Carleton Centre for
Community Innovation

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Carleton Centre for Community Innovation
Sustainable Infrastructure Symposium
November 18th 2014,
Session Notes

Roy Sengupta and Heather Hachigian,

Dr. Tessa Hebb opened the symposium with round table introductions.[1]

Session 1: Overview of Sustainable Infrastructure and CIIX
Session 1 led off with Tessa Hebb's presentation on: Sustainable Infrastructure and the Canadian Impact Infrastructure Exchange (CIIX) drawing on two key documents the West Coast Exchange Case Study and the White Paper on Sustainable Infrastructure and the CIIX. This presentation was followed by a round table discussion.

Discussion:
It was suggested that while Canadian funds are leading the way globally in infrastructure investment, they lag in domestic investment. What are some of the barriers that we could think about to address this? In addition, thinking about sustainable or ESG components in infrastructure investments. How are we going to address this problem both at looking at Canadian market and integrating ESG? There may a lack of trust in Canada about the P3 model among pension fund investors. Open dialogue with the industry regarding conditions under which to make large infrastructure investments will be required.

Funds often partner with each other, but they are also competitive with each other. While sometimes collaboration is necessary, if the returns look good, pension funds are going to bid on deals on their own rather than facilitate others engagement in the deal particularly as a lot of work goes into the putting in bids and they do not always work out. Funds may be chasing after a few deals. There may also be a lack of investment alternatives in Canada, which force Canadians abroad.

[1] The meeting was held under Chatham House Rules and other than the presenters (who have given their consent to be identified) no other individuals will be identified by name in these notes.

There is a political aspect to infrastructure investment, as there is sometimes the potential for privatization. Some people don't like the idea of user fees; others view any kind of nongovernmental involvement as a form of stealth privatization. Australia may have managed a bit better than Canada on these issues. In some ways government has not created an attractive framework within Canada to encourage the players.

In the US, several pension funds particularly CALPERS and CALSTERS, have brought in Responsible Contractors Policies separate from their infrastructure investment policies. These policies state clearly that the fund will not invest in an opportunity that will result in massive privatization of public services. This Responsible Contractors Policy may be quite helpful, because it gives framework of what infrastructure investments will be looked at. It addresses some of the risks that may be raised, fear of privatization.

Additionally scale was raised as a major issue. Small cites may only be offering infrastructure deals in $5-10 million range. The largest may be up to $80 mil. But scale is important as funds generally like to place $50 mil. at a time.

There are misconceptions that P3s are about privatization, they are more about equitable and optimal and feasible and financially viable management of risks, something that needs to be unpacked, in the essence of the deal structures that we are losing sight of this. We have not been able to construct deals that meet the requirements of our investors and stakeholders.

Session 2: Tools and standards for addressing the need for ESG integration in projects

John Parker and John Williams of Impact Infrastructure Inc. led off session 2 with a presentation on: [CIIX - Standardized Input, Methodology & Output.]

Discussion:
Participants raised the need for cost benefit analysis. ESG factors in infrastructure can be standardized and taken into consideration in deciding what to build and how to build it. We also need to standardize the data, you cannot have people doing same analysis with different input data. We need to standardize data going into the input analysis. We must engage stakeholders and build bridges between costs and benefits.

There are ESG standards in Canada, US, EU, Australia. What can be added are things like risk analysis, looking at things from a multiple account cost benefit analysis, looking at things as to whether government is better, taxpayers better, etc. CIIX is also deconstructing project value in terms of cost benefit for different sectors. It allows us to compare different projects, allows us to aggregate the projects based on risk, type, etc. also to meet ESG or risk return objectives. Standards out there that can be used, one is cost-benefit analysis, others as well. Using these standards, you can automate processes, bringing transaction costs down.

Project sponsors, if they know financial community wants this data, will provide and pay for it. We must find a way not only to provide the data, and to keep providing it as more and more data is made available for the project.

