on the validity of the metro. The existence of consensus among the planning community, or lack thereof, affected the events during

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[1561] A corollary emerges from the importance of having a somewhat ready proposal before the window of opportunity opens. Planners can approach politicians running for office to convince them about the soundness of a plan. If the politician is convinced and results elected, chances are that a window of opportunity will open for the plan.

[1562] See Gakenheimer (1990) for an example of how the transportation planning community has two very different views on mass transit.

the window of opportunity. Neither Curitiba nor Bogotá has a rail solution in part because of the lack of consensus in the planning community.

Planners' roles during the window of opportunity

In Curitiba and Bogotá the appointment or election of a particular politician opened windows of opportunity. During the window of opportunity the interaction among planners, politicians, and stakeholders began to take place because actors noticed that the plan had chances of being adopted. This interaction eventually led to the plan entering the political agenda of the city. Once in the agenda, there was a clear chance that the plan would be adopted. The objective of planners that supported the plan was precisely to have the plan adopted. As a result of the possibility of adoption, politicians and stakeholders responded to the plan because of the plan's impacts on their interests. Before the window opened, planning and the decision to adopt were divorced. During the window of opportunity planning and the decision to adopt were linked and the bond grew tighter as the process advanced, depending on planners' actions among others. The linkage between planning and the decisional outcome motivated stakeholders and politicians to participate in the planning process. The cases reveal that during the window of opportunity planning, decision-making, and even implementation were linked.

Interacting with politicians and stakeholders therefore becomes planners' main role during the window of opportunity. Interacting with politicians and stakeholders is critical, among others, because it is a way of reaching an adopted plan that benefits collective goals and not just the interests of individuals and private parties. How do planners increase the chances of adoption of a plan and increase the scope for government action by interacting with politicians and stakeholders?

The cases show that the interaction between planners, politicians, and stakeholders is above all a source of feedback or information for all parties involved. In Curitiba and Bogotá most of the planning teams promoted this interaction with stakeholders and politicians. Planners used the information or feedback obtained through the interaction for two interrelated tasks. First, planners figured out ways of reducing the power of stakeholders that initially resisted the plan. If the stakeholders

were too powerful then the government would not have any space for its actions. The plan might not be adopted or if adopted it could disproportionately benefit these powerful interests. Similarly, if the politicians appeared all too powerful the stakeholders might not want to cooperate and could oppose the plan. Planners needed the cooperation of these stakeholders for example because the plans required their participation as investors.[1563]

Broadly speaking, therefore, one key planners' role was to mediate between politicians and stakeholders. This mediation, however, did not follow necessarily the standard cannons of mediation and consensus building. These cannons call for the participation of the relevant stakeholders at the negotiating table and the presence of a professional mediator whose role is to reduce power imbalances and improve communication among participants. These cannons also include stringent conditions such as "An understanding that 'consensus' is only reached when all interests have been explored and every effort has been made to satisfy these concerns."[1564] In the cases, instead, planners mediated between politicians and stakeholders by interacting in different forms and settings with them over long periods of time. Planners figured out who were the critical stakeholders and their legitimate representatives. As they got to know the representatives they figured out strategies for lowering the power imbalances. These strategies included finding ways to hold meaningful negotiations and persuading actors on the convenience of the plan.

Second, planners also used the information resulting from the interaction to figure out incremental adaptations to the original plan. The original plan was crafted with imperfect information regarding how the plan would impact different stakeholders and how those stakeholders would respond. Stakeholders sought changes for example to minimize the negative impacts of the plan. Therefore the interaction led to incremental adjustments to the original plan. These adjustments shaped the plan and helped it take its final form. Planners, however, could not accept all the changes

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[1563] One can argue that planners also need to increase the power of parties with too little power in order to eliminate this power imbalance. The cases, however, do not reveal this action by planners. The reasons are probably, first, the "strong-executive" democratic setting, which limits participation to the most powerful actors. Second, weak actors such as the bus user tend not to have an organized form of participating.

required by the stakeholders. Planners had to bear in mind the broad strategic—sometimes implicit and changing—objectives embedded in the plan. Planners therefore had to negotiate with stakeholders balancing the requests for change against the strategic objectives of the plan. Ultimately, it was the politician who knew or interpreted the objectives of the plan. Hence the importance of planners' interaction with politicians in office.

As the plan adapted, it gained political feasibility. The interaction and the resulting adjustments lowered risk for all participants in the process and contributed to assembling a coalition of support. This coalition was strengthened by planners' ability to persuade key stakeholders of supporting the plan. That is, planners had to sell, and even market[1565] the idea that their plan was a valid solution to one or more problems. At the outset or without interacting with the political side, the plans formulated by planning teams—or any other actor—need not be considered a sound solution, because the plans have been drawn with incomplete information. The interaction and the resulting adjustments shaped plans so that actors considered them a valid solution, that entailed low risk, and worth supporting. Notice that because the interaction among actors leads to continuous adjustments to the original plan it is important to have a flexible proposal.

Therefore, when planners interacted with politicians and stakeholders the end result was a somewhat inclusive planning process. A planning process in which planners, politicians, and stakeholders interact and where a plan is adapted to the political reality unveiled by the interaction respects two basic democratic principles. First, in principle in a democracy "all citizens have an equal opportunity to affect public choices through established institutions."[1566] Second, costs and benefits should be fairly distributed throughout the population.[1567] This of course is the outcome when the planning process is such that government plans benefit legitimate goals, as argued in

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[1564] Innes (2004, p. 104-5, quote from page 104).
[1565] Media and marketing campaigns were important in the cases because expecting to involve the entire citizenry in the process is unrealistic. Only major stakeholders participated, but the public at large had the right to be informed and contingent on that information, decided to mobilize to participate in the process.
[1566] Feldman and Milch (1982, p. 181).
[1567] Feldman and Milch (1982, p. 181).

the framework. If actors participate in the planning process these principles begin to be respected. However, stakeholders can be allowed to participate, receive information on the plans, and be heard. But if stakeholders' feedback is not incorporated in a meaningful way, then most probably neither democratic principle is truly respected. If, on the other hand, the process is such that the interaction leads to adaptations to the plan, then at least the first one and probably the second principle are respected.[1568]

In sum, planners' roles during the planning process are difficult because the process embeds several somewhat contradictory yet complimentary parts. Planners had to mediate between stakeholders and politicians with the objective of reducing power imbalances. At the same time, planners wanted to find a plan that was politically feasible, minimized risk for all actors involved, and facilitated assembling a coalition of support. To complicate matters, stakeholders could contradict one another in their requests for modifications to the plans. And planners had to take into account the broad objectives of the plan implicitly or explicitly established by politicians in office. Planners achieved all these tasks by interacting with politicians and stakeholders. The information resulting from the interaction allowed planners to figure out ways of reducing power imbalances—i.e. mediate between politicians and stakeholders. At the same time the interaction allowed planners to adapt the plan to make it politically feasible by reducing risk for all parties involved and showing that the plan solved a problem. Support for the plan followed. Because of the necessary adaptations, a flexible plan facilitated planners work. Planning teams with high levels of technical and political capacity had a better chance of fulfilling these tasks. The end result, for the most part, was an adopted plan that benefited collective goals and not just the interests of the most powerful participants. Hence the interaction created the space for government action. Because of the complexity of these arguments I discuss them in depth below offering evidence from the cases.

[1568] While the changes resulting from the interaction tend to mitigate negative impacts and hence achieve a certain equality of treatment, achieving full equality is very difficult if not impossible.

Planners roles in interacting and reducing power imbalances

The interaction allows planners to mediate between stakeholders and politicians. This mediation is necessary to reduce power imbalances and achieve outcomes that satisfy collective goals. If a stakeholder is too powerful it can oppose any government plan or capture the government and obtain disproportionate benefits. Likewise, if the government is too powerful, the relevant stakeholders will see little chances of modifying the plan to mitigate negative impacts. The stakeholders will oppose the plan. Finally, very weak actors can stand to loose disproportionately if the plan is adopted because they have no power to modify the plan. By reducing these power imbalances, planners help society adopt a plan that benefits collective and legitimate goals—and not the particular goals of a stakeholder or of a powerful politician (or planner). The cases suggest that planners resorted to different strategies in order to reduce power imbalances. I begin with examples in which planners were not able to reduce the differentials to contrast with instances where they were.

In Curitiba the policies followed by Mayor Braga in the late 1950s strengthened the bus companies by giving them a temporary monopoly over the "selective" areas. In 1960, during the tenure of General Iberê de Mattos, the bus companies wanted to extend the duration of the concessions—and of the accompanying monopoly—, increase the fare, and extend the useful life of the buses. Absent a capable planning team to mediate between the mayor and the bus companies what followed was a deep conflict. Absent the planning team there was no way to reduce the power of the bus companies, which pressured the governor of Paraná to take control of mass transit planning in the city of Curitiba. The companies then scored a series of victories such as having the city government agree to declare the "selective" areas as a "principle" that does not expire in time. This change made the companies de facto owners of the "selective" areas for good. Further, the bus companies significantly increased their profitability by extending the useful life of the buses and by inflating the costs of operation and transferring the cost to the user.

