PREFACE

This paper was written for the Volvo Research and Educational Foundations. It is a synthesis of five commissioned papers on the governance of metropolitan transport in Western Europe, Australia, Canada and the US, plus the governance of Bus Rapid Transport (BRT) in Latin America, India and Sub-Saharan Africa. Sections 3, 4 and 5 summarise the five papers and section 2 is the synthesis.

The paper is an essay rather than an academic paper. It is an attempt to develop concepts for understanding governance of metropolitan transport in countries that are, or aspire to be, modern and democratic, with professional public administrations and the rule of law.

Some 20 countries are discussed, some in more detail than others. If this attempt is considered successful, further countries could be added. My choice would be to start by adding democracies and avoid authoritarian countries. The reason is the critical role of politics. It is not possible to discuss governance in the context of metropolitan transport without a thorough understanding of politics and how it differs between countries. Politics depend on constitutional issues, economic philosophies and urban and suburban middle classes. Understanding politics in authoritarian countries characterised by non-transparent governments is just that much more difficult.

This essay is somewhat of an exercise in skating on thin ice over deep water. Understanding how politics influence metropolitan transport requires straddling the rather empty field between political science and transport research. While each is well populated, the meeting points are few. There is a dearth of common concepts. This essay attempts to develop these.

I have discussed the topic with some 50+ knowledgeable persons, in roughly equal measure from the world of practice and the world of academia. The two worlds bring complementary insights to the interplay between politics and governance. I am grateful for these discussions and for the feedback on sections regarding the background papers. I believe the facts in this synthesis are, on the whole, correct. I may have made some errors, but facts can also change over time as politics evolve.

One area is glaringly missing: how the business models of new mobility services will shape and be shaped by governance and politics in different countries. A guess is that markets for these services over time will be dominated by a few global US, Chinese and European actors. The politics and economics of this are certainly worth separate studies.

The paper does not contain references. If the arguments in the essay are credible enough, I expect they will stimulate deeper studies by individuals with more thorough academic credentials.
The aim of this paper is to provide the Volvo Research and Educational Foundations (VREF) with an initial understanding of why metropolitan transport systems are shaped as they are, and how they could be improved. This is in line with an emerging VREF thematic initiative on governance of metropolitan transport.

The shift in focus from what to do to improve metropolitan transport towards how to improve metropolitan transport (and the subsequent questions of who and why) represents an evolution in the VREF’s investments in academic research. What is located within the rather prescriptive academic mainstream fields of transport research, such as transport economics, transport planning, modelling and so on, which also dominate international conferences such as the Transportation Research Board (TRB), the World Conference on Transport Research Society (WCTRS), and Thredbo. How and the subsequent who and why shift the focus towards the less-prescriptive social sciences.

This paper is based on four sources:

First, five specially-commissioned background papers on governance of metropolitan transport in Western Europe, Canada/US/Australia, Bus Rapid Transport (BRT) in Latin America, BRT in India and BRT/paratransit in Sub-Saharan Africa. The papers are available on the VREF website.

Second, a large number of VREF Centre of Excellence (CoE) findings and projects that deal wholly or partially with governance issues, such as Transforming Urban Transport – The Role of Political Leadership (Harvard University), Transport Leadership Summits (Regional Plan Association), the Centre for Mega Projects in Transport and Development (University College London), CoE BRT+ (Pontificia Universidad Católica de Chile), the African CoE for Studies in Public and Non-motorised Transport (University of Cape Town), the Center for Sustainable Urban Development (Columbia University), the CoE TRIPP (Indian Institute of Technology, New Delhi), the China Urban Sustainable Transport Research Centre (Beijing) and several others.

Third, idiosyncratic readings of comparative literature in political science on political order and on quality of government, as well as literature recommended by knowledgeable transport experts within the VREF network. However, an extensive review of the existing literature has been outside the scope of this paper. With that caveat, there appears to be a dearth of comparative studies of governance of metropolitan transport under different stages of modernisation and forms of political order. Quite a few case studies compare a couple of countries. These are mostly written from the perspective of transport research. Systematic studies of metropolitan transport governance from the political and/or social-sciences perspectives do not appear to exist. It is as if academics interested in urban/metropolitan transport and those interested in multi-level governance rarely meet, if ever.

Fourth, a series of interviews with knowledgeable persons from practice and academia. I am grateful for the time and interest that they have given me. Several members of the UITP Organizing Authorities Committee have been particularly helpful.
Together, the five background papers and the various VREF CoE findings and projects discuss some 40+ cities and/or metropolitan regions, ranging from modern and democratic (as in, e.g., Western Europe) to modern and authoritarian (as in China), as well as regions at various stages of modernisation in Latin America, India and Sub-Saharan Africa.

This paper is a work in progress. Time and resources have not allowed a discussion of Japan, South Korea, Taiwan or Singapore. China is another matter. Despite the ten years of cooperation between the VREF and the Chinese Academy of Transport Sciences (CATS), my conclusion is that it is next to impossible for a non-expert on the Chinese Communist Party to understand the HOW, WHO and WHY of metropolitan transport decisions in China.

2.1 Metropolitan regions as organisations and as centres of power

Two entry points are necessary to better understand governance of transport in the cities and metropolitan regions covered in this study: first, the geographical and organisational characteristics of metropolitan regions, and second, power.

A metropolitan region has fluid and open geographical boundaries. A metropolitan region is usually defined as having an integrated labour market, where the transport system makes it possible for people to choose between employers and employers to choose between employees. As daily travel times evolve, the boundaries evolve.

Partly because of these open boundaries and partly for other reasons, metropolitan regions are organisationally messy, with a large number of private and public organisations. Some of the private organisations are market-oriented. Others are not. Some of the public organisations are local or regional authorities. Others are local or regional sections of sectoral agencies that answer wholly or partially to national authorities. There is no overarching hierarchy.

Creating and maintaining (and as conditions evolve recreating) reasonably-coherent metropolitan transport systems under organisationally-messy conditions requires that a multitude of partially-autonomous, partially-interdependent organisations, with sometimes overlapping and sometimes conflicting purposes and representing different interests under widely-different regimes of resources, are aligned or align themselves along a shared idea. The eight case studies of urban or metropolitan transport in the VREF project 'TUT-POL’ carried out at Harvard illustrate well HOW different political bodies have dealt with these challenges under their respective governance structures.

Moving on to power: Governance is a social science concept and I once read a sentence that said: ‘power is as fundamental to the social sciences as energy is to the natural sciences.’ Bent Flyvbjerg makes the case in his book ‘Making social science matter’ that the social sciences have to include power as a core theme. He explicitly discusses power as an entry point in understanding transport in a mid-sized Danish city.

Power on the metropolitan level comes in various forms: economic, political, legal, professional and even as ideas (as in Victor Hugo: ‘nothing is as powerful as an idea whose time has come’). Metropolitan transport varies enormously in NYC, Montreal, Mexico City, Paris, Manchester, Stuttgart, Johannesburg, Nairobi, Delhi, Shanghai and so on, even though buses, rail, metros and ticketing systems are increasingly similar. Making sense of these differences amounts to making sense of how and why political power is exercised under different conditions of governance and in continuous transactions with other sources of power.

Such transactions are primarily, but not only, related to political and economic power. The two background papers on BRT in Latin America and Sub-Saharan Africa describe the power of the for-profit-driven minibus industry in shaping political battles over BRT. The two background papers on Western Europe and the Anglo-sphere illustrate the role of residential and commercial property developers and their financing in shaping metropolitan regions. Bent Flyvbjerg discusses how commercial power influenced the politics of the street as a place in a Danish city. The politics of metropolitan transport has huge implications for the economics of property development, which in turn has huge implications for social inclusion and therefore also for politics in general.

Neither political nor economic power is monolithic, and perhaps only biographies and novels can capture the complexities of each and their interactions. Robert Caro’s biography of Robert Moses, Tom Wolfe’s novel ‘A Man in Full’ about Atlanta, and Diane Davis’s monograph ‘Urban Leviathan’ about Mexico City are examples from North America. Goran Therborn’s ‘Cities of Power’ addresses a related angle: the design of capital cities.

2.2 Governance of metropolitan transport as a network of public institutions

The definition of the governance of metropolitan transport for the purpose of this paper is: Governance of metropolitan transport consists of the
networks of public institutions through which political power over transport in metropolitan regions is exercised.

This definition is an adaptation of definitions published by Bo Rothstein and the World Bank.

Bo Rothstein discusses ‘good governance’ in his book ‘Quality of government’ and relates ‘good governance’ to impartiality in government institutions, which in turn is rooted in meritocratic structures and rule of law as in Max Weber’s classic discussion of bureaucracies. Impartiality of government institutions is, in this sense, closely aligned with citizens’ trust. Rothstein illustrates empirically the link between trust and impartiality on the one hand and levels of taxation and acceptance of public policies regarding social welfare, education or environment on the other (more explicitly: high trust and high levels of taxation go together and vice versa). While Rothstein does not discuss metropolitan transport, the parallels between metropolitan transport and universal social welfare (pensions, education, health) are obvious.

The World Bank defines governance in a country as: “the manner in which authority is exercised in the management of a country’s economic and social resources.”

This definition reflects the fact that the Bank has accepted that institutions matter. A useful definition of institutions is: formal rules and their enforcement mechanisms that shape the behavior of individuals and organisations in a society. From the Bank’s perspective, efficient institutions are a precondition for efficient markets and thus for economic development. Markets evolve in interaction with institutions and with politics.

The problem with the Bank’s definition of governance is that it does not allow for a distinction between good and bad governance. ‘...the manner in which...’ also includes corruption, nepotism, clientelism and so on. This is why Rothstein’s focus on good government is more apt for the purposes of this paper.

