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Transparency and Accountability in Infrastructure Stimulus Spending: A Comparison of Canadian, Australian and US Programs

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Abstract

In the midst of the 2007 global financial crisis, governments around the world adopted spending policies that focused on stimulating short-term growth and economic recovery. As a means of achieving these goals, countries chose to incur significant levels of deficit financing in order to ramp up spending on public works and infrastructure. The injection of billions of dollars on infrastructure projects was expected to create thousands of jobs, particularly in the construction industry. While this investment has helped to fund many municipal infrastructure projects, the rapid infusion of public funding has raised serious concerns about *accountability* and *transparency* including how best to monitor and evaluate the allocation and impact of the funds and report back to citizens. While there is growing research on the macro-economic impacts of stimulus spending, there is very little written to date on the comparative approaches of different countries with respect to the governance of the infrastructure stimulus spending programs. The goals of the research proposed here are to: *identify and explain the different practices from across Canada, Australia and the United States with respect to infrastructure stimulus funding to draw out the implications for future stimulus-led investment.*

In the wake of the 2007 financial crisis, countries across the world introduced economic stimulus measures that focused on short-term growth (raising aggregate demand) as well as long-term growth by creating favorable conditions for investment and innovation. These new measures have entailed both revenue side policies (cuts to direct and indirect taxes and social insurance contributions) and spending side policies of which there are many possibilities. One of the most popular choices made by governments on the spending side has been the ramping up public investment in infrastructure.[1] Spending on

1 For example, amongst countries in the European Union, approximately two thirds focused stimulus expenditures on infrastructure investment (Watt 2009: 23).

public works contributes a quick infusion of cash into the economy, thereby boosting demand for goods and services. A well-designed infrastructure stimulus "has been shown to have high multipliers (induces knock-on private spending)" (Watt 2009: 23). Depending on the nature of the investments, targeted spending in key areas of the economy can also lead to transformative changes in the longer term – e.g., by promoting a shift in transportation systems away from dependency on personal vehicles through improved services in public transit. The key to having both effective and strategic infrastructure investments through stimulus measures requires a careful balance of spending quickly and spending well. With respect to the latter, this requires that spending be tied to specific measurable policy outcomes that drive the decision-making process, both in terms of the type of projects that are selected and the criteria used to prioritize them.

As federal systems, the United States, Australia and Canada share many political characteristics as well as governance and infrastructure challenges. They have adopted some of the largest fiscal initiatives (revenue and spending measures) among OECD countries (Wunsch-Vincent 2009: 1). Of these, public investment in infrastructure is the largest component in the cases of Canada and the United States at 1.27% and 0.70% of 2008 GDP respectively, and is the second largest component in the case of Australia, at 0.82% of 2008 GDP.[2] The infrastructure components of these fiscal packages have provided an infusion of cash into public works in an expedited manner, transforming built environments. At the same time such spending creates a financial liability for lower order governments, leaving them to deal with the costs of ongoing maintenance, repairs and replacement of capital works that are created. The conditions attached to the spending of infrastructure stimulus funds have heightened the role of the federal government in infrastructure investment, impacting multi level government relations. The strategic use of the funds – for example attempting to propel development in certain

[2] The strong focus of Australia's stimulus package on education includes the largest school modernization program in Australia's history. The OECD's methodology for counting infrastructure as a separate component may not take into account the infrastructure focus of Australia's education funding in the stimulus. Note: Based on 2008 GDP. Figures are only indicative as applying identical clear cut definitions across countries is very difficult. Source: OECD (2009). Policy responses to the economic crisis: investing in innovation for long-term growth. www.oecd.org/dataoecd/59/45/42983414.pdf, pg. 25

sectors such as green infrastructure – has depended in large part on national policies. Further, the large infusion of funds, combined with the expediency of its deployment, has raised questions of accountability and transparency such as how best to monitor the allocation and impact of the funds and report on the results of spending.

In “Survival of the unfittest: why the worst infrastructure gets built and what we can do about it”, Bent Flyvbjerg (2009) discusses the vast differences in estimated and actual outcomes for large infrastructure projects. Flyvbjerg’s analyses the structure of decision-making and incentives surrounding such projects and the all too common perverse outcomes of cost overruns, benefits shortfalls and underestimation of risks. Such issues are exacerbated in the context of rushed infrastructure stimulus spending.

Many of the debates pertaining to stimulus spending on public infrastructure have played out as political scandals in the national and local media of the respective countries with opposition parties, journalists and academics raising serious concerns about: the stimulus package rationale; the effectiveness of stimulus funds; the politicization of funding decisions; and the costs associated with promotion and advertising of stimulus spending. In these ways, public policy and administration, and the politics and ideology surrounding the infrastructure stimulus plans may help to explain the divergent processes and outcomes emerging in each of the three countries selected.

This paper explores the infrastructure stimulus plans that have been adopted in Canada, Australia and the United States. A literature review on this subject has found that, while there is a great deal written on the economic effect of stimulus measures, there is far less written about the decision making and governance structures of the infrastructure stimulus programs. This paper focuses on the policy goals, governance mechanisms and accountability/transparency of reporting. It concludes that Canada stands out as having far fewer accountability and reporting mechanisms than that of the other two country case studies and the Canadian government emphasized timeliness of spending over that of other objectives. The lack of transparency has undermined the government’s reporting to citizens and limited an evaluation of the impacts of the infrastructure stimulus funds. Further, the involvement of the Canadian government in selecting projects to be funded under the stimulus program is found to be in sharp contrast with the approach taken in the other two countries that we studied. The

Australian infrastructure stimulus funds were delivered in a partnership model with the Council of Australian Governments while in the American case there was an interesting mix between short term initiatives, longer-term strategic projects, federal departmental administration and devolution of responsibility for project funding to State decision makers all within a strong accountability and transparency framework. This paper offers a preliminary exploration of these differences. In all country case studies, the economic impact of this type of spending remains a contested issue.