Like in Curitiba, the bus companies in Bogotá also took advantage of the weakness of the city government, represented by the Secretariat of Traffic and

Transportation. The bus companies were able to create a system that had mostly the user and to some extent the bus owners subsidize the inefficiencies in the arrangement. Bus companies sought to increase the size of the bus fleet, even if demand did not increase. The larger the bus fleet, the larger the profits for the bus companies. Bus companies in Bogotá rented out to bus owners bus routes issued by the government to the companies. But service quality went down because the larger fleet aggravated the penny war or extreme competition by bus drivers for every passenger. The penny war promoted perilous driving, a high accident rate, and disrespect for the user, among other dire consequences. The bus companies seemed impregnable. In sum, the power imbalance in both cities favored the bus companies and allowed them to quasi capture the state to regulate in their favor. The institutional weakness of the city agencies meant that there were no planners able to reduce power imbalances. Absent planners who could do reduce the power of the bus companies, the state's policies benefited disproportionately the bus companies at the expense of the user (and the bus owner in Bogotá).

Contrast these examples with the following ones, where there is a planning team that mediates between politicians and stakeholders to reduce power imbalances. In 1971-1975 during Lerner's first term in office in Curitiba, the city government achieved enough space for action to start the transformation of the city's bus system. To get this space for action, Lerner assembled a capable planning team that blended political and technical capacity. The technical capacity allowed the planning team to craft plans that were technically sound. The political capacity allowed the team to interact with Mayor Lerner and with the critical stakeholders—the bus companies affected by the plans for the express bus service. The planners had a clear strategy for negotiating with the operators. Equally important, Mayor Lerner and the planners took advantage of the expiration of the concession contracts in 1974. If the two bus companies affected by the plans were unwilling to accept at least some of the changes, the city could, in principle, concession the services to other parties. This threat helped planners lower the power of the bus companies. In parallel, planners' interacted with the CEOs of the bus companies affected by the express service to

persuade them. Once the affected companies got on board the other companies had less power to oppose.

In Curitiba during the 1980s the system entered into a crisis because of the high inflation, lower user income, and inflated fare. The bus companies had an advantage thanks to knowing the costs of operating their buses better than the government did. The absence of the user as a political actor aggravated the situation. The bus companies were too powerful. It would be MAB that discovered how the fare was inflated and that generated parts of the necessary knowledge to address the problem. With better knowledge planners were able to reduce the power of the bus companies and mediate better between this actor and the mayor. In Bogotá, similarly, in the planning of TransMilenio planners made a purposeful effort to learn about the costs of operating both the old conventional buses and the new articulated buses. By knowing the true costs of operating a bus, planners lowered the power of the bus companies who could not claim costs higher than they actually were.

In Curitiba, Mayor Requião tried to adopt his pet plan of having a city-owned bus fleet. Initially the plan worked and it seemed as if it was going to be adopted. But Requião was not willing to let the planners interact with the bus companies. Planners could not mediate between him and the companies. Planners needed to reduce the power of the mayor vis-à-vis the companies but they could not. Further, the lack of interaction did not allow the planners to figure out solutions to the problem at the root of the conflict—how to fund the public fleet in an inflationary environment and an economy in a recession. The power imbalance seemingly favoring Mayor Requião and the lack of adaptations to the original plans for the bus fleet led to strong coalition against the plan and Requião's political movement—which has not been in office ever since in Curitiba.

As in Curitiba, in Bogotá planners also mediated between politicians and stakeholders by interacting with both actors so as to reduce power imbalances. In both the Caracas Avenue busway and in the Transmilenio BRT project planners interacted extensively with the CEOs of the bus companies—the critical stakeholder. Thanks to this interaction planners discovered that when in a group, CEOs were reluctant to accept the proposed plans, probably because of peer pressure. But

individually, the CEOs were more enthusiastic about the proposed changes. As a result of this discovery, planners concluded that meaningful negotiations were possible only with individual CEOs and not with a group of them. With this strategy planners reduced the power of the CEOs with respect to the government. CEOs agreed in private to the changes but could not communicate with other CEOs. Planners and the mayor began to believe less and less in the public statements against the plans. Notice, however, that planners could not have discovered this characteristic of the CEOs unless they had interacted extensively and in different settings with the CEOs. Further, in the TransMilenio case, de Guzmán and Peñalosa agreed to the "good cop, bad cop" strategy in order to strengthen their bargaining position and diminish the power of the bus company CEOs. In this strategy in general, the bad cop tends to remind the suspect of the cop's authority and of the regulations he must follow. The good cop, on the contrary, reminds the suspect of the advantages of doing the right thing. The end result of the strategy is convincing the suspect of collaborating with the interrogators. In the planning of TransMilenio, Mayor Peñalosa was the bad cop and de Guzmán and Torres, members of the planning team, were the good cops. Peñalosa would threaten the operators with extinction by bringing in foreign capital to operate TransMilenio's buses. De Guzmán, on the contrary, would treat the operators as "entrepreneurs" and "industry captains" by reinforcing the point that TransMilenio was the opportunity for the operators to transform themselves into modern and profitable enterprises. Facing contradictory opinions, CEOs were motivated to pay attention to the proposals put forward by the planners.

At the same time, the "good cop, bad cop" strategy allowed the planners to diminish the power of the mayor. Mayor Peñalosa, as part of the strategy, addressed the CEOs as if it was possible to exclude the existing operators from participating in Transmilenio. Planners would tell the CEOs that provided the CEOs agreed to participate in the project, the planners would be able to convince the mayor of not excluding them from Transmilenio. In the planning of TransMilenio, as well, the interaction among actors allowed de Guzmán and Torres to identify the "natural" leaders among the CEOs. The natural leaders were different from the formal leaders,

who headed the business associations. By excluding the formal leaders the planners weakened that power structure. In turn, by recognizing natural leaders they empowered the actors they wanted to negotiate with.

As said, the cases show how planners reduced power imbalances between the most powerful stakeholders and government. However, the cases show less of an effort to promote the participation of the general public or the bus user, for example. The general public and the bus user are less powerful and face the possibility of assuming a disproportionate allocation of costs and benefits. In principle, to achieve an outcome that truly satisfies collective goals, planners ought to reduce this power differential as well. Put differently, at the same time that planners reduce the power of strong stakeholders and powerful politicians, they ought to heighten the strength of the weaker actors. Both actions are needed to reduce power imbalances. In the planning of TransMilenio, planners made an effort to ask civil society associations about bus and station design. This participation influenced the final designs.

One has to question, however, whether planners could have done more in Curitiba and Bogotá to empower the user and other representatives of the general public. The answer is probably very little. First, the political context of the cases—strong executive—tends to limit participation in plan making to the most powerful actors. That is why the most conspicuous stakeholder were the bus companies in both cases. Second, truly involving the bus user—or any other broad stakeholders—in the process is difficult because users have no organized form for negotiation. Absent from the process, bus users can end up bearing a disproportionate amount of the costs (and risk as argued below).[1569] Transportation planners should think how to meaningfully involve the "bus user" and other broad stakeholders in the planning process. While this breakthrough occurs,[1570] what should be clear is that the user needs to have an empowered voice once the project is operational, through surveys

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[1569] See Richmond (2001) for example of how the user is generally excluded while ideology takes over the planning process.

[1570] The example of the Brazilian City of Porto Alegre should be studied in more depth. Thanks to the participatory budgeting policies followed in that city, handicapped people were able to air the lack of adequate public transit to serve their needs. As a result, the city-owned Bus Company began to acquire handicapped-accessible buses. My source is a handicapped woman I interviewed in Porto Alegre when I was exploring that city as a possible case for my dissertation.

and user associations, among others. An empowered user will probably not let service quality deteriorate. If needed, the user has the right to mobilize to demand better service and lower fares like it happened in Curitiba and seems to be happening in Bogotá.

In sum, by interacting with politicians and stakeholders planners were able to mediate between these two actors. One objective of this mediation was to lower power imbalances. On the one hand, planners needed to reduce the power of stakeholders that opposed the plan. On the other, planners needed to reduce as well the power of the mayor. The cases suggest that both were needed to insure the support and cooperation of the critical stakeholders and reduce opposition to the plan. At the same time, planners in Bogotá made an effort to empower the user—the weakest stakeholder. By empowering this actor, planners reduce a power differential that can run against user's interests. However, the political environment and the lack of organized form of negotiation ran against this empowerment. Planners could not effectively reduce the power differential. The resulting allocation and costs and benefits is not as fair as when the user is empowered.

Finally, note also how planners had to be good at persuading stakeholders, politicians and the public at large—the later through marketing campaigns. Persuasion therefore appears as one more tool planners used to mediate and lower power imbalances. But mediating to reduce power imbalances is not enough. Planners needed to continue the interaction with stakeholders and politicians. The interaction rendered other benefits that contributed to taking the plans to the decision point and to have plans that benefited legitimate goals and not just those of individual participants. I now turn to analyzing the other benefits of the interaction between participants in the planning process as shown by the cases.