It should be emphasised that Rothstein’s institutions of government are the results of political agency. Legislation and its enforcement are always results of political decisions over how power should be distributed between different interests, so today’s public institution is yesterday’s politics. Professional power is often vested in university education systems and state organisations, which in turn frequently are shaped by legislation. Political agency is built upon public institutions. Without them politics does not amount to much. TfL, STIF, NYC MTA, CTA in Chicago, MTC in the Bay Area, and ARTM in Montreal are all political creations.

However, there is more to the ‘quality of government’ than the quality of individual public institutions.

Political agency in metropolitan transport always relies upon a network of public institutions; the ‘quality of interaction’ between these institutions is as important as the quality of each individual institution. The eight case studies in the VREF TUT-POL project illustrate this.

Such interaction creates networks of public institutions in metropolitan regions. These public institutions, in turn, come in two types: vertical and horizontal ones. Crucially, they have different mechanisms for ensuring accountability.

Vertical public institutions are established by central governments as legally-defined national sectoral organisations, staffed by professionals that are commonly supported by well-defined university disciplines and that frequently reach down to regional and/or local levels of government. Roads are often national, regional and local, overseen by a central road administration. Education, health, courts, and rail are other examples of vertical organisations. Mobility is a concept with a well-defined meaning in the sectoral organisation for transport, with a corresponding set of academic disciplines and analytical tools for setting priorities within the sector. Cost-benefit analysis was originally developed within national transport sectors as a tool to enforce analytic discipline on what the national transport professionals tended to see as the parochialism of lower levels of government. Accountability in vertical public organisations is usually hierarchical; lower levels of vertical organisations are accountable to their legal and professional peers at higher levels.

Horizontal public institutions are also established by national governments as territorially defined organisations. Horizontal public organisations exist for the purpose of providing the population in the territory in question with coordination and integrating vertical public organisations across various sectors. Local authorities, counties, provinces and central governments are horizontal organisations. In such organisations, the skills needed are not those of sectoral professionals but of politicians, to find and implement reasonably-coherent compromises between different perspectives (public as well as private). Accountability is not top-down as in the hierarchical vertical case but bottom-up. A horizontal organisation is accountable to the citizens within the geographical jurisdiction in question. Since citizens in a territory do not always agree, politicians do not always agree either.

Horizontal public organisations represent places. A street or a road or a tram exists both in vertical and horizontal organisations. The street is a mobility link in the vertical organisation of transport, and is a place to meet, to shop, and a place for children to bike to school in the horizontal organisation of place.
A motorway connects some places and divides others. French mayors build trams in order to both connect and create places. The quintessential debate over mobility and place occurred in the 1960s, between Robert Moses and Jane Jacobs.

*Accountability and thus assessment of efficacy differ between the vertical and the horizontal.* While cost-benefit analysis is the analytical tool for the sector, quality of life is the conceptual tool for the place. Both tools are necessary and neither is sufficient. ‘Siloism’ is the default complaint of the horizontal level with respect to the vertical level and ‘parochialism’ the default complaint of the vertical level with respect to the horizontal. Somewhat simplistically, the tension between the vertical and the horizontal is the tension between the expert and the layman or between the professional and the citizen. The Swedish social scientist Torsten Hagerstrand devoted his life to understanding the inevitable tensions between the vertical and the horizontal.

The TUT-POL project illustrates the critical role of political leadership in shaping coordinated action both within the vertical/horizontal structure of public institutions and together with concerned private actors.

### 2.3 Paths to quality in public institutions

This synthesis is built on the idea that high-quality metropolitan transport (as in a metropolitan region that is socially inclusive, environmentally sustainable and economically productive) can only be built upon high-quality public institutions and wise politics.

Leaving politics aside until the next section, the remaining question is how high-quality public institutions of metropolitan transport emerge and whether any prescriptions exist.

The five background papers for the VREF project on governance of metropolitan transport illustrate that both the quality of individual public institutions and the quality of interactions between them vary enormously between countries in Western Europe, Sub-Saharan Africa, North America, Latin America and India. The three papers on BRT demonstrate that what appears to be possible in many (but not all) parts of Latin America is almost impossible in large (but perhaps not all) parts of Africa and quite difficult in many Indian cities.

Why this is so has little to do with metropolitan transport and much to do with what Therborn calls different paths of modernisation, Rothstein calls quality of government and Fukuyama calls political order. The quality of public institutions for metropolitan transport is a special case of the overall quality (in all its variations) of what could be called the modern state.

The three authors mentioned above, and many others, agree on the fundamental importance of good public institutions for economic development. They also agree that there is no agreement on how these can be established. The literature – including that from the sub-discipline of economics called institutional economics – on this importance is also largely silent on how to create good public institutions. The literature on how high-quality public institutions emerge is *descriptive rather than prescriptive*. It is largely based on the enormous literature on the European invention of the modern state, how this came to dominate other forms of states and then how this form of state, through twists, turns and violence over the centuries, gradually was transformed into its 20th Century modern form with the three pillars of professional administration, rule of law and accountability of rulers.

Obviously, states elsewhere in the world existed well before, and in parallel with, the earlier European states. China invented a professional state much earlier than the Europeans, but neither the Chinese emperors nor their successors ever bothered to invent rule of law or accountable government. The Spanish encountered states in what was later called Latin America that in some ways were quite sophisticated, but were crushed nevertheless.

The European state has ancient and violent roots and gradually evolved out of the enlightenment movement and in parallel with industrialisation. It has spread around the world for the straightforward reason that, during the past three centuries or so, it has been the most efficient way by far to organise a country’s resources, wage wars and thus conquer and/or dominate other parts of the world. The only way to resist the European state was to imitate it.

Therborn sees four waves of modernisation out of Europe that also have parallels in the governance of metropolitan transport. The first occurred when Europeans established new political bodies in North and South America and Australia, and later also in South Africa. The second occurred when Europeans conquered or dominated old civilisations in Asia, and the third was the European conquest and dividing up of Africa’s largely tribal societies. The fourth wave consisted of states that started to modernise along European lines as a protection against European domination. Russia in the early 18th Century, Japan after the Meiji restoration and Turkey after the fall of the Ottoman Empire are three examples. Russia and China of the 20th Century both followed their own historical paths without establishing rule of law or accountability of rulers. Japan, South Korea, Taiwan and perhaps Singapore have managed to evolve from authoritarian modernisation into states based on the three pillars. China’s accession to the WTO was based on the US and European assumption that this would
push China’s modernisation towards the three pillars. However, the CCP thought otherwise.

**Independence from European domination preserved European forms of state organisation.** Englishmen created the original thirteen US states, the provinces and states of Canada, Australia, and New Zealand with, for example, a much weaker position for local authorities than is the case in other European countries. The Spanish colonies had both state and church organisations imposed by 16th Century Spain and did not face the same pressure to modernise as Spain itself did. So, they declared their independence in oligarchic revolts against the – to these oligarchs – threatening liberalisation of Spanish politics that followed the French revolution and the Napoleonic wars. The pressures for state modernisation first started in earnest and very unevenly during the 20th Century, with huge variations between the South, Andean and Central American states. Mexico is the exception, with a history of rebellions based on a broader popular base. Brazil is another exception.

India is another example of the European state being imposed on complex, highly-sophisticated, multi-lingual and stratified societies, with subsequently weak state organisations. As an example, India – in contrast to China – does not have a history written in a common language. Since a modern state needs a written language, this language became the language of the coloniser.

Sub-Saharan Africa is a very different story. With the exception of South Africa, where the legacy of apartheid co-exists with a strong legacy of European institutions of professional administration, rule of law and accountability, most African states have extremely weak public institutions.

All of these historical patterns are coded into the subsequent public institutions of metropolitan transport. High-quality public institutions of metropolitan transport can only evolve out of an overall evolution of a modern state.

Somewhat simplistically, the evolution of the modern state is about the survival of the fittest; first through war, through the need for professionalisation of the military and of the subsequently-necessary tax administration, then through internal pressures to grant legal protection from arbitrary rulers and finally, after the First World War, to the accountability of rulers through democracy and universal suffrage. After the Second World War and the emergence of the welfare state, the international competition shifted from wars to economics.

Sequencing is important in the evolution of the three pillars. The third pillar of democracy is effective only when the other two pillars are in place and of high-enough quality. Weak states make public institutions easy prey for clientelism, nepotism and corruption, which in turn make governance structures for metropolitan transport equally vulnerable to exploitation. The three pillars may exist in a formal sense but not in any real high-quality sense.

Modernisation of public institutions can only be driven from the outside to a limited extent. Vertical sectors that depend directly on their European and American peers are driven to modernise earlier and more completely than other sectors. Flights from international airports in, e.g., Africa are only allowed to land in a modern country if the institutional quality of the departing airport meets standards defined by international organisations created by the modern countries. Central banks are allowed to trade with other central banks only if they agree to meet and enforce international standards. National health service is a mixed case. While it is linked with global health professions through the World Health Organization (WHO), it also depends on local circumstances that are still dominant in many countries.

The public institutions of metropolitan transport in modernising countries have weak links with their peers in modern countries and are therefore only weakly exposed to outside pressures. The international development banks and development agencies can only exert external peer pressure to a limited degree. This makes many of these countries easy prey for industrial interests of this or that urban transport technology/mode, which in turn depends on the support of competent state and/or local institutions (which frequently are not there).

This raises the question of whether BRT as a modern transport system can drive institutional modernisation. The answer appears to be: sometimes. BRT has been a driver of institutional modernisation in several Latin American countries and also, probably, in South Africa. In other Sub-Saharan countries, however, governance appears to be too weak and politics too dysfunctional for BRT to take hold. Other drivers of modernisation of transport institutions will have to be found. It is still too early to say where India fits in this.