1. Literature Review

In a literature review on the use of economic stimulus funds for infrastructure development, several core areas of research emerge. The most dominant of these is literature on the macro and micro economic impacts of infrastructure stimulus funding in terms of its optimal allocation and its effects on economic growth (Agenor 2009; Alesina et al. 2005; Aschauer 1993, 1989; Button 1998; Cogan et a. 2010; Cohen 2010; Crafts 2009; Dembour 2009; Egbert 2009; Helm; 2009; Keating 2008; Keller & Ying 1988; Kriesler 2009; Mizutani & Tanaka 2001; Morrison & Schwartz 1992; and Munnell 1992). This literature engages in the longstanding debates on the appropriate role for government in stimulating the economy (Keynesian-Monetarism debate). A seminal paper in this regard written by Aschauer (1989) linked productivity growth to infrastructure provision. His work in this field led to a rethinking of the role of public policy in influencing economic growth.

Much of this literature focuses on the problem of measuring the impact of infrastructure stimulus funding on such outcomes as employment and demand for services. For example, in a review of the current dominant models, Cogan, Cwik, Taylor & Wieland (2009) argue that the presently used evaluatory methods for infrastructure stimulus policies are not robust, with the estimated effects being extremely small. This leads to a questioning of its usefulness as an overall approach. Other authors cited above have forwarded models that draw different conclusions (e.g., Crafts 2009), spurring debate

Another area of research central to this topic is literature that focuses on decision-making processes and policies surrounding infrastructure provision (Connelly & Markey

2009; Flyvbjerg 2009; Hulten & Schwab 1997; McFarlane & Rutherford 2008; Rauch 1995; Stilwell & Primrose 2010; and Torrance 2009), with a subset of this literature specifically focused on the use of public-private partnerships in the financing and provision of infrastructure (Araujo & Sutherland 2009; Johnson & Gudergan 2007; Neil 2010; and Siemiatycki (2010). It is this literature that has the greatest bearing on this paper, particularly the works of Connelly & Markey (2009) and Flyvbjeg (2009). Connelly and Markey (20009) question how communities can make sure that their infrastructure priorities are used to advance the strategic goal of sustainable development. The article focuses on the Canadian context and finds that the issue is not one of technical expertise, but rather a problem of the awareness and capacities of decision makers to make strategic decisions. Similarly, Flyvberg's (2009) analysis of major infrastructure projects discusses a structure of perverse incentives and poor decision making that lead to poor outcomes. However, there has been little to date written about the most recent infrastructure stimulus policies and specifically, the link between how the various programs adopted were structured and how they compare to one another. Future research might pursue greater synthesis between the two areas of literature (economic and political science/public policy) where decision-making and governance structures are considered as variables that directly influence economic impacts and outcomes.

2. Country Case Studies

Canada, the United States and Australia have adopted some of the largest stimulus measures among OECD countries with infrastructure provision and investment constituting a major component of the response to the financial crisis. All three countries adopted a phased approach: the first stimulus measures focused on financial stabilization and boosting consumer spending; successive initiatives largely focused on boosting employment and spurring infrastructure investments through various programs and incentives. Each case study presented below examines how the different stimulus programs for infrastructure were structured, administered, monitored and reported through an analysis of policy goals, governance mechanisms and accountability through transparent reporting.

In all three of the countries examined, the infrastructure stimulus component of funding has been the focus of much public debate and scrutiny. Public awareness is high because of the large costs associated with many of the projects as well as the aggregated costs of the program, and the environmental and strategic impacts. The fixed and visible nature of infrastructure investments has also politicized the allocation of infrastructure stimulus funds - with some jurisdictions, particularly those represented by Conservative party MPs, appearing to gain disproportionately more funding. Further, infrastructure projects are often disruptive and contentious in the way that they impact daily life for citizens and the local economy. This is heightened when there is an impetus to rush projects – where the goals of expediency come up against that of stakeholder engagement. On the other hand, it is because of these issues that in many cases the infrastructure stimulus funds went to projects that were less complex and hence easier to commence and complete in a shorter amount of time. As one example, $800,000 in federal economic stimulus money went to replacing doorknobs on federal buildings in Canada - the economic impact of which is questionable *("Tories trumpet doorknob repair as stimulus: Liberals 2009")*. Major debates borne out in each country surrounding the infrastructure stimulus funding are captured through a media content analysis.

As well as a detailed media analysis the case study research has included a quantitative analysis of budgetary expenditures; qualitative analysis of primary documents (e.g., budgets and auditing statements) and literature review.