Planners' roles in interacting and shaping the plans

As seen, the interaction between planners, politicians, and stakeholders is a source of information for all parties involved. Stakeholders learn about and react to the plan; politicians learn about and react to stakeholders' positions. By interacting planners obtain critical information and feedback that otherwise they would not obtain. Before

the window of opportunity opened, planners crafted their plans mostly from their desks with little or no interaction with politicians and stakeholders. Politicians and stakeholders were not interested in interacting with the planners because the chances of adoption were minimal. Planners therefore had highly incomplete information. Planners did not know what stakeholders would respond to the plan or how.

Once the window of opportunity opened politicians and stakeholders were interested in participating in the process, because the plan had a chance of being adopted. Planners now had the opportunity to obtain feedback by interacting with other participants in the process.[1571/1572] The feedback resulting form the interaction allowed planners to shape the original plan by adjusting it incrementally in light of what seemed to be politically feasible.[1573/1574] Decision-makers and stakeholders, in turn, reacted to the changes and suggested new modifications given their own interests and objectives. This created a dynamic process of interaction among the actors that extended over time and that shaped the plans.[1575/1576]

[1571] Stevens (2001) analyzed an extensive body of literature on planning to determine how theorists understand effective planning. He found in his review of the literature that (pg. 13, my emphasis) "*None* of the publications that refer to feedback suggest that it should be incorporated into the planning process. Likewise none of them suggested that it should be incorporated into the planning process only before implementation." According to Stevens (2001), some authors recommend to have a source of feedback regarding the consequences of planning actions, that is, *after* implementation of those actions has taken place. During the planning process as such, most of the literature therefore tends to ignore the possibilities for obtaining feedback and introducing it into the process.

[1572] Brooks (2002) put forward a model of the planning process dubbed the "feedback strategy." While Brooks recognized the importance of feedback in the work of planners, his model is disconnected from an empirically based model of the planning process. Brooks' proposal is centered on the idea that planners can decide to implement a "trial-balloon proposal" in order to get feedback from other actors. Brooks' assumes that because it is a trial balloon the process will be easier. In light of my results, I doubt this is the case, except for very minor policy initiatives. My view, as seen in the main text, is that the feedback needed to make the process advance is not contingent on having a trial balloon implemented—the planning process itself offers that opportunity.

[1573] Luberoff and Altshuler (1996, p. vi-15) argue: "project advocates test ideas and strategies until they arrive at politically acceptable solutions to the problems at hand." My argument is analogous to theirs, only that I see this as one of the roles of the planning team, who are among the "project advocates."

[1574] Bolan and Nuttal (1975, chapter 3) argue that for a decision to happen the original idea of plan has to be modified both in the goals and the means as a result of negotiations among stakeholders.

[1575] The pattern I unveiled in the cases somewhat resembles the normative one Lupo, Concord and Fowler (1971, p. 234) put forward to achieve a coherent metropolitan transportation policy. These authors see three "logics" in the political system: planning, political, and technical. The goal of a coherent policy can only be achieved by "democratic communities with a strong tradition of local decisionmaking by utilizing the logics of the technician, the planner, and the politician in a proper combination. The planner must forecast the future growth and development of the community, identify its future needs, and come up with creative solutions to accommodate that growth and those needs. The politician must provide the leadership to help accomplish the goals and to modify the goals in a

The process was incremental because information was imperfect for all actors involved and to minimize risk participants tended to prefer to define gradually the details of the overall project.[1577] Participants emphasized in particular the consequences that specific aspects of the project entailed for them and demanded changes to mitigate any negative impact. Stakeholders did not oppose necessarily the entire plan as such; they cared mostly about the impact of specific details of the plan. Hence the importance of interacting with stakeholders to find out how they respond to certain details of the plan and if they demand changes. Without sufficient interaction, stakeholders might resort to opposing the entire plan instead of aspects of it. The planning team usually could not accept all the changes suggested by the stakeholders because frequently politicians and stakeholders were at odds and therefore the feedback was contradictory. Consequently, planners' role was finding a technical solution that fitted the constraints imposed by the other actors. In some cases planners innovated to find the technical solution that was politically feasible.

Notice the importance of having flexible plans, easy to adapt to the political exigencies unveiled by the interaction between actors. Several authors who have analyzed the planning processes for large transportation projects have arrived at

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manner consistent with the realities of political consensus. The technician's job is to find the most creative workable solutions to the goals agreed to politically." My cases show that a pattern similar to this normative model occurred in limited democracies like the ones in Curitiba and Bogotá (when compared to the U.S. local democratic tradition). My findings therefore validate these authors' normative model and extend its validity beyond the U.S. local democracy.

[1576] See also Luberoff and Altshuler (1996); Sagaris (2001); Bianco and Adler (2001); and Allard (2003) for examples of how plans change in response to the interaction between planners, politicians, and stakeholders.

[1577] See Lindblom (1959). It is interesting to see that the literature in transport and urban planning when it presents Lindblom's model tends to minimize the political aspects of this model (an exception is Forester, 1989). Examples are Meyer and Miller (2001, p.64-65) and Brooks (2002, p.99-101). These authors focus on aspects of the incremental model such as that a small number of options are considered by decision-makers and that decision-makers compare and evaluate increments only, among others. They ignore, however, the critical role that Lindblom assigns to political actors such as interest groups and watchdogs as they exist and operate in the U.S. political context. Lindblom also refers *implicitly* to the interaction among these groups and the decision-making process and to the resulting feedback. For example, Lindblom (p. 204) says "Mutual adjustment is more pervasive than the explicit forms it takes in negotiation between groups; it persists through the mutual impacts of groups upon each other even where they were not in communication. For all the imperfections and latent dangers in this ubiquitous process of mutual adjustment, it will often accomplish an adaptation of policies to a wider range of interests than could be done by one group centrally." Altshuler (1981) has an argument that corroborates this view of the U.S. political system in that it tends to advance incrementally, with the intent of not disturbing existing arrangements.

similar conclusions in that they call for projects to be flexible.[1578] Luberoff and Altshuler for example say "[the projects] must provide sufficient benefits (and have such a broad base of support) that they can survive changing times and concerns. At the same time, however, they must be *flexible* enough that they can be reconfigured (or at least repackaged) to provide credible responses to the new demands and issues."[1579] The BRT plans adopted in Curitiba and Bogotá had a larger degree of flexibility than the rail projects. BRT plans could change more easily in light of the interaction than the rail plans.[1580]

Let's look at some examples from the cases that support these conclusions. Wilheim's original master plan for Curitiba called for the construction of ample parkways, dubbed structural axes, that would have razed many houses. Planners reduced the width of the structural axes when they got the Director Plan approved in the City Council. Later on planners introduced busways in the plan and again the structural axes implied demolishing hundreds of houses.[1581] Mayor Lerner was not willing to go ahead with the plan. Dely was the planner who figured out the technical solution to this political problem. Dely's solution was the *trinary* road system. The *trinary* road system splits one big road into three smaller roads with different functions. The central one holds the busway and slow general traffic. The other two roads are one-way and handle traffic to and from downtown Curitiba. The solution reduced house demolition to a few houses. Lerner was willing to implement the structural axes using the *trinary* road system.

Regarding the express bus service planners wanted to introduce a series of changes to the bus services such as a new type of bus, switching to a trunk and feeder system, and creating routes that would link different "selective" areas. Negotiations with bus operators led to compromises that changed these original plans.[1582] Incidentally, recall the value that Jaime Lerner placed in floating a plan or proposal to obtain a reaction from interested parties and the population at large.

[1578] See Luberoff and Altshuler (1996); Goetz and Szyliowicz (1997); Langmyhr (2001); Gifford (1994); and Flyvbjerg et al. (2003).
[1579] Luberoff and Altshuler (1996, p. vi-19, my emphasis).
[1580] I expand the comparison in terms of flexibility between BRT and rail-bases options below.
[1581] For details see Chapter 3.

These reactions imply adapting the proposal or even abandoning it altogether. Lerner and his team therefore believe that plans have to adapt as a result of the interaction.

In Bogotá, Peñalosa and the planners wanted a BRT project that would use two separate fleets of buses—one for the off peak and another for the peak period.[1583] Plans also called for building seven busways during Peñalosa's tenure and for concessioning the bus routes to new bus companies that would own the buses. This change implied a radical transformation vis-à-vis the existing situation in which bus companies rented out routes to bus owners. Finally, Peñalosa also wanted to build pedestrian bridges at every bus station. The interaction with the key stakeholders—the bus companies—as well as planners' estimates of the costs led to abandoning the idea of having two fleets. Similarly, thanks to the interaction planners gradually defined the terms of the concession contracts. And thanks to the interaction with neighboring communities, among others, planners figured that building pedestrian bridges on Caracas Avenue was politically infeasible. Eventually, planners convinced Mayor Peñalosa of not building these access bridges. Finally, planners consulted with many organizations to improve the designs of the buses and stations, and communities commented on the location of stations.