The answer to the question in the paragraph above may also be sometimes not. BRT will then fail as a driver of modernisation. When the status quo of existing public institutions is too strong, the option is to wait for the status quo to reform itself. The for-profit-driven minibus industry in Latin American and Sub-Saharan is, in fact, quite dynamic. Whether this industry could be nudged into playing a formative part in another type of modern metropolitan transport system has not yet been explored. Perhaps another
type of governance system could emerge. As the urban population grows more sophisticated over time, pressures to improve the three pillars would grow too, provided external big powers do not prefer to perpetuate weak states.

2.4 Politics and governance of metropolitan transport in modern countries

Politics and governance of metropolitan transport go together. This section is about how they depend on each other in modern countries.

Some twenty metropolitan regions and their cities are discussed in the background papers on metropolitan transport governance in modern Western European and Anglo-American countries. These papers are summarised in sections 3 and 4 below. The main differences in metropolitan transport governance are reflected in the governance of public transport. The governance of road transport is by and large similar across countries, while the governance of public transport varies immensely.

An initial observation is that the three federal Anglo-American countries have quite similar governance principles but exhibit rather different metropolitan public transport quality. The Western European countries on the other hand have quite different governance principles but rather similar metropolitan public transport quality. Politics rather than governance is the primary driver of the differences in metropolitan public transport quality. Governance is important for how politics is pursued and is also shaped by politics.

The metropolitan regions in the background papers, as well as the TUT-POL cases, have all experienced processes of simultaneous urban gentrification and suburban segregation. It is beyond the scope of this synthesis to address the various driving forces behind these processes, but the increasing emphasis on quality of place is clearly one of them.

Quality of place refers to characteristics that make cities attractive, for all sorts of personal, social and economic reasons. Some cities, such as Melbourne, Vancouver, Paris, Vienna, Copenhagen, are high-quality places. Planning is the academic discipline related to place and is only partially quantifiable. Most people recognise quality of place when they experience it. A sense of 'place' needs words, pictures and experiences as well as numbers to describe, and is in the eye of the beholder: a city centre with theatres, restaurants, pedestrian zones, museums certainly can have a high quality of place, as can a leafy middle-class suburb.

Land use is both a cause and an effect of segregation and gentrification. Economic factors certainly influence land use, but whether land development will end up as transit-oriented or as motorway-oriented urban sprawl and edge cities also depends on the suburban middle class.
This is where politics enters. A high-quality metropolitan transport system is a system that contributes to making a high-quality metropolitan region socially inclusive, environmentally sustainable and economically productive. Of these three qualities, social inclusion is by far the most challenging; even more so than environmental sustainability.

Very low air pollution, adequate amounts of green space for parks and biological diversity as well as an electrified transport system that does not contribute to global warming: it is quite possible to conceive of a metropolitan region that is both environmentally sustainable and socially exclusive.

The politics of social inclusion, therefore, determine the organisation of three elements: adequate funding of public transport; place, and; land use. Of the three, funding is paramount and differs considerably between countries, since there are obvious parallels between funding a socially-inclusive metropolitan transport system and funding universal welfare services.

This is where governance enters. Understanding governance is necessary for understanding why and how the politics of organising funding, place, and land use vary so much between modern countries. Three factors of governance should be highlighted: constitutions; economic philosophy; and; the political support of the urban and suburban middle classes.

A constitution is the backbone of political authority. Since they reflect historical experiences, constitutions vary between countries. A constitution defines the applicable alternatives for the political organisation of funding, place and land use. A federal or a unitary structure is important in terms of relationships between levels of government. It structures the vertical public institutions of government. Constitutional courts usually have a larger role in federal countries than in unitary countries in settling disputes between different branches of government. Constitutions also define the relative weight between large metropolitan areas and rural areas (e.g., the US constitution gives more weight to rural areas). Whether a country is a parliamentary or a presidential democracy determines whether national political careers are shaped in the parliament, as in the UK, or, as in France, in the major cities. The choice of organisation of public transport can also be influenced by constitutional considerations, as in the European Union (EU).

Two constitutional aspects are of particular importance for determining how organisation of funding, place, and land use are organised. The first and single most important aspect is the division of power over taxation and user fees between different levels of government. How power over taxation and user fees are divided between public and private transport determines options is largely defined by constitutions. There are huge variations between countries with respect to the types of taxes raised, at which levels of government they are raised, and the extent to which they are dedicated to specific purposes or not.

The three federal Anglo-American countries have broadly similar systems, with the states/provinces having the major roles including power over local or regional sales and/or fuel taxes. Among the three, the US federal government has a wider role than the other two. Sweden is the only country in the world with strong taxation rights at all three levels of government. Most countries distribute tax revenues to lower levels of government from higher levels. Local taxes on land and property and special development fees are common in many countries but not in all. State governments in the US can allow road-use fees to be used for public transport. For constitutional reasons, the Stockholm congestion charges are national taxes. The French central government has given local and regional authorities the right to raise dedicated taxes on employment for public transport, which in turn gives mayors the power to shape public transport.

The political organisation of funding for metropolitan transport is essentially about creating a package of funding sources (and their administration) from different beneficiaries of metropolitan transport: from direct road or public-transport usage fees to the benefits to car users of reduced road congestion resulting from public transport; the economic benefits to property owners and developers of the access that transport provides; the overall benefits of agglomeration effects on personal income, sales, land value; and so on. The packages vary significantly between countries, but the overall tendency is to broaden the types of funding sources.

The second aspect is the role of local authorities and their mayors with respect to place and land use. Local authorities usually control land use, which in turn is important for density and therefore for the relative economics of motorways and public transport. There are only a few cases where higher levels of government have the authority to impose restrictions on a local authority’s land policies. Local authorities are increasingly getting involved in place creation and more general efforts to improve quality-of-life, which often leads to restricting private cars. The role of local authorities and their mayors in organising places and land use cannot be underestimated. The political power of local authorities, however, differs considerably between countries. They have a particularly weak standing in Australia, a less weak position in Canada, and are also rather weak in the UK and the Netherlands. They have a much stronger standing in the Scandinavian countries and in Germany (where three cities moreover are federal states as well).
The number and therefore sizes of local authorities also vary between countries, which again has relevance for the ability to project power at the national level. Parallel to this is the question of whether mayors are elected by citizens (the US, London, Germany) or appointed by city councils. Reforming local and/or regional authorities has been a key element in reforming the governance of metropolitan transport in many countries (the UK, France, Scandinavia, the Netherlands and Canada).

Economic philosophies over how economic and political power should relate are also reflected in the political organisation of public transport and funding, place and land use. Crudely speaking, three patterns are discernible: the Anglo-American liberal one where economic power exerts through the market is seen as the natural form of power, with nuances in a more or less negative (as in the US) or positive (as in Canada and the UK) view of government; the French one with a strong state as the co-organising power together with the market; and the German ordoliberal one where both the market and politics are seen as potential sources of instability and in need of the state as a rule-based stabiliser. The Anglo-American view tends to see private property development as an independent driver to which metropolitan transport should adapt (as in the original version of cost-benefit analysis). For a variety of reasons the net effect tends to be motorway-oriented development and urban sprawl. The French view tends to see the state and lower levels of government as active organisers of transport, sometimes also in coordination with property development. The expansion of trams in French cities reflects this view, as does the TGV system. The German view puts great emphasis on local cooperation of various transport providers in order to expand the overall market for public transport. There are also a few German examples of coordination with land use. The European Union has elements of both the German and the Anglo views, where EU-wide legislation is seen as a way to discipline the national politics of the member states. Economic philosophies do not travel lightly: the San Francisco Bay Area and the Ruhr area have similar polycentric structures but totally different governance structures for metropolitan transport.

The political support of the urban and suburban middle classes. A socially-inclusive metropolitan transport system requires urban and suburban middle-class support. The parallels between universal welfare and socially-inclusive metropolitan transport are striking. Both the working and middle classes have to be regular users in order to support necessary taxes and fees. A metropolitan public transport system funded primarily by fees and taxes on the working poor and without middle class support will drive the middle class towards motorway-oriented development. This is what Robert Moses and his followers in other cities thought during the 1950s and 1960s. Since then, the urban middle class has increasingly tended to support gentrification and place creation, and has therefore tended to accept policies and funding that reduce car traffic in cities. The parallel process of segregation puts the suburban middle class to the test, illuminating whether people are willing to support social inclusion or prefer residential sprawl and edge cities.

Building political alliances to support a good (see above!) metropolitan transport system is no easy political project. It is about much, much more than winning the next election. It requires infrastructure investments, a shared view with the major financiers of property development, alliances for taxation and fees that are stable over many years, and a shared vision between the relevant vertical and horizontal levels of government. It takes a shared view between the major political actors that transcends election outcomes. Experts do not always understand the compromises and trade-offs necessary to achieve this consistency. The public institutions necessary for promoting ‘good metropolitan transport systems’ are themselves outcomes of earlier political processes and decisions. All major providers of metropolitan public transport are created by political decisions: the NYC MTA, Transport for London, SL in Stockholm, RUTER in Oslo and so on. The extent to which fees for toll roads, tunnels or bridges will contribute to road traffic costs and possibly public transport is also the result of political decisions. The same holds for principles of land use and the preservation of green areas as well as quality of place, which in turn frequently require several election cycles to mature. Once again, politics is about much, much more than winning the next election.

2.5 Issues particularly worth watching

Three issues are particularly worth watching during the coming years:

+ How can and should the business models of new mobility services be integrated into existing business models of metropolitan transport, and what is the role of governance and politics in this? Will new mobility services reinforce or dampen the process of segregation?