But what about the assumptions on which standards are based. Sustainability must be taken seriously. Decisions have to be made transparently, we have to see what kinds of decisions are being made on what basis. But public benefits are much more difficult to quantify. Are municipalities interested in developing best practices? What is sustainability and best practices related to it? A lot of it is at the nexus of politics, advocacy, and principles. Work needs to be done to create consistent and transparent frameworks. Taking frameworks and then applying risk and multi-dimensional economic analysis, this is where the initiative comes together or doesn't. We have to quantify risk with soft benefits, there is the information available now for wetlands and park space, there is a way to calculate uncertainty.

Are we going through a similar cycle with green bonds? Oversubscribed almost as soon as you put it on the market. There is a large appetite and interest from institutional investors. Green bond, have an accreditation standard, drawing on a third party to give that accreditation a set of standards.

This third party accreditation comes from an initiative at a Swedish university, CICERO. Additionally the Climate Bond Initiative reinforces these positive standards. When you seek standardization, usually hundreds if not thousands of standards come together, groups are formed that are seen to provide a good seal.

Session 3: Design, development, and delivery of sustainable infrastructure projects

John Parker of Impact Infrastructure Inc. also led the presentation Unleashing the Capital for a More Sustainable World on behalf of John Williams and his team, Marty Janowitz of Stantec, and Emma Stewart of Autodesk US. He highlighted some of the tools already being used by infrastructure planning and delivery groups. Architects and engineers know the projects best.
Virtual construction is a way of simulating and analyzing impacts, think of it as a way to organize information. You can now map and model most infrastructure projects using Building Information Modeling (BIM).

Envision was raised as an interesting BIM tool. It was formed by three huge engineering groups in the US. Envision is a way of grading infrastructure projects across their life cycle. BIM is radically changing the world of design engineering. Many people have been working with BIM and infrastructure modeling for the last 6 or 7 years. For example, Carleton University has been working with First Nation on a hybrid BIM system, with a very complex range of assets. This brings big data into play. We are hearing more about big data, this sort of modeling linked with ESG standards, drawing on massive data sets wherever possible, could be a very powerful tool.

Use of ESG software through Autodesk may be similar to other ways that ESG is that its moving to the mainstream. For example Bloomberg terminals now carry ESG data to all financial analysts and others in the financial industry. We may see Autocase software (a component of CIIX for in infrastructure projects) with ESG information available, sitting on the computers of all architects and engineers. However the clients are mostly municipal in this context, the biggest challenge is how to make choices. We are increasingly able to model the world in its complexity, be we need to make this cost accessible, so small municipalities won't have to pay too high a cost for such data.

ESG could be part of the performance criteria for P3 structures. There are a number of places where performance is integrated into these contracts. When a company does not honour ESG requirements, there are certain measures in the contract.

Session 4: Why Investors Need to Care About Sustainable Infrastructure

Peter Ellsworth presented on behalf of environmental advocate, CERES. CERES is in its 25^{th} year advocating for sustainable capital markets. Why do investors need to care about sustainable infrastructure? And how are institutional investors addressing issues like climate change in their portfolios? Ellsworth drew on lesson from Investors Network on Climate Risk (INCR) with 110 members, $13 trillion in assets under management, it encompasses major state pension funds, major investment managers, and many other ESG investors. At CERES, especially the investor team, is advocating for the business, investment, and fiduciary case for sustainable investment. Increasingly we are hearing that pension funds are recognizing that long term horizons merit consideration, on how mega trends can impact returns needed to deliver obligations. Climate, water, population growth, energy demand, etc. are major megatrends. Also the rapid pace of tech innovation. All these infrastructure investments are complicated.

Some of the bigger funds are at an earlier stage in terms of assessing what makes sense to invest in. Some are incorporating ESG, such as CALPERS. CALSTERS has 21 risk factors that they try to bring to bear. They are ahead of the curve, a number of other places that are advanced in terms of the governance side haven't put this into investment portfolios.

Discussion:
It seems that there is often a mismatch in interest at top of pension plan, and incentives for staff. In Canada, we have the challenge that many pension funds have their own internal misalignments. If maximum compensation is paid out based on 12% returns, the incentive will be to find those kinds of returns above all else. Financial incentives are the key ones for staff, can overrule and remove emphasis from ESG.