These are just a few examples of how plans changed thanks to the interaction between planners, politicians, and stakeholders. These changes gave political feasibility to the plans, validated them and legitimized them. Stakeholders were not merely informed about a plan but were taken into account in a meaningful way. To achieve these outcomes, planners had to interact extensively with stakeholders and politicians, figure out an adjustment and then interact again to validate the adjusted version of the plan. Critically important was that planners interacted also with politicians to validate with them the most important changes to the plans. For politicians are the ones that more meaningfully know what the objectives of a plan are. In the cases, politicians in office had the power to tell planners what were the politically meaningful objectives. Planners adjusted the plans but bearing in mind

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[1582] See Chapter 4.

[1583] It is quite unlikely that having two bus fleets would have ever been feasible given the elevated costs it entails.

these broad objectives set by the politicians. Without interacting with politicians, planners are not aware of the broad objectives. Planners then risked being captured by stakeholders who demanded changes aware that planners had no benchmark to contrast with. Or planners risk alienating the politician when he or she discovers the changes the planners agreed to. If, on the contrary, planners interacted with politicians, then the politicians could tell planners what broad adaptations to the plans they were willing to accept and which ones not.

As part of the role of interacting with politicians and stakeholders, planners had to negotiate. Stakeholders tended to want more than anything reasonable constraints on the project would allow—and even politicians sometimes requested more than what was feasible. Planners therefore needed to negotiate with these actors. Aware of the importance of negotiation, de Guzmán reinforced his planning team first by hiring Rodriguez and then Torres, a trained negotiator. Rodriguez handled the negotiations with the City Council and Torres with the bus companies. Further, de Guzmán and Peñalosa agreed to the "good cop, bad cop" strategy in order to strengthen their bargaining position, as I explained above. Similarly, in Curitiba planners knew they had to negotiate the changes to the bus services with the bus companies and sent a team to negotiate. Notice that the importance of negotiation opens a door for approaches that improve the quality of negotiations, including the use of facilitators and mediators.[1584]

The negotiations with the bus companies in Curitiba and Bogotá exhibited several similarities worth analyzing given the criticality of this issue in replicating BRT systems. First, planners opened the negotiations with a basic proposal of what the BRT system entailed. This initial proposal was flexible and therefore gave planners' margin for negotiation—again without loosing track of the key objectives. Second, planners were aware that they presented a proposal that entailed too many changes at the same time, particularly in Bogotá.[1585] Further, because the proposals were

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[1584] See Fisher and Ury (1991); Susskind Cruikshank (1987); Susskind and Field (1996); Ury, Brett, and Goldberg (1993), Forester (1999); Willson (2003); and Innes (2004), among others.

[1585] Notice that Curitiba consolidated the bus operators into a small number of large and powerful companies in the late 1950s. In 1973-4 planners requested change such as establishing a trunk and

innovative, planners had difficulty showing credible demand forecasts and other relevant estimates. Planners were aware of this limitation and were willing to address the operators' concerns. Third, and related, planners knew they needed to structure a profitable business and negotiated with this in mind. Fourth, planners sought ways to improve their bargaining position. In Curitiba planners used the formal expiration of the concession contracts in 1974 as a way to threaten with calling other operators willing to adopt the new bus and the trunk and feeder system. In Bogotá, Mayor Peñalosa and the planning team agreed to the "good cop, bad cop" strategy, explained above. Finally, planners interacted extensively with the representatives of the bus companies. The interaction allowed planners to introduce changes to the original plans in light of what appeared feasible. As I detail below, the interaction also lowered the risk exposure to the operators. Hence, the interaction together with a clear negotiating strategy served to reach an agreement.

The interaction, however, is not limited to bargaining and negotiating. It goes beyond. In the planning of TransMilenio planners and the CEOs of bus companies created five committees where a huge amount of information was exchanged and little negotiation took place. Planners and stakeholders got to know what each other wanted and slowly figured what was feasible. Planners and stakeholders built relationships in these meetings. Slowly, planners persuaded the bus companies of the need for change. Planners showed operators figures suggesting the operators were facing bankruptcy and investing in TransMilenio offered the way out. Added to individual negotiations with the CEOs, the planning team incrementally shaped the TransMilenio project.

The existence of a somewhat clear objective appears again. The negotiations were more on "how" to achieve that objective than on the broad objective itself. A similar situation took place in Curitiba where planners knew the broad objectives and negotiated more on the details of the plan with stakeholders. Yet the plan's "details" determine "how" a broad objective is achieved; details are therefore critical. Politicians and stakeholders can respond to the implications of the details of plans more easily

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feeder system and adopting a new bus. In Bogotá these changes, as well as others, took place in a three-year period.

than to the implications of broad goals.[1586] In the end, there are many ways to achieve a broad objective and each can impact differently the stakeholders.

Given the importance of having a few broad objectives, it is important to ask where did the objectives come from? In the cases, plans' objectives were not derived "rationally," after a careful analysis of the problem. Nor did politicians and stakeholders gather at the outset to define consensually the problem and then establish desirable objectives. Instead, it was politicians in office who knew the goals that mattered in the interaction with planners. Because the proposal was somewhat ready before the window of opportunity, politicians took a look at the proposal and attached what they thought were the main objectives. In Curitiba, for example, planners' proposal was to build busways and introduce a new bus. Mayor Lerner took this plan and defined the broad objectives. Similarly, in Bogotá Peñalosa's proposal sought to introduce a high-quality BRT system. Peñalosa defined what were the main goals of his proposal.[1587] Put differently, planners did not set the politically meaningful objectives—it was the politicians in power. Hence the importance of planners interaction with both stakeholders *and* politicians. By interacting with the mayors, planners gradually understood these broad objectives, which became a benchmark against which stakeholders' demands for changes to the plan were contrasted.

This is not to say that politicians were consciously aware of the broad objectives they attached to the proposal. Rather, as the interaction took place and politicians heard about the results of planners' interaction with stakeholders, politicians stated what changes they could accept. The meaningful and broad goals emerged from that interaction. Peñalosa, for example, wanted to improve the quality of transit service using a BRT system. As planners interacted with the mayor, they understood that he wanted a system that involved the existing operators but that at the same time minimized the chances that the old buses could use the busways and stations. The solution was to adopt high-platform buses with doors on the left side.

[1586] For a similar argument see Altshuler (1965, p. 306-311).

[1587] Planners later on attached a myriad of goals to the TransMilenio project. The political significance of these goals was not large. Examples are: "to improve the level of service" (minimize travel time, lower the accident rate, affordability); "to improve the citizenry's quality of life" (less pollution, harmonic urban development) (McKinsey & Co., 1999a, p. 34).

The old buses had doors on the right side and at a lower height. A healthy tension developed, therefore, between the need to adapt the plans and the broad objectives set by politicians. Planners had to discover mostly technical solutions to this political problem.

In this sense, the cases probably stand apart from other cases where politicians in office do not know what they want from a given plan. Lerner and Peñalosa had a quite clear idea of what they wanted. Both knew the plans should result in a transformation of the bus transit system with improved quality. But Lerner and Peñalosa helped planners' work in at least two other related ways. First, Lerner and Peñalosa pressured the planners to show results—i.e. to get the plan implemented. This pressure made planners more realistic in their recommendations and forced them to interact with stakeholders. Second, Lerner and Peñalosa were willing to interact with the planning team to check periodically on their progress toward the ultimate goal of seeing the plans implemented. The mayors also checked on the state of the interaction with stakeholders. Planners could discover needed changes to the plans in light of the interaction with stakeholders, but the interaction with the mayors ensured that planners were not giving away more than they should. Put differently, the way the mayors managed the process preserved the space for government action because they had a capable planning team that interacted with stakeholders and politicians.

Contrast now with the cases where the interaction took a different form than in the aforementioned cases. In Curitiba Mayor Requião's plan for a public fleet lacked sufficient interaction with the key stakeholders—the bus companies. Planners were unable to gather information to determine how to adapt the proposal to the political and economic reality. The public fleet idea remained unchanged and led to a conflict between the mayor and the operators in the courts. Ultimately, there was a coalition against the public fleet idea instead of a coalition of support. The rail proposals in Curitiba, further, were also planned without sufficient interaction with the bus companies. As a result, planners did not change sufficiently the rail proposal to adapt it to the political reality. Namely, that the bus operators had to be part of the new scheme in a profitable way—something difficult for a rail system. In Bogotá, the

Metrobus project's demise occurred mostly because of lack of interaction with its key opponents—the bus companies. Metrobus was a project to build a BRT network started during the Castro administration and continued during Mockus tenure. Absent any interaction, planners were unable to figure out adaptations to the project, except for limiting its alignment to routes not used by the existing bus companies. The banks noticed this lack of adaptation and the resulting opposition to the project. The banks denied the loans to Metrobus and the project was abandoned.

Finally, because the interaction among actors translates into continuous adjustments to the original plan, it is important to have flexible proposals. The Director Plan in Curitiba embedded a high degree of flexibility, which ultimately resulted in the *trinary* axes. Transmilenio also embedded a large degree of flexibility. Planners, politicians, and stakeholders shaped the project through their interaction. But notice that Transmilenio also had a strong planning team complemented by world-class consultants. Hence the technical component in Transmilenio was very solid and yet it did not translate into a loss of flexibility. Further, TransMilenio had in Mayor Peñalosa a politician not willing to cede on many points—for example the need to modernize and capitalize the existing operators so that they could own and operate the new articulated buses. Having a strong leader like Peñalosa did not translate either into a loss of flexibility in the aspects that mattered to the stakeholders—e.g. whether the bus was low floor or high floor.