+ How will segregation and social inclusion evolve? Since the universal military draft is gone, public transport is about the only place where different social classes meet. Will they do so more or less in the future? And how do these patterns differ between countries?

+ How will new mobility services, segregation and social inclusion determine packages of funding for metropolitan transport?
3 WESTERN EUROPE – GOVERNANCE OF METROPOLITAN TRANSPORT IN NINE COUNTRIES

3.1 The only pattern in metropolitan transport governance is the lack of a pattern

This section provides a summary of the background paper on governance of metropolitan transport in nine countries in Western Europe: the UK, France, Germany, Austria, the Netherlands, Denmark, Sweden, Norway and Finland. In terms of population, three of these countries are large, five are small and one is medium-sized. Three have low and six have high population densities.

The background paper shows one clear pattern in metropolitan transport: there is no pattern. All nine of the countries have quite good metropolitan transport systems (London only in the case of the UK) and yet widely different principles guiding the governance of public institutions. Consistent politics over many decades can cope with quite different principles of governance.

Put in another way: the politics of metropolitan transport has been about creating and adapting public institutions under widely different constitutional conditions. Politically-stable alliances over many electoral cycles, irrespective of changes in political majorities, have mattered more than winning the next election.

Adding additional countries to the list of nine would probably not change this conclusion, at least with respect to the other seven EU-15 countries (Ireland, Portugal, Spain, Italy, Greece, Belgium and Luxembourg). The countries of Eastern and Central Europe may be a different matter, shaped as they have been by their transformation from the former Eastern Bloc and recent accession to the EU.

The lack of pattern in governance of metropolitan transport can be described in another way. This lack of pattern has nothing to do with transport and everything to do with the fact that there have been different European paths first to the modern state of professional administration, rule of law and rulers held accountable, and second to the universal welfare state.

The historical roots are clear. The old nation states that survived the 16th-, 17th- and 18th-Century European wars are all unitary states (UK, F, NL, S, DK). The two unitary states that gained independence during the 20th Century (N, FIN) preserved the unitary structures of their former ruling countries (DK, S). The two federal countries, Germany and Austria, are old nations, but recent nation states. Germany owes its present federal structure to three historical periods; first, the conditions imposed by the various kingdoms and principalities at the time of the unification of 1871; second, the experience of adapting this federal structure to the democracy of 1918-1919, and; third, the new beginning of 1949. Austria owes its federal structure to the unique conditions of the collapse of the old Hapsburg entity. This continental European federalism has very little in common with the federalism of the US, CAN, AUS or South Africa (that the British created).

Finally, eight of the nine are parliamentary democracies and only France is a presidential democracy. The mayors in large French cities are more powerful on the national scene than elsewhere.

3.2 Differences in governance of metropolitan transport reflect constitutional differences

Regions for metropolitan transport are organisationally complex, with indeterminate borders and many different centres of power. Every country has struggled, and continues to struggle, to come up with reasonably-coherent structures of public institutions for governing regional transport systems. Some countries have managed better than others, and have arrived at reasonably stable structures (D, A, S, N, FIN). The jury is still out in a couple of countries (NL, DK). The UK has been in an experimental phase since the 1980s but may now have reached what perhaps could be called a systematic experimental phase. France appears to be in the final phase of decentralisation efforts that started some 50 year ago.

Public metropolitan transport institutions always involve several levels of government. Some countries have three levels of elected government, some have only two (DK, FIN, N) and some have four (e.g. Germany, Austria, France). Efforts to create adequate structures invariably concern adapting existing levels of government, as well as existing principles of taxation, to the everchanging conditions of metropolitan regions.

Lower levels of government: Lower levels of government usually have a wide range of responsibilities besides public transport. The role of the lowest level, the municipalities, varies considerably between countries, as does their number. Some countries manage to restructure their municipalities quite efficiently while others do not. Denmark decided a few years ago to reduce the number of municipalities by two thirds, to less than 100, and at the same time do away with regional governments. Reducing this number has been much more difficult in France, which still has some 35 000 (more than 1000 in the Paris region), some of which have only a handful of inhabitants. Germany has some 11 000 Gemeinde, but the num-
The 'Länder' (the so-called 'Finanzausgleich'). In the negotiations between the federal government and since the flow in this case is guided by continuous levels of government in Germany are less constrained, underground and the buses for a time. Lower-levels that the UK Treasury directly ran both the London central strings attached to this flow. The UK appears to govern metropolitan transport depends on the central taxation rights, the extent of their ability to redistribute to the central government (for national services, the raison d'être for the county councils would cease and an entirely new governance system for public transport would have to be invented.

Governance of metropolitan transport is a derived system, subject to changes – and political winds – in other areas of public services and organisation.

Taxation: Most of the nine countries studied in the background paper raise most of their tax revenues at the national level and subsequently distribute the revenues to lower levels of government. Since the lower levels usually have limited or very limited independent taxation rights, the extent of their ability to govern metropolitan transport depends on the central strings attached to this flow. The UK appears to be the most constrained by such strings, to the point that the UK Treasury directly ran both the London underground and the buses for a time. Lower-levels of government in Germany are less constrained, since the flow in this case is guided by continuous negotiations between the federal government and the 'Länder' (the so-called 'Finanzausgleich'). In the Netherlands, constraints posed by the national government are, apparently, also limited. The Nordic countries are different in that local authorities have extensive taxation rights of their own. Sweden is unique in that the regional governments (the county councils) also have independent taxation rights, which, in turn, explains why metropolitan transport in Sweden is also peri-urban and rural.

France has its own unique and quite successful system: the versement transport. French local authorities are allowed to levy taxes on employers for public transport at a nationally-determined level, which in turn is based on the size of the population of the local authority's jurisdiction. This gives the lower levels of government the resources necessary for major investments and for operations. This, together with the strong political standing of the mayors in France, largely explains the rapid expansion of urban tramways in French cities.

3.3 How constitutional differences play out in governance of metropolitan transport

There is a general trend in the nine countries studied toward improving the quality of place in major cities. This trend is particularly noteworthy in Vienna, Paris, Copenhagen, Amsterdam and London. The trend has been driven by gentrification and its impacts on quality of life, which is influenced by many things, including culture, architecture, the protection of green areas, clean air and water, and the quantities of space allocated for pedestrians and bikes versus that for cars. Vienna has given priority to pedestrians, bikes and public transport over private cars and urban motorways for many years. An increasingly restrictive parking policy as well as the political commitment of the social-democratic party (which has ruled Vienna since the birth of Austria) have contributed to supporting this prioritisation. One may be forgiven for thinking that this has something to do with what once was called 'Austro-marxism' or municipal socialism, which gave the ruling party a strong hand in housing and a well-integrated public transport system.

Copenhagen is another world leader in creating a high quality of place, with a strong emphasis on biking and pedestrianisation. At the same time, it is somewhat of a laggard when it comes to integrating public transport, which may be due to the lack of a strong regional level of government. Paris is a latecomer to making urban transport part of what has always been a strong element of place-making in terms of architecture and culture. Lyon and Bordeaux are other cities involved in place making through their investments in urban trams.

London is also on the list of cities with a high quality of place. The political importance of the directly-elected
mayor cannot be overstated, and he is using Transport for London (TfL) to good purpose in this regard. In TfL’s mandate, public transport is one of several elements of an approach to maintaining London as a globally-competitive city. TfL is also responsible for parts of the London street network (i.e., the part that is neither national nor borough streets). The mayor and the boroughs do not always agree. For example, the borough of Westminster refused the mayor’s wish to turn Oxford street into a pedestrian area.

Integration of roads and public transport. Roads and public transport in metropolitan transport systems are usually kept in separate silos, with national, regional and local roads under the governance of national road authorities. There are some intriguing exceptions, however. TfL is, as noted above, responsible for parts of the streets in London and, crucially, traffic signals. Berlin, Hamburg and Bremen are three German cities that are also federal states. As such they are also responsible for a larger share of the street network than other German cities. Sweden and Finland are also exceptions, where the national Transport Administration is responsible for investments in both rail and national roads. This gives the central administration a much larger and integrating role when negotiating with the cities and, in the case of Sweden, the county councils.

The integration of land use and public transport is generally weak in the nine countries, where property development is seen as something that transport authorities should adapt to. There are some intriguing movements, however. When property developers (and their financiers) see access to public transport as having a positive influence on land value, the pressure for integration grows and provides the public transport authorities with leverage. This is happening around Stockholm and probably in many other cities. Copenhagen and the Danish state have created a joint company for metro expansion and property development (since the Danish state owns considerable amounts of land) that finances metro expansion. Similarly, the French government has created a special company – Société Grand Paris – for the joint expansion of peripheral metros and land development (the reason being that the traditional public transport companies did not understand property markets). TfL also owns considerable amounts of land, which, together with various schemes for fees for development, makes the London property industry a willing partner.

The three German cities that are also federal states have more leverage than other German cities, but only the Stuttgart region has created a special regional body for coordinating transport infrastructure and land use. The VRS (Verband Region Stuttgart) is a special, directly-elected body created by the local authorities in the Stuttgart metropolitan region for the purpose of coordinating public-transport investments and land use. If a local authority were to come up with a land-use plan that contradicts VRS guidelines, the VRS could veto the plan. The local authority could then challenge this veto and the final decision would rest with a regional office of the state of Baden-Württemberg.

Sweden has the weakest formal integration between land use and public transport. This is due to the fact that public transport is organised by the directly-elected county councils, while local authorities are responsible for land use and construction permits. There are obviously mechanisms for coordination between the two levels, but the degree of integration depends on whether or not property developers perceive access to public transport as a positive factor in property development. For a number of years this was not the case, but it is more so now.