Perhaps the question would be how do we access the smaller pension funds that want exposure to infrastructure? Vast majority of pension funds must access infrastructure through external management. How do we access these funds?

MERCERS does have a pooled product, a sustainable, real assets product. A rated on managers, A rated on ESG, including infrastructure are found in this pooled product. This is an example of an investment opportunity that a small fund can get into, that already has the sustainability lens built into infrastructure. It may be that it would be good to have a nonprofit that brings an individual from these pension funds together so they can have shared interest in how this thing proceeds. Having small pension funds get smarter about this space.

Several the large funds are looking to standardize ESG metrics in infrastructure. They are looking at GRESB (a global real estate sustainability benchmarking standard, initiative started a few years ago). This has been quite successful, and we may want to mimic this approach for infrastructure.

Most infrastructure RFPs are issued by municipalities. But while sustainable standards are known, the problem is selling their broader benefit. It's not about the narrow value of a particular piece of infrastructure, it's the broader benefits. if engineers can help with, municipalities can provide projects that make sense. However, in Quebec, it's the law, and it is a defacto rule in the rest of Canada, that governments must go with lowest bidder. Architects and engineers have to bear this in mind.

Session 5: What is working and what can we learn from the WCX?

Following a networking lunch, Chris Taylor, Executive Director of the West Coast Exchange used as a potential model for CIIX in Canada, provided a key note presentation on the West Coast Infrastructure Exchange (WCX). At a broad level, the WCX seeks to provide access to new sources of long-term financing to publicly owned, performance-based infrastructure projects. The exchange platform promotes consideration for climate change risks among other lifecycle costs and the transfer of risks to the party most effective at managing it. More specifically, the WCX seeks to build capacity that is currently lacking at state and local levels of government, drawing on the model of Partnerships British Columbia. The current focus is on addressing the challenges with traditional methods of long-term finance in local water infrastructure projects (see WCX Case Study).

The WCX seeks to contribute to structuring long-term contracts (such as design-build-finance-maintain (DBFM)) that are in the best interests of taxpayers. There is some federal guidance in the area of transportation but other infrastructure projects lack standards and guidance. As such, each jurisdiction must seek advice from consultants, advisors, etc., which raises challenges from the investor perspective related to the lack of consistency and the inability to compare deals. That said, it was noted that there is reason to be optimistic about a more integrated approach at the US federal level of government in the future. In particular, a recent report released by the Obama Government includes recommendations for unlocking the potential for long-term finance for infrastructure. Overall, the presentation noted the growing understanding in the US about the benefit of a more consistent and integrated approach. The WCX will provide technical assistance, support to local and state governments that lack capacity and will contribute to the development of long-term standards, shorter transaction times to ultimately grow the market for performance-based infrastructure.

It has been suggested that the WCX might develop an investment capacity. The keynote emphasized that it is important to keep the role of investor and advisor/service provider separate. Investment is not a goal the WCX is likely to pursue itself. The platform has also considered direct private sector financial support, but has opted to maintain its independence, due in part to potential conflicts of interest and the benefits of operating as a philanthropic organisation.

Discussion:
The keynote was asked to elaborate on the use of standard metrics and guiding principles for measurement. The WCX has established a standards committee, and it is quite obvious that for a developed market for performance-based infrastructure, standards are important. That said, public-private partnership (P3) suffers from a lack of standard definition itself, at least in the US context. As such, part of the task at hand is to establish what is meant by the term P3. For some,

it may be extended to include the monetization of existing assets and the application of higher discount rates or to pass off projects as P3s to get around prevailing wage requirements, for example. This ambiguous use of the P3 concept undermines efforts targeted at unlocking long-term sources of private finance. Looking forward, it was emphasized that it will be important in the US to be clear about what is meant by P3.

Moreover, it was stressed that the WCX standards do not strive for specific risk allocation standards for projects or specific quantifiable metrics. The goal on this front is to achieve these standards organically, drawing on a track record of transactions and not imposing standards from the outset based on abstract frameworks. The consultation on the WCX project standards was opened to a broad audience, including investors, labour unions, consultants, etc. Interestingly, while it was initially perceived that some stakeholders might not support the inclusion of environmental or labour standards, there was no contestation of these goals by private investors throughout the consultation.