Indeed, the cases suggest that BRT projects embed a larger degree of flexibility than rail projects. The most important item is how BRT is better able to incorporate the demands of the critical stakeholders, the bus companies, than rail. In Curitiba and Bogotá the old operators became the operators of the BRT buses. BRT seems able to cover costs and allow a profit that entices the private sector to participate. Rail projects rarely cover operating costs with the fare they charge. The margin for involving the existing bus operators is thus minimal. The typical result is a metro competing against buses, because the metro has no funds to involve the bus operators. In this regard, plans for Bogotá's metro called for the establishment of feeder routes and the elimination of all competition from buses. But metro planners interacted very little, if at all, with the bus companies. As seen in Chapter 11, the

interaction was mostly with national government planners and would-be concessionaires. The controversy was on how to fund the metro project. The difficulty in funding the metro added to the metro's inherent inability to cover costs precluded any interaction with the bus companies. On the contrary, for TransMilenio, as for the RIT in Curitiba, the critical controversy involved the bus companies. Thanks to BRT's inherent flexibility, the planning processes benefited from the interaction with the bus companies. The planning process for the metro lacked this possibility.

In sum, the interaction among planners, politicians, and stakeholders led to changes to the plans. Original plans were crafted with imperfect information—even if lots of "rationality" went into crafting them. The interaction among actors during the window of opportunity provided feedback to all parties involved. Planners discovered what parts of the original plan were politically infeasible. Planners then found a solution or change to the plan that satisfied the political constraint. Because planners interacted also with politicians, they had an idea of the broad objectives of the plan. Planners therefore knew where they could cede and where they had to look for new solutions. The tension between what politicians and stakeholders wanted helped the process get to a result that satisfied collective goals and not individual preferences. The process, consequently, increased the scope for government action. Planners' role at adapting a plan in light of the results of the interaction is clearly a technical role. Contrary to the technical tasks done by planners before the window of opportunity opens, the role during the window was subject to political constraints. This made the technical role of planners more interesting and gratifying. Rafael Dely tells with pride how he figured out the trinary road system—a technical solution to a political problem—and how the trinary roads allowed Curitiba's Director Plan to proceed to adoption. Dely even uses this example in his firm's brochure because it shows his ability to find technical solutions to political problems.[1588/1589]

[1588] My finding that plans need to adjust incrementally to become politically feasible stands in contrast to some authors in planning who seem to argue against allowing plans to adjust. Hall (1981, p. 271-2), for example, concludes that if the planner "leans over backward to accommodate political behaviour, he will cease to be a planner, or a decision-maker of any kind; he will be rather like the politician who never takes initiatives because he is too conscious of all the pressures, and so never achieves political greatness. The planner is paid to make decisions (or to make strong recommendations to politicians in favour of decisions)."

Planners' roles in interacting and reducing risk

If a plan entails too much risk for decision-makers and stakeholders, these actors will not support the plan. In parallel, a plan promoted by certain politicians and stakeholders and even planners might be risky for society at large. Any plan tends to embed high levels of uncertainty and therefore risk. Planners could have crafted plans using poor data, inappropriate methodology, and/or unrealistic assumptions. Equally important, as time passes factors exogenous to the plan might change.[1590] Planners and promoters can craft their proposals to reflect their experiences and beliefs, which can be at odds with those of other actors.[1591] Finally, plan promoters might want to inflate certain forecasts to make the plan look more attractive.[1592] Indeed, vested interests and myths can be behind the support for plans.[1593] For all these reasons plans embed a high level or risk for politicians, stakeholders, and for society at-large.

Authors such as Hall recommend improving the quality of the forecasts and evaluation in order to reduce risk and uncertainty. "Planners need to make a more conscious effort to forecast the world (or rather the alternative possible worlds) in which the decision may be made and in which the consequences will then be felt."[1594] Indeed, the cases suggest that one way planners lowered risk was by having a solid technical capacity. In TransMilenio, for example the planning team hired a series of consultants who estimated the demand, the costs of operating the buses, and the expected financial return of the articulated buses, among others. Further, particularly in projects that involve private sector participation, there is an advantage to identifying and analyzing risks early in the planning process.[1595] Again from the TransMilenio case, planners at McKinsey devoted a significant amount of work to studying risk.[1596]

[1589] Altshuler (1965, p. 306-7) argued that the planners he analysed needed precise objectives before crafting a plan because "no one could effectively interpolate changes into a plan after it was complete without upsetting its internal harmony."
[1590] Flyvbjerg et al. (2003, p. 28-31).
[1591] Sabatier and Jenkins-Smith (1999, p. 131).
[1592] Flyvbjerg et al. (2003, p. 44-48); Wachs (1990, p.144). See also Bruzelious et al. (2002); and Pickrell (1992).
[1593] See Richmond (1991, 1998, and 2001).
[1594] Hall (1980, p. 268).
[1595] See Mehndiratta et al. (2000, p. 29). This piece contains an interesting proposal on how to improve risk management in the transportation planning process.
[1596] See McKinsey & Co. (1999a, 199b, and 2000) for examples throughout these studies on how risk was taken into account.

Likewise, for the Bogotá metro, to be procured through a concession scheme, consultants devoted a significant effort at studying risks.[1597]

Yet while having a solid planning practice helps, it is not enough to lower risk for participants in the planning process and for society at large. In this regard, Flyvbjerg et al. argue that the political and government establishment might partner with business interests to capture the decision making process in favor of a pre-determined alternative.[1598] "Politics is and should always be based on other input than expert analyses, but capture by special-interest groups often results in feasibility studies and other analyses becoming irrelevant in deciding whether or not to go ahead with a project, and in determining which alternative to build, since special and not public interest becomes the decisive factor."[1599] Furthermore, in the cases planners were dealing with a new technology, BRT. If demand estimates for transport facilities usually embed a high degree of uncertainty, for an unproven technology the capability for forecast was even more limited. So, while efforts to reduce risk were well undertaken and possibly effective, there still remained a very wide margin of expected error to tolerate.

Put differently, even if there is a solid technical side to planning the government might be captured by special interests that seek disproportionate benefits. Risk increases for society at large because the allocation of costs and benefits is not somewhat equitable. As argued in this dissertation, to avoid capture and lead to government plans that benefit legitimate goals, planning teams ought to be technically and politically capable and interact with politicians and stakeholders. It is the political capacity of the team that allows the team to interact with politicians and stakeholders. The interaction results in feedback that allows planners to adjust the plans in order to lower risk. At the same time, by interacting, receiving feedback, lowering power imbalances, and adjusting the plan, the planing team builds space for government action that leads to a fairer allocation of costs and benefits. In adjusting the plan, risk goes down for all actors involved. Flyvbjerg et al. agree with this approach when they

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[1597] See Rothschild & Sons-Loius Berger International-Selfinver (2000); and Rothschild Group (2000).
[1598] Authors such as Wachs (1989, 1990, and 1995) also consider this approach incomplete.
[1599] Flyvbjerg et al. (2003, p. 88).

write: "Feedback from participating groups should be actively used in the feasibility studies and in the decision-making process, including a constructive role for the groups in defining the major requirements to be taken into account in the technical, environmental and economic design of possible projects."[1600/1601]

Several examples from the cases illustrate these points. In Curitiba, the city government lacked technical capacity regarding how to estimate the actual costs of operating buses. A power imbalance emerged and while the operators did not totally capture the government, they managed to obtain a fare that led to rents—i.e. profits above normal. Only when the bus user, represented by MAB, participated in the process, was this imbalance corrected. MAB discovered that the operating costs were inflated and helped produce knowledge on how to estimate buses' operating costs. The Requião administration used and complemented this knowledge to the point where it developed the technical capacity to fully understand the cost structure of the operators. The space for government action increased and risk went down for the user. Requião and his planners then came up with the payment per distance logged, which transferred the demand risk to the city. With a lower risk, the fare could be lower.

In Bogotá, the city government sought to avoid the power imbalance that took place in Curitiba by demanding bus manufacturers to take an actual BRT bus to Bogotá. The City hired Los Andes University to do a detailed analysis to determine the costs of operating the buses in the streets of Bogotá and at the height above sea level of the city.[1602] The study lowered risk for the would-be investors because they had a better estimate of actual operating and maintenance costs. At the same time, risk went down for the city, which had better grounds for estimating the amount to pay the operators per kilometer logged. Finally, risk also went down for the user, because the payment per kilometer logged covers fairly operating and capital costs. Yet in

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[1600] Flyvbjerg et al. (2003, p. 112).

[1601] Flyvbjerg et al. (2003, p. 110-123, see also ch. 11) offer a way to reduce the risk involved in undertaking a plan. They advocate for having a planning process that relies on four accountability mechanisms: transparency, performance specifications, explicit formulation of regulatory regime, and the involvement of risk capital. The Curitiba and Bogotá cases are to a significant extent an empirical corroboration these arguments on how project planning ought to happen.