2.1 Canada

Despite the growing financial instability in the US economy during 2007, which the Canadian Government attributed to the "significantly weaker U.S. housing market and tighter credit conditions," Prime Minister Harper's Conservative government continued to trumpet the strength of the Canadian economy:

> Notwithstanding weakness in the U.S., economic growth in Canada continues to be strong. Real gross domestic product (GDP) grew 3.4 per cent in the second quarter of 2007, following 3.9 per cent growth in the first quarter. Private sector forecasters expect real GDP growth of 2.5 per cent in 2007, 2.4 per cent in 2008 and 2.7 per cent in 2009 (Department of Finance Canada 2007)

While acknowledging that the "risks to the Canadian economy (were) tilted to the downside," the Government applied a positive rationale for its decision to 'stay the course,' declaring that the country's economic and fiscal fundamentals were "rock solid" (ibid.) Further, the Harper government declared that it was "determined to act from a position of strength to respond to the growing global uncertainties" (ibid).

The government's 2007 Economic Statement proposed $60 billion in broad-based tax relief over five years (ibid.). Tax reduction was marketed as a strategic tool, allowing the country to grow despite the global economic uncertainty: "Our strong fiscal position provides Canada with an opportunity that few other countries have - to make broad-based tax reductions that will strengthen our economy, stimulate investment and create more and better jobs". The reduction of federal debt was seen as a key ancillary objective.

Within one year, these claims were replaced by a call to action to deal with the growing uncertainty within the Canadian economy.[3] In the 2009-10 Budget titled "Canada's Economic Action Plan," the Conservative government proposed a two-year commitment for financial stimulus measures with a focus on taxation, Employment Insurance benefits, and infrastructure (among other measures). Of the three case studies in our research, we found that Canada has spent the greatest proportion of its stimulus funding on infrastructure (1.27% of 2008 GDP) compared to other categories of investment such as science, research development and innovation, education, and green technology (OECD 2009A). Canada also stands out as having the largest infrastructure investment as a measure of the percentage of total fixed investment averaged over the last five years – at approximately 21% for all infrastructure types (transport, communications, energy and water) as opposed to approximately 17% in the cases of Australia and the United States.[4] These comparative figures give some indication of the different focus in

[3] Pressure from Opposition parties in the House of Commons influenced this change in fiscal policy, by critiquing the Harper Government for failing to recognize the growing weakness in the Canadian economy. The Government came perilously close to falling to a coalition formed by the Opposition parties before the PM convinced the Governor General to prorogue the House. The Conservative government subsequently shifted its fiscal policies to include stimulus spending, despite the consequent impact on the debt and the creation of a deficit in the federal treasury.

[4] Note: The years used in calculating the averages were 1999 to 2003. Source: OECD, STAN Structural Analysis Database. Accessed online from http://dx.doi.org/10.1787/534024158375 . In a break down by infrastructure type for the same indicator, Canada is found to have spent 14.7% on transportation and communications infrastructure and 6.0% on energy and water infrastructure as a percentage of total fixed investment average over the last five years (ibid). In a review of electricity, gas and water investment as a

each country's stimulus programs. Similar to other countries, the stimulus measures adopted through Canada's 2009-2010 Budget focused on encouraging economic growth. The 2009-2010 Budget stated that the stimulus measures were guided by three principles – that they be "timely, targeted and temporary" (Government of Canada 2009: 4). The Budget stated that measures would begin within 120 days of the budget being passed; that the measures would focus on targeting businesses and families in the greatest need in order to trigger increases in jobs and output and; finally, that the plan would be phased out "when the economy recovers to avoid long-term structural deficits" (ibid).

The infrastructure component of the stimulus measures in Canada was approximately $40 billion (CAD) over the two years.[5] The largest portion of the infrastructure measures were tax credits for households – e.g., home renovation and energy efficiency tax credits administered through the Canada Revenue Agency.[6] These tax incentives to households accounted for approximately 28% of all infrastructure-related stimulus spending.[7] The second largest proportion was allocated to social housing, First Nations Housing and Northern housing at approximately 15.4% of total infrastructure related funding and administered through the Canada Mortgage and Housing Corporation (CMHC) and Indian and Northern Affairs (INAC) in some cases.[8] The third largest component of funding was allocated to a mixture of provincial, municipal and First Nations, Territorial and some federal infrastructure – amounting to

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percentage of GDP since the 1970's, both Canada and Australia show a trend of decreasing investment over time, while the Unites States has remained relatively stable (OECD 2009a). In contrast, a similar indicator for transport and communications investment shows a more static trend over time, with fewer fluctuations. By this measure, Australia has had the largest investments in transportation and communications as a percentage of GDP, followed by Canada and the United States.

[5] Source: Department of Finance Canada (2009). Budget 2009: Canada's Economic Action Plan Backgrounder, Government of Canada, Ottawa, January 27, 2009
2009-01,1 accessed 10/07/10 from http://www.fin.gc.ca/n08/09-011-eng.asp This figure is the sum of total reported stimulus measures for 2009 and 2010. This figure does not include funds leveraged by other orders of government - e.g., through the creation of stimulus programs requiring matching grants, which, in the Canadian case are a significant amount.

[6] Note: This information has been compiled from an assessment of the 2009 Budget. Knowledge infrastructure has been excluded. Source: Government of Canada (2009). Canada's Economic Action Plan. Budget 2009, tabled in the House of Commons by J.M. Flaherty, P.C., M.P. Minister of Finance, January 27, 2009.

[7] Calculation based on data in Appendix A.4 – includes funding for the programs Home Renovation Tax Credit; Enhancing the Energy Efficiency of Our Homes; increasing withdrawal limits under the Home Buyers' Plan and; First-time Home Buyers' Tax Credit as a proportion of all infrastructure-related funding measures. This figure excludes Knowledge Infrastructure.