In response to the question of what challenges to expect in applying the WCX model in a different region, the keynote provided some context to illustrate the conditions for success. The WCX was established on the basis of the Pacific Coast Collaborative, a regional initiative that has strong leadership across the member jurisdictions. The common history shared by the WCX member states about broader regional issues related to the economy and environment provided a venue to host the WCX discussions, ultimately leading to the idea to collaborate on infrastructure. This collaborative forum may not exist in many regions. It was stressed that some degree of political alignment is key. This need not be a uniform alignment, but it would be hard to adopt standards that see the integration of environmental considerations into project design in regions where the political environment does not widely acknowledge climate change, for example. The speaker emphasized the importance of beginning with the areas where there is some commonality on project context; that is, a sense of a shared destiny. As an example, Virginia, Maryland and Washington, DC have recently announced intentions to work together on infrastructure challenges. These jurisdictions have a history of working together in other policy areas.

The keynote was asked to elaborate on the WCX's experience with the aggregation of small projects and identify some of the challenges the initiative has faced. The WCX has a mandate to facilitate the aggregation of infrastructure investment opportunities to ensure smaller municipalities have access to long-term sources of finance. There are significant challenges with attracting local officials to the market for long-term finance given the monopoly of the municipal bond market in the US as a source of finance for these smaller projects. As a percentage of the total investment capital needed to meet the demand for infrastructure, the majority of capital is needed for smaller projects that do not meet the scale requirements of most institutional investors.

For obvious reasons, investors are reluctant to negotiate contracts with several different jurisdictions. One way forward is to bring together different jurisdictions into a single entity for contracting purposes. In California, for example, the Joint Powers Authority allows existing governments to come together to develop a project. Moreover, the state can offer credit support to increase investor confidence by pledging on behalf of the lowest rated jurisdiction in the bundled projects. For example, local US water systems do not have the scale from a capital or operations perspective and local politics is a significant challenge. Project aggregation has great potential for transcending these challenges. Similarly, in Pennsylvania, bridge projects are bundled by a single agency. The WCX is actively seeking interested project sponsors and investors to a pilot project to bundle water infrastructure into a single long-term DBFM contract.

The keynote identified some of the potential challenges in bundling deals, including the misalignment of timing across jurisdictions. For example, some municipalities may not be interested in upgrading or implementing new water projects and the lack of alignment makes it difficult to initiate bundling. It was suggested that there is a role for common regulatory drivers to contribute to alignment in timing.

Session 6: What would the CIIX look like in Canada, what are its functions and how could it integrate ESG and aggregate small deals?

Karim Harji, of Purpose Capital focused on the challenge of aggregating small deals in the context of impact investing and considered some possible solutions. The presentation CIIX and Impact Investing considered the various approaches to aggregation, focusing on the bottom up or the deal side and the need for intermediation (See presentation slides).

Discussion:
The discussion began with consideration for the opportunities in aboriginal economic development through investment in infrastructure. It was noted that infrastructure needs are different but there are common characteristics with other regions. One participant shared their experience with a pilot project on sustainable housing in Nunavik, a remote region in Northern Quebec. The importance of partnering with the community at an early stage was emphasized.

Participants discussed some of the challenges with matching capital with opportunities in remote communities, including First Nations communities. One challenge that was discussed is the lengthy procurement process. In energy projects, for example, it can take 5-7 years to complete, including 2-3 years to complete the environmental impact assessment alone. Housing was noted as the most challenging from a bundling perspective. Other challenges include the lack of balance sheet to back up the projects. It was noted that such issues are not for the investor to resolve. Initiatives such as the Canadian Aboriginal Fund for Energy (CAFE) can provide communities with access to this capital.