Bogotá despite the city paying the operators per distance logged, the contract assigned the demand risk to the operators. This means that if actual demand surpasses projected demand, then the operators make an extra profit. In Curitiba, the city bears the demand risk and hence if ridership decreases—as it is happening[1603]—the city government has to look for funding to cover the resulting deficit. Risk allocation in each city, in sum, was the product of technical consideration and of the interaction among actors who negotiated the terms of the contracts.

Another example of how the interaction and technical capacity lower risk comes from the original BRT plans in Bogotá and Curitiba. These plans entailed a high risk for the bus companies because of the many changes the plans entailed. By interacting and negotiating with the bus companies, planners were able to adjust the plans to lower the risk for the companies. In Curitiba the plans called for the introduction of a new bus, the creation of a trunk and feeder system, and the establishment of routes that went into other company's "selective" area. Risk was too high because of the high investment coupled to the increased competition by operating beyond each company's "selective" area. To lower risk, planners and bus companies agreed that the "selective" area principle would prevail—buses from one company would not operate in other "selective" area. The lower risk helped the companies agree to the new bus and the trunk and feeder system. In TransMilenio, Mayor Peñalosa and the planners wanted a high-platform bus, which operators considered highly risky because these buses could not be sold in the used-bus market. Low-floor buses, on the other hand, had value. The interaction led to introducing in the contract a clause stating that the city would pay TransMilenio operators a minimum of 850,000 km. logged per articulated bus. Thanks to this clause the resale value of the bus did not matter any more. Risk went down for the operators. But risk did not go down enough, however, because some would-be proponents insisted on the low-platform bus. The city then allowed bidders to propose

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[1602] Bogotá is located at 2,600 m. (8,500 ft.) above sea level. Because there is less oxygen, the combustion of the engines changes. Hence the importance, among others, of carrying out the study.
[1603] See Brasileiro (1999, p. 487-8).

which type of bus they wanted to use. Bidders ended up proposing high-platform buses—the ones the planners and Mayor Peñalosa wanted.

In Curitiba Dely's idea for the trinary road system reduced the number of property takings by the city. With this change to the Director Plan, risk was lower for Mayor Lerner and for the communities neighboring the structural axes. In Bogotá, planners went to over 300 hundred public hearings with neighboring communities. The communities were worried the city would levy a valorization tax (betterment levy) to finance the construction of TransMilenio. The planners assured the communities this would never happen. Risk went down for the communities. As risk went down for the communities in both cities, the communities had less incentive to oppose the plan.

In sum, a solid technical component coupled to the interaction among planners, politicians, and stakeholders provided information on how to adjust the plan to lower risk for all actors involved. At the same time, the interaction and the resulting adjustments achieved a result that benefited collective goals. Finally, if the way to lower risk is to have a process that involves all relevant actors then the bus user should also be called to participate in the planning of bus rapid transit systems. In Bogotá, planners consulted with many civil society associations, which supplied feedback on how to design the bus and the stations. But as argued above, involving the user is difficult because the user has no organized form for negotiation. As a result, risk allocation will likely be biased against the user.

Planners' roles in interacting and coalition building

Planners that support a plan during the window of opportunity have the objective, in general, of seeing the plan adopted. The cases show that while mayors are the primary decision-makers at the city level other actors participate in the process. The participation of other actors improves the quality of the plans as argued in the previous sections but complicates the understanding of how decisions happened. Further, the cases suggest that tracing when the decision to adopt a plan actually occurred is difficult. Many times the mayor seemed to adopt an element of a plan but this decision only triggered more interactions between planners, politicians, and stakeholders. An example is Lerner's adoption of the trinary road system.

Construction started soon after. But planners then had to interact with the bus companies to get the express bus adopted. The situation was similar in TransMilenio where the construction of the busways was just a component in a complex scheme to rearrange bus service provision. Similarly, getting approved in the city council a city law containing a plan or creating the agency in charge of implementing the plan does not mean either that the plan was adopted. In Curitiba the City Council declared the Director Plan a city law and enacted the creation of IPPUC. In Bogotá the City Council created TransMilenio Co. But this step only triggered other decisions.

Tracing the actual decision to adopt a plan is therefore difficult.[1604] Part of the complexity is that in the cases planning and implementation were not divorced as many models of the planning process preach.[1605] Instead, the window of opportunity showed participants that the possibility of actual implementation was real. During the window of opportunity, planning and implementation were therefore rather intertwined. The initial interaction led to some initial decisions. These decisions in turn triggered additional interaction between actors, which in turn led to other decisions and so on.[1606]

What seems clear from the cases, however, is that underlying this pattern was the gradual formation of coalitions in support of the plan or coalitions against it. The ultimate decisional outcome—whether the plan was adopted or not—is correlated with the position backed by the strongest coalition. Indeed, getting a plan adopted is not a matter of rationality but of power.[1607] Think of the metro proposal for Bogotá backed by President Samper and during some time by Mayor Peñalosa—two powerful politicians with lots of "political will." Many planners believed the decision to adopt the project had taken place. In reality, there was a rather broad coalition supporting the metro. With the change of administration at the national level, Jaime Ruíz followed a

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[1604] For the difficulty of understanding and analyzing decision-making see Allison and Zelikow (2001); and March (1994 and 1988)

[1605] These models tend to be linear and consist of stages such as: analyze problem, design alternative solutions, evaluate the solutions, and decide alternative to adopt. For examples of these models of the planning process see Meyer and Miller (2001, ch. 2); Thomson (1983, esp. p. 57-78); Gakenheimer (1995); Dickey (1983, ch. 2); Langmyhr (2001), Dimitriou (1995, ch. 5); Pas (1986); Pas (1995).

[1606] See Allison and Zelikow (2001, p. 294-313, esp. p. 302-4).

[1607] See Flyvbjerg (1998); Feldman and Milch (1982); Luberoff and Altshuler (1996); Altshuler and Luberoff (2003), among others.

strategy that assembled a coalition against the metro. The ultimate decision was eventually the one supported by the most powerful coalition—not undertaking the metro. The question is therefore not how decisions happened in the cases—a question that lies beyond the scope of my research. Instead, the question is how did coalitions get assembled?

My analysis has unveiled two interdependent mechanisms that were instrumental in assembling coalitions of support both related to the interaction between participants in the planning process.[1608] First, as planners interacted with politicians and stakeholders they discovered that these actors could not support the plan because of some of its aspects. These aspects of the plans tended to hurt stakeholders' interests. Planners then figured gradual adjustments to the plan bearing in mind the political reality unveiled by the interaction. As planners introduced these changes, stakeholders saw that the plan did not hurt their interests. There was no longer a reason to oppose the plan. In some cases, moreover, the changes led to plans that benefited stakeholders' interests. These stakeholders now had reasons to support the new version of the plan. Therefore, as planners interacted with stakeholders, adjusted the plans according to the resulting feedback, and lowered risk for all participants, a coalition of support slowly emerged.[1609]

A second mechanism to assemble a coalition of support is related to planners' effort at reducing power imbalances. A politician in office that seems too powerful will probably alienate parties affected by the plans. These stakeholders will gather forces to oppose the plan. Likewise, if stakeholders against the plan seem too powerful, then assembling a coalition of support would be more difficult. The would-be supporters can fear the political cost of supporting a plan in light of the powerful coalition against. If planners' mediation is effective, however, then these power imbalances will be

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[1608] Of course, there are other elements in the course of assembling a coalition of support for a plan. For example, media campaigns directed at informing and promoting the plan, among others. Notice, however, that through strong marketing, the public at large can be misled to believing that a plan benefits legitimate goals when in reality it disproportionately favors private ones.

[1609] This conclusion matches the conclusion reached by Luberoff and Altshuler when they analyzed the planning process for Boston's Center Artery Third Harbor Tunnel (CAT) project. "Advocates of the various project elements honed their design, essentially testing various configurations and elements until they arrived at a solution that could generate substantial political support among the traditional

smaller. The politician in office will not seem as powerful. Opponents will not have in the mayor's power the fuel they need to assemble a coalition against. Opposing stakeholders that seem less powerful will not prevent supporters from assembling a coalition of support. Put differently, this second mechanism is related to planners' work at creating a minimal space for government action. As planners build this space for action, the resulting plan is seen as legitimate, in part because the plan reflects collective goals and because the distribution of costs and benefits is somewhat fair. The public sees no need to oppose a plan with those characteristics and can be willing to support it.

I have illustrated above sufficiently how the plans in Curitiba and Bogotá changed as a result of the interaction between actors. These changes lowered risk, mitigated the opposition and contributed to raising support for the plans. There remains to illustrate the second mechanism for assembling coalitions—resulting also from the interaction. In the RIT and TransMilenio at the outset most analysts doubted such projects would be adopted.[1610] This included me during the years I followed the unfolding of the TransMilenio case.[1611] For example, I argued that the scale of change implied by TransMilenio was so vast that bus operators would strongly oppose the plan. I thought the chances of adoption were slim given the power the bus operators exhibited in the past. For example when they opposed and eventually helped terminate the Metrobus BRT project. Other analysts agreed that the impacts on the existing operators were too large and most likely the operators would use their power to oppose the plan.[1612]

Yet thanks to the process followed the end result was a coalition strong enough to get the plans adopted. In both cities, as seen, the process entailed a lengthy interaction between planners, politicians, and stakeholders. The interaction allowed planners to reduce power imbalances among others as noted above in this chapter. In Bogotá, for example, the mayor and the planners resorted to the "good cop, bad cop

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elements of the region's pro-growth coalition while arousing only minimal opposition from environmental and neighborhood groups." (Luberoff and Altshuler, 1996, p. VI-15).