[8] Ibid.

approximately 9% out of total infrastructure related investments.[9] However, with the exception of the funding for federal infrastructure projects, all of the programs in this last component significantly leveraged funds through matching grants. Given the amount of leveraged funds required from other jurisdictions, the total impact of the federal funding was in fact much reduced.

It is this last component of funding –particularly the Infrastructure Stimulus Fund (ISF), a $4 billion dollar program that is part of Canada's Economic Action Plan delivered by the federal department Infrastructure Canada – that emerged as the most high profile and contested aspect of the 2009-2010 stimulus measures. The ISF sparked a media furor surrounding the decision making process to select projects and the accountability of the funds that were spent.[10] The ISF is also the component of stimulus spending that had the greatest financial bearing on other levels of government, as it required joint contributions to infrastructure investments. Under the Infrastructure Stimulus Fund (ISF) program, the federal government contributes up to 50 per cent for provincial and territorial assets and not-for-profit private sector assets, up to 33 per cent for municipal assets, and 25 per cent of eligible costs for for-profit sector assets (Government of Canada 2011). The federal government intended the ISF to be "delivered in a flexible manner" with proposals having differing selection processes depending on each province and territory (ibid.). Eligible projects were put forward through provincial and territorial governments to Infrastructure Canada where the final decisions on which projects to fund were made. In this way, the ISF along with a number of other stimulus related programs gave the federal government discretion on the projects that were selected for funding. ISF project eligibility was guided by three major requirements: i) that project construction was ready to begin, ii) that the project would not otherwise have been constructed by 31 March 2011 without the federal funding requested and, iii) that the project plan be completed with all permits and necessary approvals in place.

The emphasis on 'timely' stimulus spending led to concerns that decisions were being made to meet political rather than sound public policy rationale, and in some cases,

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[9] Ibid.

[10] The Canada Health Infoway program was also a high profile media scandal in Canada – but has been excluded from this analysis that does not include knowledge infrastructure (but rather physical infrastructure).

circumvented environmental screening practices and public consultation processes. This last issue was raised in the fall report of the Auditor General of Canada (2010). It is especially notable that, as part of the *Economic Action Plan*, the government introduced Exclusion List Regulations under the *Canadian Environmental Assessment Act* in order to eliminate the need for environmental assessments for a wider range of projects. These regulatory amendments were expedited quickly and were not released in draft form for public comment prior to taking effect (Auditor General of Canada 2010). The amendments are intended to be temporary and are slated to expire on 31 March 2011. However, they are representative of the marked emphasis that the Canadian government has placed on fast tracking the flow of funding for infrastructure. In all, 93 percent of the project proposals approved under the Infrastructure Stimulus Fund were excluded from environmental assessment (ibid.).

The Canadian government stands out among the countries in our case studies on stimulus spending in terms of its failure to implement measures that ensure the accountability and transparency in decision making and in reporting mechanisms that aid in communicating program results. The lack of transparency in the Canadian case has led to widespread charges of 'pork-barrel' spending of stimulus money with disproportionate funds going to Conservative (government) ridings accompanied by elevated levels of promotional publicity and party branding. A number of separate analyses of infrastructure spending showed that Conservative ridings benefited disproportionately from spending. For example, an analysis by the Liberal infrastructure critic found that, in the province of New Brunswick, Liberal ridings received 44 per cent less infrastructure stimulus funding than Conservative-held ones ("Shovelgate depends as New Brunswick political favoritism comes to light" 2009; Bryden 2009). An analysis by *The Globe and Mail* of infrastructure stimulus projects awarded through the Recreational Infrastructure Canada program also found disproportionate reward in Conservative ridings (Chase, Anderson & Curry 2009). Similar analyses by other independent sources have provided a strong impression that there is validity behind the 'pork-barrel' accusations. However, the lack of transparent reporting on funding commitments has made substantiation of these claims difficult and such analyses were beyond the mandate of the Office of the Auditor General its the fall review of the program (2010).

The elevated levels of promotional publicity and party branding in announcements pertaining to infrastructure projects also reinforced the 'pork-barrel' accusations concerning stimulus spending. In many cases, cities were required to bear the costs for signage promoting the federal infrastructure funds ("Government pushes cities into paying for signs advertising Federal stimulus" 2009; "Feds stick cities for signs fluffing for budget: Liberals" 2009)

For Canada, no special auditing or oversight functions were adopted apart from regular departmental reporting and annual reports to Parliament from the Office of the Auditor General, such as the one mentioned above. This approach is in sharp contrast to those adopted in the United States and Australia where accountability/reporting mechanisms specific to the stimulus funds as well as independent audits were conducted. In addition to taking measures to bolster reporting and auditing requirements, the dissemination of information and tracking results as well as the evaluation of stimulus spending were much stronger in the United States and Australia than in Canada. In Canada, this has made it difficult to accurately assess the impact of infrastructure stimulus funding on jobs and economic recovery. For example, there has been no effort made to accurately track the number of jobs created through infrastructure stimulus programs (Curry 2010; Raj 2009a, 2009b; Scoffeild 2010). In response to these criticisms, Infrastructure Minister John Baird stated that it is not the federal government's job to track the results of stimulus funding (Raj 2009c). Canada's recently appointed (2008) Parliamentary Budget Officer, Kevin Page, who has been a source of independent analysis on the usage and impact of the infrastructure stimulus funds, has been a vocal critic of the federal government's own reporting on program results (Chase 2009). In the most recent report on the infrastructure stimulus funds the Parliamentary Budget Officer cautions that:

> Parliament must be mindful of the trade-offs between timeliness of program delivery and program reporting requirements. Where possible, it is useful to incorporate reporting requirements within existing program structures, as was done in the United States Government, Office of Management & Budget. While the government has been diligent on reporting progress against obtaining necessary program authorities (inputs), reporting on outputs has been limited periodic announcements of projects and project values…. As we have indicated in previous reports on the ISF, parliamentarians have been poorly served with limited data architecture and information collection, especially when compared to

> the US practice. The lack of good data inhibits basic analysis let alone accountability (Office of the Parliamentary Budget Officer 2010: 3).

The lack of reporting on job creation - a major rational for the Canadian Government in adopting the infrastructure stimulus measures - was also raised in the in the fall 2010 report of the Auditor General. The information on project level jobs was described by government officials as “anecdotal,” There were no consistent measures or methodologies used to estimate the number of jobs created or maintained as a result of stimulus funding (Office of the Auditor General 2010: 1.63-64). Because of the lack of empirical evidence about job creation that could be directly attributed to federal spending, the Department of Finance Canada relied on a macroeconomic model-based analysis to estimate the number of jobs created or maintained rather than rely on departmental performance reports with programme-level detail (ibid.).

Similar to previous stimulus programs that involve increased spending on infrastructure, the focus of spending in Canada relied on the ability to quickly disseminate funding. However, there are not inconsiderable risks with this approach including: an increased threat to the environment (from expedient deregulation) an absence of transparency in decision making in and program delivery and the inability to accurately assess and report on outcomes.

As with previous infrastructure stimulus programs, the original deadline for spending ISF funds on infrastructure projects has in any case been extended (Chin 2010; McIntosh 2010; Milner 2010) which, in addition to the government’s spurious efficacy claims, raises questions about the initial policy rationale for the program: in particular, has the focus on ‘timeliness’ justified compromising accountability and transparency in the rush to spend public money?

2.2 Australia

Like the Canadian example, Australia’s responses to the global financial crises also evolved. The first wave of stimulus, titled the “Economic Security Strategy” (adopted October 14, 2008, by the government of Prime Minister Kevin Rudd) provided a lump sum payment of $10.4 billion (AUS) to vulnerable populations that was incorporated into existing support measures (Australian Government 2009 a). The second stimulus measure involved the Council of Australian Governments (COAG) funding package in the amount of $15.2 billion (AUS) over five years (adopted November 29, 2008). The COAG is a body similar to the U.S.'s National Governors Association and Canada's Council of the Federation. However, unlike these counterparts COAG includes federal and local representatives.[11] The COAG funding package focused on healthcare and education initiatives as well as labour and workforce development. The third stimulus measure launched in Australia involved a much greater level of spending, was longer term in outlook and included infrastructure provision. Outlined in the 2009-2010 Australian Budget (Government of Australian 2009a), the measure titled "The Nation Building Economic Stimulus Plan" provided $42 billion (AUS) in stimulus spending for healthcare and education over a period of two years.

The key elements of the plan included onetime cash payments to individuals, temporary business investment tax breaks, building/upgrading for schools, increased spending in social and defense housing, funding for local community infrastructure, road and rail projects, and an Energy Efficient Homes Package (Australian Government 2009c:10). The focus of stimulus spending in the Budget was heavily weighted to infrastructure investments that target direct government investments and COAG transfers to states while reducing transfers to households (ibid). A total of $22.4 billion (AUS) was allocated to new investments for infrastructure under this budget with the majority of funds going to roads, rail and port development, and to a lesser extent infrastructure such as the National Broadband Network, clean energy, and educational institutions. The spending under these initiatives was expected to create an estimated 35,000 construction projects (Parliament of Australia 2009, Australian Government 2009c:10).

There have been several significant new governance measures in Australia that have had an impact on infrastructure stimulus funding. The first is the creation of the Office of the Commonwealth Coordinator-General in 2009. The Office has oversight responsibility for the implementation of the infrastructure elements of the Nation Building and Jobs Plan for all jurisdictions. Commonwealth Coordinators are appointed for each category of infrastructure and a Coordinator-General was appointed for each

[11] The U.S. National Governors Association involves state representatives and Canada's Council of the Federation includes provincial and territorial (CHECK ??) representatives.

State and Territory. Further, individual program area Coordinators are appointed within each jurisdiction to oversee the implementation of specific elements of the Plan while the Heads of Treasury group monitors and reports on the status of financial commitments made by the States and Territories in accordance with the National Partnership Agreement. The second major change in governance that had an impact on stimulus funding in Australia involved a departmental reorganization at the federal level: the Department of Transport and Regional Services became the Department of Infrastructure, Transport, Regional Development and Local Government in 2007.

Different components of the infrastructure stimulus plan (e.g., education, housing, transport/infrastructure and energy efficient homes) had differing delivery agents. While existing processes and structures were used as much as possible in the delivery of Australia's infrastructure stimulus plans, some elements were specially tailored to implement the plan. These are described by the following three governance models:

I. "Centralised model – special purpose governance framework designed to deliver the Plan. Line agencies have established special purpose program offices reporting centrally through the State or Territory Coordinator-General to manage delivery.
II. Decentralised model – State or Territory Coordinator-General performs a facilitation role with direct responsibility for program delivery residing with line agencies.
III. Hybrid model – A combination of the above. Examples include procurement methodologies that are centralised while program delivery remains the responsibility of the line agency" (PricewaterhouseCoopers 2009: 14).