Metropolitan/peri-urban/rural integration is the corollary to the metropolitan land use/transport integration. Metropolitan regions are expanding as access widens. One of the biggest challenges of the nine Western European countries studied is to expand access to metropolitan labour markets to peri-urban and rural areas. How this could be done depends on a number of factors, of which governance is only one. Of all the nine countries in the study, only Sweden has a structure that could make this possible. The Swedish county councils are both rural and metropolitan, and expanding rural services could be possible without major governance changes. In Germany, only the Berlin-Brandenburg transport alliance (the VBB) is responsible for rural areas (the large rural areas of Brandenburg). It is quite possible that new first/last mile services could contribute to metropolitan-urban integration there.

Central governments are frequently but not always involved in organising the governance of metropolitan transport, and they are (almost?) always involved in financing large-scale infrastructure investments. The UK government was instrumental in setting up TfL and was later instrumental in empowering certain cities in other parts of England to set up ‘combined authorities’ with directly-elected metro-mayors. Their responsibilities vary depending on agreements with the central government, but the institutions could potentially gradually dismantle the present fragmentation of public transport outside London. In contrast, the German VVBs (transport alliances) were all created from below, although Deutsche Bahn has a central role in each and every one. Previous Dutch central governments tried to establish seven metropolitan transport authorities but ran aground due to opposition from the provinces that once founded Holland. Of the two that remain, one was created by the
central government while the other was created from the bottom up. The French central government has always been directly involved in transport governance in the Paris region, but has been more of an empow-erer in the other metropolitan regions of the country.

Among the Nordic countries, the central governments have been directly involved in Norway, Denmark and Finland but only indirectly in Sweden (through amalgamating the regional organisations of both the state administration and the county councils) on the initiative of the regions.

Financing metropolitan transport is straightforward in the NL, D, A and FIN but with more innovative elements in the UK, F, DK, S and N. Copenhagen is financing its metro-system through property development in joint cooperation with the Danish state, which owns large amounts of land. The French government intends to do the same in the Paris region through the state-owned SGP.

Norway is by far the most advanced in terms of financing metropolitan transport infrastructure through tolls on roads. The three ‘Oslo packages’ negotiated between the central government and the city of Oslo and the Akershus regional authority now finance both investments in and the operation of roads and public transport, and have thus far met with broad acceptance. The Swedish experience is more mixed, with a broadly accepted – and recently expanded – system of con-gestion fees in Stockholm that now finances major investments in expansion of the metro system and other parts of the public-transport system. A similar program in Gothenburg has met with widespread resistance, however, partly because the investments in question have been highly controversial. London has been quite successful with its congestion charges, although it is an open question whether the many exceptions in the system will be reduced and the territory expanded. There, the jury is still out. TfL also has various instruments to encourage property developers to co-finance investments in public-transport infrastructure.

### 3.4 What to watch in the nine West European countries

Some metropolitan regions are more interesting than others, and the following cases are worth watching in the near future:

- France: Will the Paris region and the central government manage the extremely-ambitious metro-expansion program?

- The UK: Will the new metro-regions, with their directly-elected mayors, manage to break up the fragmented legacy of Mrs. Thatcher and re-create integrated metropolitan public transport systems?

- The Netherlands: Will the Rotterdam-the Hague metro-region manage to get its act together or will it split apart?

- Denmark: Will the Danish government and the city of Copenhagen manage to force the Danish state railways to participate in a fully-integrated public transport system in the Copenhagen region?

- How will the nine European countries adapt to new mobility services? Some metropolitan transport authorities and operators see new mobility services as potential competitors. Others see them as offering new options for first/last mile services that can expand the market for existing services. Some also see new mobility services as an entry point for global expansion, and anticipate competition primarily from US software companies or Chinese state capitalist companies. Control over passenger data will then become critical. How this will play out is still an open question. Smaller metro-regions will be consumers of new mobility services, while larger ones could also be producers. The actors to watch are the large European operators that are present on the global market. They will not willingly leave the markets to the Americans and the Chinese. And who knows where the European Commission will land here; as a maker of global competition or as a maker of a new European industry?

There is no best practice – only practice. While ‘best practice’ may exist in professionally-narrow disciplines such as transport research, it hardly exists in social sciences such as political science. This is illustrated well by the concept of ‘congestion pricing.’ This concept makes sense as an academic construct, but implementing it would depend on so many contextual factors so as to make it largely dependent on factors far outside the field of transport academics.

The German idea of ‘transport alliances’ is another example. It has been taken up in Austria and the German-speaking part of Switzerland, but nowhere else. It makes sense in the German tradition of horizontal cooperation based on the concept that markets must be ordered in order to be efficient. This, however, is a rather alien thought in most other countries.

However, practices in one metropolitan region can inspire others. The mayor of Stockholm in the 1960s is said to have been inspired by the first transport alliance in Hamburg, but reached another conclusion. Instead of creating an intermunicipal public-transport company, he created an integrated company owned by an entirely new regional government. Politicians need to meet politicians in other countries as much or even more than professionals need to meet international professionals. Politicians have too few international meeting places of their own.
4.1 There is a pattern to metropolitan transport governance in the US, CAN and AUS

This section is a summary of the background paper on metropolitan transport governance in the US and Canada, with a note on Australia.

In contrast to the nine Western European countries in the previous section, governance is similar in these three countries while politics differs.

Governance is similar because all three countries have federal governments that were originally created by the British for its colonizers in the vast new territories. The British created the thirteen states that subsequently became the United States. The British also created the provinces of what subsequently became independent Canada – with the added twist that one of these provinces was originally a French province with its own legislative heritage. And the British created the states of what subsequently became Australia. These British origins also have, as we shall see, direct consequences for the governance of metropolitan transport.

Another consequence is a common labour market for public transport planners and managers. Andy Byford is the present director of the NYC Transit Authority. Originally a station manager in what subsequently became TfL, he was recruited to run the rail company in Sydney and later the Toronto Transport Commission before moving to NYC. Jay Walder from NYC was finance director of TfL, later became managing director of the NYC MTA, and then acquired the same position in MTR of Hong Kong. TfL is somewhat of an adult university for metropolitan transport planning, financing and management, with alumni all over the Anglosphere.

These careers would not be possible in Europe. A transport authority director needs command of the national language and to understand how politics and governance interact.

This section is based on three case studies of metropolitan regions in Canada (Vancouver, Toronto and Montreal) and six case studies in the US (Boston,
NYC, Chicago, the Bay Area including San Francisco, Los Angeles and Dallas-Fort Worth). Comparisons are then made between Canada and the US and between Australia and Canada.

The six US case studies are based on an ENO report plus the relevant case studies in TUT-POL. The Canadian cases are from literature studies and interviews. Comparisons between Australian and Canadian metropolitan regions are mainly based on literature studies.

Additional case studies would add nuances and diversity. Seattle, Denver and Philadelphia have been mentioned in the US. In Australia more detailed studies of Melbourne, Sydney and Brisbane (the only real city!) could certainly have been carried out. It is unlikely, however, that additional cases would change the overall conclusions in the comparisons with Western Europe. The governance of metropolitan transport in the US, CAN and AUS has common characteristics that are distinctly different from those of Western Europe.

4.2 Similarities in metropolitan transport governance reflect constitutional similarities

The common characteristics of the three federal Anglosphere countries US, CAN and AUS can be summarised as follows: the governance of metropolitan transport is largely controlled by the states and provinces in the US, AUS and CAN, and not by the metropolitan regions.

Metropolitan public transport differs considerably between the three countries. Four of the five metro-areas with the highest modal share in CAN and the US are Canadian, as well as two of the additional five. Melbourne used to have higher ridership per capita than Vancouver, but not any longer. While ridership per capita in large Canadian metro regions range from good to not bad, the Australian ones are generally bad, and the US ones range from dismal to good (only in NYC). Politics, not governance, explains why.

Governance: Governance has its roots in British legal traditions, where all political authority rests with the parliament. Lower levels of government exist only through parliament and can be reorganised as the parliament sees fit. This is different from the continental European tradition, where local and regional governments frequently have a stronger standing and, in some countries, predate the nation states (NL, Germany).

Local authorities are not mentioned in the legislation that created the original thirteen states of what subsequently became the US, and thus not in its constitution either. Canadian provinces can, if they so wish, reorganise local authorities as they see fit. The province of Ontario has done this in a sometimes rather heavy-handed way. British Columbia and Quebec have done rather less so, and have encouraged intermunicipal organisations to serve as both counterparties and partners with the province-created metropolitan transport providers.

The Australian states do not have politically-powerful cities. Melbourne and Sydney are small local authorities in a sea of even smaller ones. Vancouver in the Vancouver metro region, Toronto in the Toronto region or Montreal in the Montreal region have no equivalents in the regions of Melbourne and Sydney. Brisbane is the only exception in Australia, created through amalgamation in the 1920s by the state of Queensland.

Why the Australian states do not have powerful cities has nothing to do with the governance of metropolitan transport, but does have clear implications for metropolitan transport. State-level political leaders do not risk being challenged by strong urban political leaders. The outcome is a motorway-oriented development characterised by residential sprawl and edge cities.

The governance of metropolitan transport, including its financing in the three Anglosphere countries, has essentially been created by the state/provincial governments. Since local authorities generally have very restricted taxation rights, public-transport subsidies are based on state legislation. Local authorities’ financial autonomy for metropolitan transport is very limited.

The US is more like Canada than Australia, but then again not quite. The governance of metropolitan transport in the US is by and large created by the states but depends critically on mechanisms for city-state interaction. The financing of public transport systems is essentially done through state legislation, and many transport providers (Boston and NYC among others) were taken over by the states when the private providers risked bankruptcy.

The Chicago region has three different providers, all under Illinois state legislation. The Bay Area has a multitude of providers, some municipal and others created by the state of California. And so on.