[1610] Acevedo (1998); Rodriguez (1999); and for the Curitiba case see Perón et al. (1975, p. 32).

[1611] See Ardila (1998, p. 52).

[1612] Acevedo (1998); Ceneviva (1990, p. 29).

strategy." The strategy indicated the CEOs of the bus companies that they would be better off if they participated in TransMilenio. The bus companies had less power. At the same time, the planners, the "good cops," were able to reduce the power of the mayor, by telling the CEOs that provided they cooperated, they would be able to convince Mayor Peñalosa, the "bad cop," of contracting the TransMilenio services with them. In parallel, the interaction showed planners that the CEOs negotiated individually but not in the presence of other CEOs.

By lowering the power of both the CEOs and the Mayor, planners facilitated the assemblage of a coalition of support. The CEOs saw the possibility of adapting the plans, even if Mayor Peñalosa's statements suggested the project lacked flexibility. Slowly, the CEOs understood the need to join the coalition supporting TransMilenio. Interestingly, the process was successful even with Miguel Pérez and his group of small owners of buses. Perez opposed the TransMilenio project almost until the project opened to the public. However, Pérez understood that the survival of the small owners depended on supporting TransMilenio and joining the coalition of support. Perez and members of his trade union, Apetrans, are now investors in SI02, one of the operators of the second phase.

In sum, the cases show that the interaction between planners, politicians and stakeholders helps assemble a coalition of support via two interdependent mechanisms. The interaction first led to adaptations that lowered risk and that mitigated negative impacts of the plans. Stakeholders had fewer reasons to oppose and more to support the amended plan. The interaction also allowed planners to reduce power imbalances between politicians and stakeholders. A too powerful stakeholder will prevent the formation of a coalition of support. A too powerful mayor will motivate stakeholders to created a coalition against the plan. When planners lower the power imbalances between politicians and stakeholders, the chances of having a coalition of support increase. Coupled to the adaptations to the plans, the end result was coalitions of support strong enough to get the projects adopted. At the same time, the end result was plans that benefited collective goals—and not just the interests of individual stakeholders or politicians. This outcome showed the public at large that the plans were legitimate and worth supporting.

Finally, instrumental in allowing these mechanisms for coalition building to work was to have flexible proposals. BRT is the alternative adopted in Curitiba and Bogotá because its inherent flexibility allowed planning teams to involve the critical stakeholders as investors. Further, BRT's flexibility helped planners show that it was a valid solution to the city's mass transit needs. Specifically, thanks to the technological innovations in each city, BRT could move as many people as light rail in Curitiba and as heavy rail in Bogotá. But because of the lower cost, BRT could offer a wider coverage sooner than rail. This argument ensured support from segments of the public at-large. Rail systems, on the contrary, are rigid. In particular, metros lack the flexibility to involve bus operators as investors, because their fare barely covers operating and maintenance costs. And because of their high construction cost, metros generate opposition from people worried about their financial impact. In Bogotá, moreover, opponents to the metro resorted to increasing the lack of flexibility in order to minimize the chances of pro-metro planners building a coalition of support. In effect, the pro-metro coalition was small and had less power than the anti-metro coalition.

Planners' roles opposing a plan

Some planners in Curitiba and Bogotá fought against certain plans, mostly metros and light rail. These planners believed the plans were not a sound solution or could even hurt the long-term interests of the city or nation. Planners that oppose a plan, therefore, play a critical role at helping society make better decisions. Even the pro-metro planners in Bogotá now acknowledge that the correct path was to undertake a BRT solution and not a metro. The financial conditions of the national government, and to some extent of Bogotá's government, suggest that not adopting the expensive metro was adequate.

In the cases, planners opposing a project resorted to a series of strategies to minimize the chances of having the proposal adopted. First, planners sought to introduce delays in the process. Windows of opportunity do not to last forever. Therefore, delays can derail a plan. In Bogotá, Jorge Acevedo convinced Mayor Pastrana of requesting and update to the metro study in an attempt to delay President

Barco's proposal. Jaime Ruíz during Pastrana's presidency forced the metro procurement into the concession strategy, which required the most extensive and time-consuming studies. In the mean time, Peñalosa's pet project, TransMilenio, would be ready (or nearing completion) and the political cost of rejecting the metro would be lower.

Second, planners in the opposition argued that the plan was not an adequate solution to the particular problem the promoters claimed the plan addressed. In Bogotá planners put forward the argument that the metro would cater to less than 10 percent of the demand. For planners that supported the metro it was quite compelling that a single line could transport such a large share of the demand. But planners opposing the metro reinforced their argument by pointing out that the elevated cost of the metro left no funds to improve the situation for the remaining 90 percent of the demand. Planners supporting the metro were never able to counter this part of the argument. In the end, many actors believed that the metro was not an adequate solution. Planners supporting the metro might have attempted to increase support for the metro proposal by emphasizing the city wide benefit of breaking the throttles of mobility in corridors where the travel demand exceeded the capacity of any other mode, or the idea that metro had the possibility of rejuvenating the city center to the benefit of everyone. But such arguments were not forwarded; and it is not clear that they could, in any case, be proven.

Third, and related, planners opposing a project directed key decision-makers to alternatives that were better solutions to the problem. This is a basic ploy because decision-makers need to show that they are doing something to address problems. In Bogotá, Acevedo and Ruíz presented the busway along Caracas Avenue as an alternative that could be implemented during the short term in office *and* that could improve the speed at which buses circulated. In Curitiba, Ceneviva presented the bi-articulated buses and tube stations as a solution that could perform similar to light rail but at a much lower cost. Finally, planners, such as Ruiz, opposing the metro proposal pointed towards TransMilenio as the correct technological choice.

Fourth, planners opposing plans resorted to calls for keeping the proponents honest. In Bogotá, Ruíz and DNP planners forced the metro into the concession

strategy. Because of the large amount of private equity involved, the concession strategy demanded high-quality information. Otherwise, risk was too high for the would-be investor. Pro-metro planners could not resort to other procurement strategies with a lower total cost. Pro-metro planners could not tell lies either—as it has happened repeatedly in the history of mega-project planning.[1613] If planners told lies risk would be too high for investors.[1614] Nor did pro-metro planners want to tell lies—they agreed with anti-metro planners that they wanted the best possible metro and that they would not repeat Medellín's Metro debacle. As seen, the initial cost estimate for the Medellín Metro was US$ 655.4 million. By the time of this writing the cost was above US$ 2.6 billion. At the same time, actual ridership is less than a third of demand projections.

Finally, planners that oppose a plan built a coalition powerful enough to counter the coalition that supports the plan. As said, the adoption of a plan is a matter of power and not of rationality. Too many plans and projects have been adopted—the Medellín metro comes to mind[1615]—because of powerful coalitions that are able to push forward a plan, keep it unchanged in spite of stakeholders' requests, and crush any opposition. Probably by introducing delays in the process, arguing that the plan is not an adequate solution, proposing alternative solutions, and making the proponents accountable, planners can begin weakening any powerful coalition of support.[1616] My analysis of the cases, moreover, reveals that as long as there is a minimal democracy that allows actors to participate in the process these strategies are feasible.[1617] As Altshuler and Luberoff found for mega-project planning in the U.S., "while business has a near monopoly in organizing support for development proposals, the potential to

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[1613] See Flyvbjerg, Holm, and Buhl (2002); and Flyvbjerg et al. (2003, esp. ch. 2).
[1614] See Flyvbjerg et al. (2003, ch. 10 and 11) for an argument of why bringing in the private sector leads to accountability in mega-project planning.
[1615] See Acevedo et al. (1993) and CGR (1994).
[1616] For examples of similar cases of planners opposing plans they consider bad for society see Flyvbjerg (1998, 2002, and 2003).
[1617] My analysis can be interpreted as a call for more democracy. I am troubled by Scott and Fainstein's (2003, p. 1) assertion that the fundamental question of planning theory is the following: "What role can planning play in developing the good city and region within the constraints of a capitalist political economy and a democratic political system?" For me, instead of constraints, the question should read opportunities, for it is democratic opportunities, enhanced by a capitalist setting (see Friedman, 1962) that allow planners, politicians, and stakeholders to participate in the planning process and interact.

derail proposals is far more diffused. Neighborhood, environmental, ethnic, preservationist, and other interests with little or no capacity to mobilize support coalitions can, if aroused, generally block or modify initiatives that threaten them."[1618]

Politically and technically capable planning teams

If planners' main role in the planning process is to interact with politicians and stakeholders, then planning teams have to be politically capable. But to arrive at adopted plans that benefit legitimate goals, planning teams also need a high level of technical capacity. Political capacity allows teams to interact with other participants in the process. This interaction provides feedback that leads to adjustments to the plans. Absent a solid technical foundation, the interaction leads to capture by powerful vested interests. The plan no longer benefits legitimate interests; instead it favors disproportionately a few private ones. In both Curitiba and Bogotá there were planning teams that were politically and technically capable. That planning teams have to have political capacity does not at all reject the value of planning work that proceeds from stable normative commitment in the planning problem. On the contrary, it takes both political and technical capacity to form a team that is able to face the political and technical requirements it faces in the planning process.