The majority of transport and infrastructure related stimulus measures tended to be delivered within the framework of existing programmes (no new governance mechanisms) that involved less complex program requirements (PricewaterhouseCooper 2009: 18).[12] Accordingly, the projects funded under this category of infrastructure were exposed to less inherent risk than could have occurred through the adoption of new structures and procedures for the administration of the funds.

Among the subjects of our case studies, Australia has the greatest number of oversight mechanisms for independent assurance. These include: quality assurance and

[12] This is in contrast to education –related stimulus measures which tended to employ more complex program requirements and included new initiatives involving funding at an unprecedented scale for the agency involved. In this way, education initiatives were more exposed to risk than those of infrastructure investments (PricewaterhouseCooper 2009: 18).

compliance for individual construction projects; oversight processes at State, Territory and Commonwealth levels (e.g., project reporting and site inspections); and independent assurance (e.g., independent governance reviews, probity/procurement audits, internal audit reviews, and State Auditor General performance audits). The independent governance reviews also include follow-up on the implementation of recommendations.

Media coverage of Australia's infrastructure stimulus plans has raised many issues that are also found in the other two countries selected for our case studies. For example, some local government advocates have expressed a preference for longer-term economic infrastructure funding (Franklin 2009). There have also been criticisms of politically motivated (pork barrel) spending through the Infrastructure Stimulus plans with marginal electoral seats as well as federal Labour seats having benefited disproportionately from the funding measures. This issue was raised through an analysis of infrastructure spending by various Australian newspapers such as the *Australian Financial Review* and later the *Sydney Morning Herald* (Franklin 2009; Franlink & Berkovic 2010; Government accused of stimulus pork-barreling, 2009; Sharp 2010;). The *Australian Financial Review* found evidence that, in New South Wales, the government allocated nearly three times more money to Labor seats, while Victorian Australian Labour Party seats received twice the amount of money directed to those held by the coalition (Franlink 2009). The *Sydney Morning Herald's* analysis found that of the "137 projects approved by the Infrastructure Minister, Anthony Albanese, 84 were in seats held by Labor and 47 were Coalition" (O'Malley 2010). There has also been criticism that State governments have not followed the lead of the federal government in pushing through stimulus plans (Carty 2009).

2.3 The United States

The United States has had several pieces of legislation that deal with economic stimulus. The first response to the financial crisis, the *Economic Stimulus Act of 2008,* which was enacted February 13, 2008 and signed into law by President George Bush, focused on providing various tax incentives. The second, the *Emergency Economic Stabilization Act of 2008,* which was enacted October 3, 2008 and signed into law by President Bush, focused on purchasing distressed assets and making capital injections to major banks that were significantly affected by the crisis. The third act, the *American Recovery and Reinvestment Act of 2009* (ARRA although commonly referred to as the "Stimulus Act"), was enacted February 13th 2009 and signed into law by President Barack Obama. This massive legislation was intended to: "create new jobs and save existing ones; spur economic activity and invest in long-term growth and; foster unprecedented levels of accountability and transparency in government spending" (US Government 2010a). It is this Act that forms the focus of our analysis in this paper since it deals with infrastructure provision. The Act was adopted despite a great deal of controversy and by narrow margins (no Republicans voted in favour of the Bill).

The ARRA involves the administration of grants and programs in almost every federal department and agency, though some are far more involved and have received substantially more funding than others. The Act provides in total: $288 billion (USD) in tax cuts and benefits for families and businesses; $224 billion for education, health care and entitlement programs; and $275 billion available for federal contracts, grants and loans. Of these amounts, a significant portion is allocated to infrastructure investments, the vast majority of which are for transportation infrastructure. Determining the precise amounts allocated to different areas is complicated by the overlap between the objectives and uses of some of the monies. An analysis of ARRA stimulus funding by the Wall Street Journal (2009) found that spending for transportation and housing projects was estimated at $61,795 million.[13] Some (though not all) components of each of these areas could include infrastructure provision. For the purposes of this analysis, the focus will be on the infrastructure-related funds administered by the United States Department of Transportation (DOT) and several programs of the Department of Housing and Urban

[13] Sources: House Committee on Rules, Joint Committee on Taxation, Congressional Budget Office, compiled by the Wall Street Journal, (2009). Getting to $787 Billion, February 17, 2009, accessed online 07/07/10 from http://online.wsj.com/public/resources/documents/STIMULUS_FINAL_0217.html The Wall Street Journal's (2009) analysis also puts funding for energy and the environment at $50,825 million (USD). In a review of the Department of Energy's programs it is found that they are not focused on the provision of grants for built infrastructure but rather on funding for rehabilitation and upgrading of systems (e.g., Electricity Delivery and Energy Reliability Recovery Plan), or the creation of a borrowing authorities for energy infrastructure development (e.g., Western Area Power Administration, Borrowing Authority Recovery Plan). It is for these reasons that the Department of Energy's programs have not been included in the analysis.