How this all works out depends on the political relationships between the city, its suburbs and the state. This varies considerably between metropolitan regions, depending on how urban-suburban-perurban-rural politics evolve. In addition, state capitals are frequently located away from the large urban centres (for example Sacramento, Springfield, and Albany).

Metropolitan transport governance in the US differs from Canada and Australia in one additional respect:
the federal government plays a more active role. The US government can co-finance investments in transport infrastructure, provided specific criteria are met. One such criterion is setting up a Metropolitan Planning Organisation (MPO). California has rather creatively established the MTC (metropolitan transport commission) as a joint MPO and state organisation in the Bay Area, with federal funding, the right to collect tolls from bridges and tunnels, and the right to collect a sales tax. This gives the MTC considerable leverage over the various local authorities. Most states have been much less creative. The federal Canadian and Australian governments are more passive than the US government.

**Politics:** Differences in metropolitan transport between Canada and Australia, between Canada and the US, and within the US have nothing to do with governance and everything to do with politics and in differences in political culture. Traditional political alliances, coalitions and conflicts have remained stable for decades, if not longer.

One way to look at this is through geography and population density. Along the urban/suburban/peri-urban/rural dimension, the politics of metropolitan transport shifts from more to less subsidised, from more to less ethnic diversity, and frequently also from higher to lower education and income. **How the suburban population places itself between the urban and the peri-urban then becomes important.** City/state relationships can turn quite dysfunctional when ethnicity and race differs between urban and rural areas.

The difference between Canada and Australia can perhaps be best understood through this split between urban and suburban/peri-urban/rural. Suburban/peri-urban/rural concerns dominate Australian politics to a larger degree than in Canada, since urban concerns lack strong political voices. Australian states fund roads through fuel taxes but require public transport to be financed through the capital market. Other countries also use fuel taxes for public transport investments, but not Australia.

The difference between Canada and the US has the added twist that political polarisation has gone much further in the US. Perhaps the roots of the respective countries are at play; the sentence 'Life, liberty and the pursuit of happiness' in the US constitution is individualistic, almost anti-state, and once allowed slavery. The corresponding sentence in Canada is 'peace, order and good government' and is more collective and pro-state. Two distinctly different political cultures are separated by a common border and share a common language but have different relationships with their original founding country. As an example, Canada has universal health care much like European countries, and much unlike the US. The parallels with metropolitan transport system are obvious. Australia has a similar system for health care as Canada but has nevertheless chosen motorway-oriented development. The likely explanation is the lack of distinct and powerful urban political voices.

### 4.3 How differences in politics plays out in the governance of metropolitan transport

**Financing and funding** of metropolitan transport take place in distinct road and transit silos, although links between them exist in a handful of cases. The public transport silo is primarily supported through fares and regional and/or local sales taxes, even if ad-hoc complements from other sources exist in some cases. Sales taxes are based on provincial legislation in CAN and on state legislation in the US, although the politics differ substantially. The provincial/state legislation differs. Of the six US cases, Texas is the by far most restrictive. The Bay Area and Los Angeles County in California require approval by referendum (which has been spectacularly successful in Los Angeles). The state of Massachusetts decides itself, since the state also operates the Boston MBTA. In Chicago the funding is based on state legislation but the state has essentially abdicated from direct influence and delegated decisions on sales taxes to a rather complex organisation where conflicts between the city and the suburbs keep the transit system just barely ticking over. In NYC, where the NYC MTA is a state-controlled provider, the state and the city are in perennial and frequently-acrimonious negotiations. Nevertheless, this has not prevented some innovative ideas.

The three Canadian metro-regions are both similar and different. The provinces control funding legislation, but the net result depends on city/province relationships. These have varied considerably over the decades in the Toronto region, which is reflected in the Toronto region transit system being much less integrated than in the Montreal and Vancouver regions. The Vancouver region has a less confrontation history than Toronto, but is nevertheless far from straightforward. The Montreal region is a newcomer to integrating their public transport system, which is financed through a variety of direct contributions from different levels of government, sales taxes, and local and regional gasoline taxes.

There are some notable local twists, however. Regions that, for topographical reasons, require large bridges and tunnels – NYC, San Francisco, and Vancouver – have managed to use road-toll revenues to finance public-transport operations. The NYC region has managed to introduce an employment tax similar to the French versement transport. Many cities (including NYC and Chicago) are experimenting with using various forms of taxes, such as taxes on property transfers and property developments, to finance...
investments in infrastructure. The MTC in California receives federal funding, collects tolls from tunnels and bridges, and collects a sales tax that provides additional power over the many local transit providers. San Francisco also uses parking fees to fund transit.

The overall conclusion is that funding for public transport is restricted for political rather than legal reasons. When the politics are in place, the funding is there too.

**Place making** is less pronounced in North America and Australia than in Western Europe, but is growing. The Boston ‘Big Dig’ was a massive investment in place making with both city, state and federal involvement. Vancouver has a long history of investing in efforts to improve quality of life, including culture, green areas, pedestrianization, new mobility services, bike lanes and public transport. NYC has recently begun a similar policy of prioritising pedestrians and cyclists. Los Angeles has also begun a similar shift toward becoming a high-quality-of-life city on the Pacific, and its major transit investments are part of this. The *complete street* movement in the US is a further sign of a similar interest in seeing streets not only as places for cars but also for buses, streetcars, pedestrians and cyclists. The movement is not opposed, however, and initiatives in the US Congress have failed. Melbourne and Sydney are also investing in place and quality of life.

**Land use and transport:** Motorway-oriented development is still the dominant trend. This is particularly true in Australia and the US. Both the Vancouver and the Montreal regions – but not Toronto – have set up dual organisations to try to coordinate property and transport development. The Vancouver region has both Translink, which is the public transport provider run by the province, and Metro Vancouver, which is a federation of local authorities with roots back to the 1880s and the mandate to coordinate common services. It operates under provincial legislation and strives to enforce a coherent physical plan for the region. It does not, however, have formal power to control land-use decisions by local authorities, and relies, therefore, on developing a shared vision. The Montreal region has recently adopted a similar dual structure, with the ARTM (L’Autorité Régionale de Transport Métropolitaine) as the public-transport provider run by the province and the CMM (Communauté Métropolitaine de Montreal). The CMM approves the strategic plans of the ARTM and can also issue binding regulations on minimum development density.

In the US, only Portland Oregon has similar policies. Nothing of the sort exists in Australia. The Vancouver and the Montreal regions are the intriguing experiments right now.

Cities, suburbs and states/provinces: The future of metropolitan transport in the three Anglo-sphere countries will be determined by the politics of the suburbs, and thus by how the suburbs see the cities. Metropolitan transport is and will remain only one of many dimensions of this.

One noteworthy aspect of city/suburb/state or province relationships is the role of local politicians on the boards of state-run public transport providers. Experiences in the Vancouver, Toronto and Montreal regions are instructive here. When the provincial governments of British Columbia and Toronto originally created Translink and the Toronto Transit Commission, they chose to have local politicians on the boards of the two organisations. As these politicians became more outspoken, both provincial governments chose to replace them with what euphemistically was called ‘independent experts,’ thus cutting the link between state and local politics.

**4.4 What to watch in the Anglosphere countries**

How will Uber and Lyft influence metropolitan transport?: Look at the Bay Area and see how the existing system adapts. Perhaps the software companies will try to take over traditional services in cities that are too weak to rely on rail.

**Innovative organisations:** Look out for the dual structure in the Montreal and Vancouver regions. Translink in Vancouver and the San Francisco Municipal Transport Authority, with integrated budgets and some cross subsidies between road and transit via tolls on bridges and parking, have been created as conscious attempts to do away with road/transit silos.

**Acute pressures for change:** In Los Angeles County, two referendums that increased sales taxes earmarked for transport were passed on the basis that ‘the sprawl has hit the wall.’ Similar pressures may build up in Sydney and result in a call for radical changes. For new sources of revenue, look out for NYC MTA. Congestion charges for parts of Manhattan have been discussed, as has an employment tax. NYC is perhaps the only city in the US where the middle class has a large stake in the public transport system, so the pressure for innovation is high.
**GOVERNANCE OF BRT IN MODERNISING COUNTRIES**

**BRT is not an issue in modern countries.** A public transport provider in a modern metropolitan region can introduce a BRT system as one component in an already-integrated system. Public institutions are usually capable of coordinating across silos, and whether to go ahead or not is a standard political issue. **BRT in modernising countries is different.**

For some twenty years after the first BRT system was introduced in Curitiba in 1974, BRT appeared to have a promising future. However, experience didn’t grow until additional cities introduced BRT in the late 1990s. The experience gained revealed that BRT systems introduce problems as well as promises. Perhaps for this reason, the number of systems worldwide now appears to have leveled off.

The success or failure of BRT in modernising countries depends on the quality of institutions, how functional or dysfunctional politics is and, frequently, on the capacity to subsidise public transport over many electoral cycles. If the right institutional and political conditions are there, introducing BRT can serve as a lever for modernising metropolitan transport. **If not, the status quo wins.** BRT promoters should learn to assess whether the prerequisite conditions for success are there or not. This is clearly illustrated in the three papers commissioned by VREF on the governance of BRT in Latin America (six cities), India (five cities) and Sub-Saharan Africa (three cities).

These three papers add to the limited but growing literature of what is sometimes called ‘*the soft side*’ of BRT; in contrast to the large literature on ‘*the hard side*’. The concept of the soft/hard dichotomy is developed in a useful World Bank paper ‘The Soft Side of BRT’ (Kumar, Zimmerman, Agrawal), which is based on five cases (Ahmedabad, Jakarta, Lagos, Johannesburg, Delhi). The paper formulates five challenges that BRT implementation should address. Among them are political leadership and a sound financial analysis of both investments and operations. The soft/hard dichotomy reflects the HOW/WHAT dichotomy, where HOW corresponds to ‘soft’ and WHAT refers to ‘hard’ engineering studies on the design of BRT systems, as exemplified in the ITDP manual with its bronze, silver and gold criteria.