As argued in the introduction, political planners provide the political capacity in the planning team. Political planners tend to like the contact with people and tend to be good at lobbying and negotiating. They are skeptical about the ability of information alone to influence. Political planners tend to see the value of receiving input from a wide variety of actors and are thus able to mold planning proposals to meet multiple requirements and to explain them favorably to stakeholders. Political planners act from a focus on political and interest-based positions. These traits allow political planners to interact with stakeholders *and* politicians. The planning teams in Curitiba and Bogotá had many political planners. In Curitiba, Carlos Ceneviva, Rafael Dely, Euclides Rovani, Francisca Rischbieter, Karlos Rischbieter, and Dúlcia Auríquio in Lerner's camp, and Stênio Sales and Garrone Reck, among others, in Requião's camp are examples of "political" planners. Notice that these planners also had a solid

[1618] Altshuler and Luberoff (2003, p. 261).

technical capacity. Countless other planners provided the technical capacity in the team.

In Bogotá, similarly, the planning teams for the Caracas Avenue busway had political planners, such as Jorge Acevedo, Fabio Regueros, and Jaime Ruíz in the upper echelons of the team. On the more technical part of the team, planners such as Liliana Lyons, Nelson Galeano, and Libardo Serrano, among others also showed political capacity. This capacity allowed these planners to interact with the bus operators. Finally, TransMilenio's planning team exemplifies very well what I mean by a politically and technically capable planning. Peñalosa appointed de Guzmán, a political planner, to head Transmilenio's planning team. De Guzmán was aware of the political and technical requirements of planning Transmilenio. As the process advanced, de Guzmán reinforced the planning team by bringing in planners proficient in the areas the process required, such as a lobbyist, a trained negotiator, and an expert in public communications, among others. De Guzmán's planning team was complemented by a high level of technical capacity both from planners within the team and a broad arrange of top-level consultants (more on consultant's role below).[1619]

Among the political planners in the planning team, one or more became project champions, which is essentially a leadership role. While the city mayors, Lerner and Peñalosa, played the role of project champion, they did not have the necessary time to tend to all the demands of planning a mega-project. Consequently, some members of the planning team had to play the role of project champion as well.[1620] Examples of project champions at the planning team level are Carlos Ceneviva and Rafael Dely in Curitiba, and Ignacio de Guzmán, Jaime Ruíz, and Jorge Acevedo in Bogotá. The

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[1619] Dickey (1983, p. 385-6) has a similar argument. Dickey argues that transportation planners need to bring two types of expertise to the process. First, technical knowledge and skills, and second ""process skills,"—listening, communication, and facilitating understanding and agreement." Dickey (p. 386) also argues that the planners "should tailor the participation aspects of the planning process to the situation." Dickey's comments are in the context of comprehensive transportation planning. My results suggest, as those of previous analysts (Altshuler, 1965), that comprehensive plans cannot elicit the participation by actors that is needed to provide planners with the feedback they need to adjust the plan. Only when specific projects enter the political agenda of the city during a window of opportunity will people respond to the plan. Hence the importance of having flexible plans.

[1620] For examples of the importance of the project champion see Meakin (2002); Luberoff and Altshuler (1996); Doig (1995) and Richmond (1991 and 1998).

project champions in the cases seemed to have some or all of the following traits. First, the project champion was able to understand basic aspects of planning, engineering, law, public finance, and certainly political and social factors.[1621] Second, the project champion led the planning team into interacting with other participants in the process. Third, the project champion convinced the technical side of the team that adapting the proposal was necessary in light of the political reality unveiled by the interaction. Fourth, the project champion had access to critical politicians in office to discuss the results of the interaction with stakeholders and obtain feedback. Fifth, the project champion together with the mayor motivated the team even by creating a myth around the plan at hand.

Finally, the cases suggest that politically and technically capable planning teams seem to facilitate and enhance the roles of consultants. The reason was that the planning teams interacted with stakeholders and politicians in an environment of quite well defined planning objectives. The interaction yielded feedback. Because the team also interacted with the consultants, the consultants work was politically realistic. Consultants' work did not take place in a political vacuum. Again the main example comes from TransMilenio, where several first-class consulting firms were involved. The existence of a planning team willing to interact with stakeholders and politicians supplied the consultants with political feedback on their proposals. Consultant's advice was therefore more realistic and tightly suited to the client's objectives—to get TransMilenio implemented before Peñalosa's term was over.[1622] The feedback resulting from the interaction served to detect areas where the plans needed adjustment. The planning and the consultants discussed any adjustment and figured out the technical solution to the political problem.

[1621] Ardila and Salvucci (2001, p. 117-118).

[1622] Pearlstein (2004) argues that "corporations have recently grown weary of paying millions of dollars for brilliant strategic reports that, in the end, could not be implemented." Pearlstein argues that one cause is that consultants are not involved with the implementation of their recommendations. As seen, one of my arguments is that this involvement will bring realism to consultants' recommendations and hence improve the quality of their work as the TransMilenio case suggests.

The importance of politicians in the planning process

In my discussion of the roles of planners in the planning process, politicians have emerged repeatedly. Some might argue that the appearance of politicians in the analysis is because the cases are located in a strong-executive political context and because the mayors had particularly strong confidence in a planning process. In a strong executive context, mayors have more formal power than in other types of democracy. If this were true, then all mayors would have played similar roles, but this was not the case. In Curitiba, Mayor Lerner and Mayor Requião differed in the way they allowed their planning teams to interact with stakeholders and mediate. In Bogotá, Mayor Castro did not seem to have encouraged much the interaction with other actors of the Metrobús planning team. Mayor Mockus strongly believed in planning services, but his energy went mostly into stopping a poor plan for a metro line rather than quickly advancing an alternative—the busway on 80th street, for example. Mockus' strong belief in rational input before he makes a decision seems to preclude planners from interacting after he makes the decision. Planners seem to miss the benefits of the interaction. Mayor Peñalosa, like Mockus, believes in planning services. Peñalosa, however, had a pre-determined alternative—TransMilenio—that his planners were to define and implement before his term in office was over. Lerner in Curitiba had a similar urgency to see projects implemented. Lerner and Peñalosa offer, therefore, an example of the role of a politician in the planning process—independent, probably, of the "strong executive" context.

Lerner and Peñalosa share several views on the planning process, the roles of planners and the roles of politicians. These views facilitated planners' work. Both leaders believe that there is a political side to planning parallel to a technical side. For Lerner and Peñalosa politics and planning are integrated and decisions are ultimately political and not technical, as it should be in any democratic setting. Second, both are aware of the criticality of time in the planning process. The window of opportunity their appointment and/or election opened did not last forever. Hence their urgency to show results and their willingness to take a pre-crafted solution and put it forward for discussion during the window of opportunity. Third, Lerner and Peñalosa share the belief that as a result of politics a proposal might change in the path to adoption.

Fourth, and related, both are aware of the importance of interacting with the planning teams. In the end, the objectives that mattered in the processes were the ones the mayor's had. By being aware of where they wanted to get to, Lerner and Peñalosa offered planners a useful benchmark against which to compare stakeholders' demands for changes to the plans.[1623]

All these characteristics facilitate planners' work. First, Lerner and Peñalosa are aware of the importance of assembling capable planning teams. If planning has a political side, then the team has to be politically capable. But both recognize planning's technical side. As Peñalosa told me: "we brought the best consultants in the world to help plan TransMilenio." Second, both leaders allowed their planning teams to interact with stakeholders and both met periodically with the teams. Hence planners could fulfill their main role during the window of opportunity—to interact with politicians and stakeholders. Third, Lerner and Peñalosa's view on planning and politics bring closer otherwise lose terms such as planning, implementation, and decision making. The pressure to implement the plan makes planning more realistic and forces planners to interact.

In sum, Lerner and Peñalosa's views allow planning teams to interact. The interaction allows planners to mediate between politicians and stakeholders. By mediating, planners opened a space for government action and plans therefore reflected legitimate goals and not individual ones. The interaction also allowed planners to gradually shape the plans, lower risk to all parties involved, and build a coalition of support. Put differently, the power these mayors had to get their pet plans adopted did not come only from "political will" and being good leaders in a "strong-executive" setting. Rather, the power that allowed them to implement the Director Plan in Curitiba and TransMilenio in Bogotá came from the space for government action that the planning teams helped build. And power is what matters in order to get a plan adopted—certainly much more than "political will" on its own.

[1623] Lerner offers an additional example to planners. Lerner was originally a planner. Lerner, however, entered politics in order to see the plans he favored adopted.

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