Affairs (HUD). Both departments were established in the mid-1960's.[14] An analysis of the combined programs of these departments that specifically deal with the development and provision of infrastructure amounts to a total investment of $47,501 million (USD).[15] Together, ten different bureaus under the two Departments (HUD and DOT) have responsibility for the administration of the stimulus funds to such recipients as state and local governments and transportation and public housing agencies/authorities.[16] The programs involve a mixture of matching and non-matching grants that are intended to spur the creation of jobs and stimulate short and long term economic growth.

It is interesting to note that the federal communications on the goals of the stimulus spending also specifically note the importance of transparency and accountability of the funds as an overarching aim (US Government 2010a). To this end, the administration of the funds have required specific provisions for reporting and widespread dissemination and tracking of the usages, impact and effects of the spending. A provision of the AARA requires federal departments to adopt additional accountability and reporting measures. For example, DOT is required under the legislation to take steps beyond standard practice, "including reporting, information collection, budget execution, risk management, and specific action related to award type" (US DOT 2010b). DOT reporting that is specific to the stimulus funds includes provisions for: major communications, formula block grant allocation reports, weekly updates on the funding, monthly financial reports, agency transaction data feeds, recovery plans and job reporting (ibid). Further, there is a mechanism in place for reporting on suspected fraud related to the abuse of funds – these cases are tracked and reported to the public. The management of stimulus funds are reviewed by the Office of the Inspectors General and reported on and there are also Single Audits of entities that expend $500,000 or more of federal funds received for operations.

In sharp contrast to the role exercised by the federal government in the Canadian case for final project selection, the United States infrastructure stimulus funds were

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[14] The Department of Transportation (DOT) was established by an act of Congress on October 15, 1966. Department of Housing and Urban Development Act of 1965 created HUD as Cabinet-level agency.

[15] Source: Information compiled from: United States Government (2010b). Recovery/gov: Track the money, web resource accessed online 08/07/10, www.recovery.gov

[16] For a list of administrating agency by program type see Appendix A.5. United States Department of Housing and Urban Development (HUD) and Department of Transportation (DOT) infrastructure-related budget accounts/programs.

delivered in a different manner, with much stronger State involvement. The Department of Transportation Recovery Act funding provides one example of the decentralized approach in the administration of federal stimulus funds. In many cases, federal funds were delivered through existing programs which had a "use or lose" clause added to them to ensure that funds were spend quickly (DOT 2009:3). However, much of the infrastructure funding went directly to States for which funding decisions were left to their discretion. While the Department of Transportation (DOT) monitored State investment decision and expressed policy preferences for certain types of investments, DOT did not override funding decisions (ibid.:4). Further, in some cases, States devolved these decisions to municipal governments. Where new programs were created, funding decisions focused on projects that produced transformative and long-term infrastructure. For example, funding for projects in the intercity rail program was aimed at supporting environmental sustainability. A discretionary grant program administered by the Secretary's office focused on funding projects that provided long-term economic benefits. In order to coordinate across initiatives and ensure that funds were being spent in accordance with ARRA priorities, the Department of Transportation created a special team composed of senior leaders called TIGER (Transportation Investment Generating Economic Recovery). Specifically, TIGER was tasked with "developing financial reporting standards, measuring performance, managing risk, and reporting job creation" (ibid.:7).

The United States *Recovery Act* includes some of the most stringent accountability and transparency mechanisms of the countries included in our case studies. Notably, the Obama Administration tackled the issue of 'pork barrel' politics head on by requiring that "discretionary grants are awarded using merit-based criteria and that registered lobbyists do not unduly influence the Department's decision-making" (ibid.:5). In the United States, a great deal of transportation funding from the federal government is often allocated by Congress through a process driven by special interests and earmarks. In advance of the infrastructure stimulus funding, President Barack Obama stated that he would "bar pork-barrel projects from the massive economic stimulus bill he wants Congress to pass [by] banning all earmarks - the process by which individual members insert projects without review" (Stanley & Moore 2009). This was a preemptive effort to avoid criticisms of pork barrel politics. Media debates in the United States have focused on the economic impact of the infrastructure stimulus and coordination with State initiatives (Riley 2010). There have been criticisms that the stimulus is not reducing unemployment aggressively enough and this has been a focus of both media commentary and Congressional debates (Schroeder 2009; Sambides 2010).

The administration of the United States' infrastructure stimulus funding was structured to ensure that the goal of timeliness in spending would be tempered by stringent transparency and accountability requirements. At the same time, programs such as those delivered through the DOT demonstrate a combination of support for short and long-term project priorities as well as elements of devolved control to State government for funding discretion in some cases and greater federal departmental control through existing programs in others. In this way, the American infrastructure stimulus takes a more balanced approach in the administration of funding when compared to the other two case studies.

3. Summary of the country case study comparisons

The infrastructure stimulus plans that have been examined in this paper involve massive expenditures of public funds that include a complex array of programmes. Undoubtedly they will be subject to further research and analysis for some time to come, particularly with respect to their longer-term impact on infrastructure and municipal finances. Our review has focused on the overarching policy goals, governance mechanisms and the accountability and transparency processes adopted by the three countries in our case studies: Canada, the United States and Australia. Our analysis reveals there are several notable differences in the approaches taken, both in program design and delivery. These differences are summarized in the table below.