A handful of papers, such as ‘Institutional Labyrinth’ by Kumar and Agrawal, also discuss the need for institutional frameworks for BRT implementation. It is not unusual to refer to governance systems in modern countries even if, perhaps not unsurprisingly, the conditions under which these systems evolved are not discussed. **None of these papers discusses how to address the quality of existing public institutions in modernising countries.**

BRT comes with one promise and two problems. The **promise is cost-effectiveness compared to under-ground metros or commuter rail. The first problem** is that BRT investments appear to rarely be able to compete on an economic basis with the status quo. A BRT system is a system where politics, and thus public institutions, assumes responsibility for various safety and environmental standards as well as rates. Competition with the status quo is therefore highly unequal. The status quo in many modernising countries is based on for-profit minibuses that compete for riders line-by-line, sometimes bus-by-bus or even driver-by-driver. It is often a fragmented but flexible industry, frequently sophisticated, in practice lightly regulated and apt at keeping costs down, to the detriment of safety and the environment. Neither lines nor fares nor buses are regulated well (or at all). It is an industry that is alien to transport academics. As a for-profit industry, it can provide investment opportunities with, in some countries, perhaps non-transparent ownerships. Murky links between regulatory and political powers are not inconceivable in countries with limited transparency or accountability. It is an industry with the power to disrupt everyday life in a city. **Whenever possible, the industry needs to be co-opted rather than fought.**

Technocrats assume that, when introducing BRT, status-quo mini-bus industries should be replaced. BRT politics is something else. **No politician picks a fight with the minibus industry unless the odds of winning are high.** The political skills necessary to strike a balance between BRT and minibuses are skills in building alliances that are stable over electoral cycles and changing majorities, including those: for subsidies, between different interests, across social classes and amongst stakeholders.

Anecdotal evidence suggests that actual ridership (and thus revenues) in many BRT systems does not live up to original plans. The result is an unforeseen need for subsidies, which in turn restricts the capacity to expand. Systematic studies are lacking, and there is a dearth of in-depth studies of how BRT systems manage to compete with the status-quo industry.

**The second problem concerns the quality of public institutions** in modernising countries. A successful BRT system relies on public institutions that are sufficiently-capable of: planning and enforcing segregated street space; setting up adequate feeder lines; and so on and so forth. Moreover, these institutions have to act coherently across administrative silos and levels of government. As in
modern countries, the car-owning middle class is key: it has to accept restrictions on street space as well as taxation for subsidies. Political leadership is about both leading often incoherent and semi-autonomous public institutions and upholding stakeholder alliances across interests and social classes.

A BRT system is successful only to the extent that it expands over many years. It is about more than just introducing a modern bus service. It challenges existing institutions, governance and power brokers – political, commercial, legal, administrative or whatever – that uphold the not-yet-modern status quo. From this perspective, the powers of modernisation must either beat or co-exist with the powers of status quo over many elections and across different political majorities.

The three papers illustrate the challenges of modernisation through BRT expansion. This will probably be successful in several Latin American countries (but perhaps not all), just maybe in India and probably not yet in Sub-Saharan Africa (possibly excepting South Africa).

These observations also suggest that, perhaps, the very idea of what constitutes modernisation of metropolitan transport could be revisited. In some countries, and some cities, modernisation through BRT alone may just be too challenging. Perhaps modernisation of metropolitan transport in these countries and cities must come about through a parallel modernisation of both the minibus industry and the necessary public institutions. A technologically- and commercially-modern minibus industry could, together with extensive BRT systems, expand a combined and well-regulated market to the benefit of both. As the German transport alliances demonstrate, cooperation and co-existence beat competition. At the same time, experience also suggests that shifting from the idea of competition to the idea of a co-existence between cooperation and competition is a very large step indeed.

Now to the three background papers.

5.1 BRT governance in six (even eight) cities in Latin America

Latin America is the cradle of BRT and the continent with the largest number of BRT systems. This paper underlines that BRT is as much about governance as it is about engineering and, as experience demonstrates, about the politics of regulating fares and, frequently, mobilising subsidies.

The need for subsidies follows from the fact that regulated BRT fares frequently do not cover operating costs. The politics of setting fares for users versus collecting subsidies from larger groups is then key to expansion and the longer-term future. It is still an open question which BRT systems already in place in Latin America will be able to expand over time, incorporate feeder services, establish integrated fare systems and gradually modernise the existing bus industry.

The paper discusses three approaches to introducing BRT – two in detail and one in passing. The one discussed in passing refers to two Central American cases that both ended in fiasco, because the qualities of public institutions were too weak and politics too dysfunctional. Promoters underestimated the technical, institutional, financial and political complexities of implementing BRT systems.

The two approaches to change that are discussed in detail are, first, the gradual approach observed in Santiago, Buenos Aires and São Paulo and, second, the transformation approach observed in Mexico City, Quito and Bogotá. The two approaches are not options; which approach is applicable depends on whether the structure of the existing bus industry is already consolidated or still fragmented.

Consolidated bus industries, in turn, reflect that a more sophisticated governance structure of public institutions is already in place, based on a longer tradition of political involvement in network integration, fare regulation and subsidies. Fragmented bus industries consist of a multitude of competing small bus companies, with unsubsidised fares regulated at levels that result in low-quality buses.

The gradual approach lends itself to pragmatic implementation of BRT systems, with sometimes open corridors and direct involvement of existing bus companies. No political leader wants to start with a fight with the bus industry.

This is even more true in the transformational approach. An existing fragmented minibus industry can wreak havoc if it is not on board. The politics of establishing BRT involves negotiating with the minibus industry about the conditions for participating in a BRT company for a particular corridor, and, frequently, results in different agreements along different corridors (Mexico City, Quito). Cross subsidies between corridors are difficult, since different minibus consortia are involved. Feeder services usually also require subsidies.

The still unresolved question concerns the longer-term viability of the transformational approach. The short-term compromises necessary to co-opt existing mini-bus industries must not be allowed to endanger a large-scale consolidation into a handful of professional companies. Governments must, if necessary, be able to mobilise subsidies on a sufficient scale. BRT requires popular and political support over many electoral cycles.
5.2 BRT governance in five cities in India with comments on an additional seven

India has twice the population of Latin America but only nine BRT systems in operation, one dismantled and four under development. Of the nine in operation, only two have some 100 km of network length and seven have less than 25 km of length. India is a latecomer to BRT. Three explanations for this are worth considering.

First, India is a latecomer to urban public transport in general. Even cities with several million inhabitants have only skeletal regular bus services.

Second, some Indian cities have regular but very limited bus services while others depend solely on auto rickshaws, jeeps and two wheelers. These are the main competitors for BRT, not minibuses as in most Latin American or African countries. Seen as an industry, it is highly fragmented and not open to co-optation. It has been argued that trip lengths are too short for trunk and feeder services to be able to compete with rickshaws.

Third, the Indian public institutions relevant to urban transport appear to be more silo-structured than in many other countries. The horizontal institutions necessary on the urban level are correspondingly weaker. India appears to be vertically centralised and horizontally fragmented. Only one of the five cases reviewed in this study has managed to coordinate both buses and BRT. Corridors have been difficult to enforce. The necessary coherency among public institutions is difficult to achieve. Metropolitan transport programs can be challenged in courts to a larger extent than in many other countries. Political changes in cities, states or nationally can be quite disruptive. India is not a country for the faint-hearted when it comes to coherent and long-term metropolitan transport policies.

BRT investments in most Indian cities were previously funded by a special central-government program. Nevertheless, introducing BRT has been difficult; all but two systems have so far failed to generate sufficient fare revenues to cover operating costs. Indore and Rajkot are the exceptions, but both operate very small systems (10 km) and have no plans for expansion. Central funding was subsequently cancelled by a new government.

This study looks at Delhi, Ahmedabad, Jaipur, Indore and Surat in detail. Rajkot, Bhopal, Punea, Amritsar, Vijawada and Hubil Dharwad are also in operation. Naya Raipur and Vishakapatm are still under development.

The experience of the five cases studied in detail are only partially encouraging. Only Surat decided to continue funding investments using city funds when the central funding ceased. Delhi was the first system and a warning to the others. Delhi is administratively complex. Metro and BRT were planned independently, the traffic police were against the dedicated street space, and the corridor was challenged by car drivers. The project was heavily criticised in the media and political support disappeared. The project was dismantled.

Ahmedabad was much better planned, with BRT corridors complementing future metro-lines. Communication and information were well done. Ninety-eight kilometers are in operation, but the city never managed to enforce coordination between the BRT company and the regular bus company, although both were city owned. BRT ridership is now stagnating and the system needs subsidies. When central funding ceased, the city decided to shelve expansion. The longer term is open.

Surat learnt from Ahmedabad and could offer inspiration to others, provided the political, institutional and economic challenges that Surat met successfully can be replicated. When central funding ceased, the city decided to fund further investments itself. The BRT network covers 102 km and regular bus services are now reorganised into a feeder system with integrated tariffs. The corridors are well enforced. The city is willing to subsidise both BRT and the feeder bus services, since fares do not cover costs.

Jaipur and Punea are large cities with only 20 and 11 km BRT networks respectively. Expansion was shelved when central funding ceased. These are not inspiring stories.