Country comparisons of accountability, transparency and reporting requirements

Country comparison of accountability, transparency and reporting measures

	Oversight	Reporting	Auditing	Dissemination of information	Tracking of funds
Canada	Regular Departmental oversight for programs.	Reports on Canada's Economic Action Plan provided by the Minister of Finance. Five reports to date. Accessible from http://www.actionplan.gc.ca	Review of stimulus transactions in terms of presentation of government's financial statements as part of regular yearly report to Parliament by the Office of the Auditor General. No specific audit related to the stimulus funds released to date.	Economic stimulus web site (http://actionplan.gc.ca). No searchable database of projects provided.	Project map with project description and federal and total project funding (http://actionplan.gc.ca/eng/map.asp)
United States	Reporting of suspected fraud, waste or abuse of funds to federal Inspectors General. Tracking and reporting on the number of complaints and follow-up actions.	Review of agencies' management of stimulus funds by Offices of Inspectors General; reviewing of complaints and potential fraud; audits of the use of funds; and reports by the Government Accountability Office. All materials made public.	Single Audits of an entity that expends $500,000 or more of federal funds received for its operations. Usually performed annually, Single Audits are performed to assure the federal government that the federal funds are being appropriately managed by recipient states, cities, universities, and non-profit organizations--and that the recipients are in compliance with applicable federal and state laws and regulations. The audit is typically performed by an independent certified public accountant. (http://www.recovery.gov/Accountability/Pages/Audits.aspx)	Comprehensive web site with project map, descriptions and downloadable databases detailing spending (http://www.recovery.gov/). Further, many government agencies involved in the administration of the funds have created websites specific to the stimulus measures (http://www.recovery.gov/FAQ/QuickLinks/Pages/OIGRecoverySites.aspx). Audits and Inspector General reports and the findings of the Government Accountability Office are also available from this website.	Comprehensive web site with project map, descriptions and downloadable databases detailing spending, by state as well as agency and recipient reported data (http://www.recovery.gov/). Further, many government agencies involved in the administration of the funds have created websites specific to the stimulus measures (http://www.recovery.gov/FAQ/QuickLinks/Pages/OIGRecoverySites.aspx). Agency reported data also provided.
Australia	Oversight provided by the Office of the Commonwealth Coordinator-General (OCG) with Commonwealth Coordinators appointed for each infrastructure elements and a Coordinator-General for each State and Territory. individual program area Coordinators appointed within each jurisdiction to oversee the implementation of specific elements of the Plan. Further, the Heads of Treasury group monitors and reports on the status of financial commitments made by the States and Territories in accordance with the National Partnership Agreement.	Semi annual progress reports (accessible from http://www.economicstimulusplan.gov.au).	Economic Stimulus Plan Business Assurance Review undertaken by PricewaterhouseCoopers on behalf of the Commonwealth and State and Territory Coordinators-General (finalized December 2009). The Review examined the governance arrangements across the Commonwealth. Commonwealth Coordinators and State and Territory Coordinators-General have been working to implement each of the recommendations outlined in the Review.	Reporting, individual project descriptions, searchable map of projects, audit reports, response to the governance audit and other relevant documentation available from http://www.economicstimulusplan.gov.au.	Project description, administering agency and status provided through searchable map (http://www.economicstimulusplan.gov.au/). No searchable database of projects available for upload. Many States and Territories also have their own economic stimulus related websites.

A major difference between the three infrastructure stimulus plans is the degree to which the three federal governments controlled the selection of infrastructure projects. In Canada, the government controlled project selection while the provinces and municipalities were obliged to match federal funds (Lewis 2009, 6). In contrast to this 'centralized' approach to decision making, both the United States and Australia designed program administration that involved sublevel governments which gave them more control over decision making and the allocation of resources. Infrastructure stimulus funds are by their very nature focused on 'flowing the money' quickly. However, Canada stands out among the other countries in our case study as placing more emphasis on 'timeliness' above all other policy goals. In the US and Australian cases, by contrast, ensuring appropriate oversight has been a major objective from the very outset of their stimulus programs. Finally, the infrastructure stimulus in the American case shows a balance between due consideration both for the benefits of short term projects and those that offer longer term more transformative results such as sustainable transportation.

The Canadian case study highlights the risks in being unable to provide appropriate oversight that tracks how the funds are spent and what impact they have made. It is the only country out of the three examined where economic impacts were solely based on macroeconomic models as opposed to project level information. Looking ahead, there are many lessons to be learned about the various approaches to infrastructure stimulus used by the three governments and much empirical analysis remains to be done. However, through this brief examination of policy goals, governance mechanisms and transparency and accountability processes it is clear that the administration of infrastructure stimulus funds in Canada was the least robust of the three case studies. Rather than seeing stimulus funding as an opportunity to provide *facilitative transparency* through its programmes, the Canadian example appears to have been an exercise in *deliberate obfuscation*. This is troubling enough when the amounts being spent are so large and the speed so urgent, but infrastructure spending is also, historically, so linked to partisan 'pork barrel' interests that it is incumbent upon governments to demonstrate clearly which political ridings are receiving stimulus money and how much.

In developing policies for future stimulus programmes, which will inevitably be required, Canada has much to learn from the US and Australia. In respect of strategic planning it should start this process now both in terms of developing and improving its governance framework and also identifying some of the regional and national priorities that can be targeted the next time stimulus investment is needed. Rather than scrambling for 'shovel ready' projects and 'sprinkling' money around the country, the Canadian government's policy intent should be to see the next economic crisis as an opportunity to invest in transformational infrastructure projects that will spur short-term economic activity and provide long-term economic, social and environmental benefits.

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