The reason why India has twice the population of Latin America yet only a handful of BRT systems is probably that conditions differ so widely. The status quo in terms of jitneys and autorickshaws is too fragmented to be co-opted and just has to be accepted. The network of public institutions also appears to be more fragmented. The studies of Indian cities illustrate that introduction is one thing and the viability and scalability of systems is another. Only Surat appears to have the stamina for the latter. It is an open question whether BRT will ever play a significant role in Indian metropolitan transport.

5.3 BRT Governance in Sub-Saharan Africa

BRT is a newcomer in Sub-Saharan Africa and has been promoted using the same argument as in Latin America: the need to modernise the minibus industry.

Apart from South Africa, African states are weak. Rule of law is deficient, public institutions are not sufficiently professional and political accountability is low. A for-profit-driven minibus industry is also a
money-making machine, that, given the weak states, often has murky financial links to those in regulatory and/or political power. Reforming the minibus industry through BRT without first reforming the state is a tall order that BRT promoters so far have tended to ignore. Backlash risks are strong if/when the status quo hits back. Donors have a large responsibility here, particularly donors with an industrial agenda.

South Africa is the exception. The state is stronger and more capable, and there is more accountability and rule of law. One geographical legacy of apartheid is the need for bus transport. The minibus industry is a successful African response to apartheid, deeply symbolic of the anti-apartheid struggle, and has strong links to the ANC. Modernising the South African minibus industry has to be done on the industry’s own terms, not against them.

This is demonstrated in the paper ‘A Review of BRT as Public Transport Reform in African Cities.’ BRT systems are in operation in Johannesburg and a handful of other South African cities. Beyond South Africa, one system is operating in Lagos, one in Dar es Salaam (first phase). Accra, Addis, and Nairobi are planning BRT systems. Dakar has implemented an extensive capacity-building effort, as part of a World Bank BRT Project. If successful, Dakar could perhaps serve as a model.

The Lagos Metropolitan Area Transport Authority (LAMATA) is seen as a success in a region where the minibus industry totally dominates public transport. A newly-elected governor in Lagos state agreed with the World Bank to establish LAMATA, with jurisdiction over main roads, public transport and subsequently also a BRT project in the context of highly-fragmented metropolitan governance. As a first step, LAMATA negotiated a contract with the transport workers’ union (really both a union and an industry association) to become the main BRT operator, and operations got going. Subsequently, the newly-elected governor decided that he had strong-enough public support to suspend this contract and opt for an investor-led company. Wages were slashed and costs reduced, but the new CEO nevertheless called for subsidies. With fragmented governance and the concentrated political power of the union, LAMATA must be seen as a success of sorts. Whether LAMATA can expand and make serious dents in the minibus market, its industry and its powerful company union is still an open question. There is some cause for optimism.

BRT in Nairobi (as in Dar es Salaam) is a wicked problem, as in Piet Hein’s statement ‘problems worthy of attack prove their worth by hitting back.’ The matatu industry is, as a for-profit-driven industry, an opportunity for investors with strong connections to the administrative and political bodies that oversee (with low accountability) the industry. The relevant public institutions are both fragmented and centralised, which in turn is exacerbated by demand from international donors for project-by-project accountability. NAMATA, the Nairobi equivalent of LAMATA, has been charged with planning a five-corridor BRT system, but with weak links to local and county authorities that themselves need upgrading. Costs and how to co-opt the matatu industry (and its investors) are unclear. Dar es Salaam provides a warning, even if there are current attempts to co-opt the dala-dala. There is little cause for optimism.

Johannesburg (and South Africa more generally) illustrates the more positive side of bus reform in Sub-Saharan Africa. This is due to a stronger state (rule of law, administrative competence and government accountability) and to the dismantling of the apartheid legacy. However, Johannesburg also has its share of problems: the minibus taxi industry needs co-opting and the usual promoters have delivered a wildly-over-optimistic (to the point of irresponsibility) cost-recovery forecast. The ITDP silver ranking had no economic basis whatsoever.

The present three BRT corridors were preceded by the amalgamation of all local authorities in the Johannesburg metropolitan area into one city, so as to make joint land use and transport planning feasible. BRT corridors fitted well into this new planning, and the corridor idea forced the city’s administrative silos to start working together. The city also needed to co-opt the minibus taxi industry into bus-operating companies (along the Latin American model). Since the national government in turn pronounced that no taxi owner or driver should be left worse off, the net result was high costs and the risk of patronage. A new anti-ANC government shelved further expansion. Whether new corridors will be developed or not depends on city politics. Over time, there is cause for moderate to high optimism.

BRT and the minibus industry in South Africa provide a lesson for Sub-Saharan Africa as a whole. Modernisation of metropolitan transport has to come through the modernisation of the minibus industry, which in turn has to come from within this industry, in parallel with increasing the capacity of local authorities. How this is to be nudged is the real challenge for donors, the international banks and academics and their funders. Getting to know key actors, understanding ‘the soft side’ and building trust could provide a start.
This section is about both concepts and observations. I begin with concepts.

Governance of metropolitan transport overlaps two academic fields with a thin common ground: political science and transport research. This paper is about this common ground.

Governance of metropolitan transport is defined in this paper as ‘the network of public institutions through which political power over metropolitan transport is exercised.’ This is a more narrow definition than, e.g., the World Bank’s definition, and is adapted from Bo Rothstein’s book ‘Quality of government.’ This paper’s definition covers both modern and modernising states, where the modern state is characterised by rule-of-law, professional public administrations and accountable government. Since the modern state is a European invention, it is a Eurocentric definition.

In this definition, today’s governance is yesterday’s politics. Politics and governance go together. One cannot discuss one without discussing the other. Public institutions and their networks are both creations of and instruments for politics. Politics, moreover, is only one amongst many sources of power, including: economic, professional, legal and ideas (as Victor Hugo stated: ‘nothing is as powerful as an idea whose time has come’).

This is perhaps the reason why most transport academics do not discuss governance. Politics is an alien field and therefore seen as ‘irrational’ within the rationale of transport academics. Politics is, it is said, only about winning the next election. This is a far-too-simplistic view of politics. In reality, politics is both about winning the next election and about creating and maintaining alliances among different interests and stakeholders that can establish governance structures that are stable over many elections and over shifts between political majorities. TFL, NYC MTA, STIF, and RUTER are all creations of politics.

This synthesis paper is based on five background papers. One covers nine Western European countries and one the three Anglo-sphere countries AUS, US and CAN. Governance of BRT in Latin America, India and Sub-Saharan Africa are covered in three papers.

The Western European countries have very different governance structures and yet have quite similar metropolitan transport characteristics. The three Anglo-sphere countries have similar governance structures but strikingly different metropolitan transport characteristics. The explanation can be found in politics.

The politics of metropolitan transport in modern countries centres around: funding (since all metropolitan transport is partially financed through taxation); quality of place (as in gentrification), and; land use (as in segregation and transit- or motor-way-oriented property development).

The governance of metropolitan transport in modern countries reflects aspects of; national constitutions, such as federal/unitary countries, taxation rights and the role of cities; ideas about economic philosophies such as Anglo-Saxon neoliberalism or the German ordo-liberalism, and; principles of taxation of the urban and suburban middle classes.

BRT in modernising countries such as Latin America, India and Sub-Saharan Africa can best be understood in relation to the strength/weakness of the state (as in ‘quality of government’). This strength/weakness of the state varies from relatively strong in many (but not all) parts of Latin America and South Africa to weak or extremely weak in most African countries.

Where the state is relatively strong, BRT is a just another transport mode. Where the state is weak, BRT should be avoided. The grey zone between strong and weak is not well understood, but is where introducing BRT could contribute to transforming existing governance structures.

Over now to some intriguing observations.

Sweden is an outlier. The county councils are responsible for metropolitan transport and also for peri-urban and rural public transport. The councils may not exist in ten years’ time. If this occurs, a new governance structure for metropolitan transport will have to be invented.

The Nordic countries are IT-advanced and small. They are unlikely to be able to develop national solutions for new mobility services. They will have to buy US, Chinese or European solutions and weigh the respective advantages and disadvantages.

French and German actors are likely to shape the European approach to new mobility services. They will resist American and Chinese mobility service companies. The French approach could be shaped by French companies operating globally, while the German approach is likely to be shaped by the German Transport Alliances.

European metropolitan transport systems will need new revenues as places grow in importance, cities gentrify and low-income households are pushed out to peripheries.

Australia: there is not much to expect, but watch to see if ‘the sprawl hits the wall’ in Sydney.
The re-elected labour government in Victoria could possibly make a difference in Melbourne.

Canada: Can the two dual structures in the Vancouver and Montreal regions cope with place, gentrification and the need for new revenues?

The US: watch NYC, Los Angeles County and the Bay Area. If – a big if – NYC congestion charges are implemented, other cities may follow. Los Angeles County will need to turn its successful referendums on funding into investments that begin to reverse the car-dominated culture. The Bay Area has three parallel developments of potentially-significant importance: first, the area is implementing a very large social experiment on new mobility services; second, the MTC will attempt to create a Bay-Area-wide platform for new mobility services around its Clipper card, and; third, the San Francisco Municipal Transport Authority represents a novel approach to governance for transport in general and transit in particular.

Governance of BRT in India: It is difficult for BRT to compete with auto-rickshaws in India. BRT systems require long-term subsidies.

Governance of BRT in Sub-Saharan Africa, excluding South Africa: The future of BRT in Sub-Saharan Africa is not hopeful, due to weak states and dysfunctional politics.

South Africa: BRT requires subsidies, as short-term needs to accommodate existing minibus and taxi industries risk locking BRT systems onto a non-sustainable path. The future of BRT depends on a reformed minibus industry.

Governance of BRT in Latin America: the BIG question is whether the need to accommodate and co-opt the existing minibus industry will preclude a financially-viable expansion of BRT as the alternative to metro and rail. A reformed minibus industry may be necessary for BRT to be successful.