The discussion then moved to consider techniques for de-risking projects. It was suggested that from an impact investor perspective, 5-7 years may align with their horizons. Pension funds can look for longer time horizons. It was emphasized that different forms of capital are needed to fulfill different roles to meet these challenges. The classic approach is to build infrastructure and assume that capacity and expertise is already in place. It was emphasized that there is no substitute for Indigenous knowledge. There is a need to build capacity in these communities through executive training programs for aboriginal communities, for example. The need for capacity building at the local government level was also noted in the WCX experience and is a key focus of the initiative. One participant commented that specific physical capital can be valued, but social and cultural capital is not yet valued. From a measurement perspective, participants discussed what could be included in measurement. One participant suggested that we can value anything; the challenge is getting agreement right method to do so.

The experience of CalPERS investment program targeted in urban revitalization in underserved capital markets was cited as an example of the limits of investors to resolve these challenges on their own. At the end of 10 years of running the program, the assessment of the portfolio was found to underperform against its benchmark. The conclusion reached during public meetings of the fund's investment committee was that there is a need to partner with government on these types of investment. For example, various forms of government guarantees and credit enhancements can contribute to enhancing investor confidence. Indeed, as the example of the successful Canadian Municipal Housing Corporation offering demonstrates, institutional investors are willing to invest when there is some form of guarantee. Again, it was emphasized that the deeply entrenched issues related to complexity of the projects are not for the institutional investors to solve.

Session 7: How can we develop a platform that also works globally?

Oshani Perera, of the International Institute for Sustainable Development (IISD), broadened the scope of the discussion to include the international experience in her presentation Structuring Infrastructure Deals. The presentation focused on innovative deal structure and emphasized the importance of an efficient procurement process for public infrastructure projects. It was suggested that more effort is needed to encourage governments to ask for a sustainable infrastructure asset. Issues related to valuation, not just from the investor perspective but also the government sponsor and ultimately the taxpayer, were also addressed. The presenter cautioned against overly zealous performance-based specifications in the contract with the private investors and highlighted the importance of providing first loss protection instruments (see presentation slides).

Discussion:
The discussion began with challenges raised by P3s related to the tension between the need to respect commercial confidentiality in contracts and the public's right to know. It was noted that increasingly, commercial confidentiality is favoured. Drawing on the example of the failed Ottawa Light Rail Transit project, one participant noted the perverse political incentives to use commercial confidentiality to veil underlying political interests. In other words, P3s can be used to circumvent requirements to release full details to the public, which is ultimately undermines the democratic process. The secrecy afforded by commercial confidentiality can make Canadians uncomfortable with the use of P3s and give them a bad name. As a result, the stigma attached to P3s can affect the ability to use pension funds and other private investment capital to finance public infrastructure.

The discussion was extended to the developing country context. One participant explained the growing appetite in India for long-term private finance for infrastructure under the new government. In particular, the new president has made the creation of livable and sustainable cities a key priority, driven by macro trends such as population growth and urbanization. As an added dimension, the Indian Government is focused on policies of inclusive growth that offers economic opportunities across disparate regions. It is estimated that at least $1.2 trillion of investment in infrastructure is needed in the next two decades. The country needs holistic solutions and there is great interest in the P3 model. Potential sources of finance include the Asian Development Bank, International Finance Corporation, the World Bank, foundations, multilaterals and development agencies. Large institutional investors from developed countries, such as pension funds, are also looking for opportunities in India.

The discussion then returned to consider specific political realities with private finance for public infrastructure and potential solutions. One participant noted that if there is a potential for political interference, investors will simply not invest. The principle of transparency was emphasized alongside the a relationship based on trust as key to success. Some participants noted the challenge around meaningful transparency and more specifically, the mechanisms needed to achieve this. Another participant emphasized that while pooling together projects at the local level is important, we cannot lose sight of the local context, as some local officials may not have a reason to comply with national level standards. At a more systemic level, it was suggested that there are challenges with oversight mechanisms at the local levels of government. Auditing at the municipal level is not independent, unlike the federal level. There is a need for overhauling the governance mechanisms to enhance investor confidence in the projects being offered. Canadian municipalities need to invest in their own 'ethical infrastructure' as a condition for enhancing the confidence of private investors to invest in physical infrastructure projects.

Another participant noted the importance of alignment in time horizons between the various actors involved in project finance. Four-year election cycles are not aligned with the lifecycle of infrastructure projects. That is, in addition to the alignment of incentives that was raised during the morning session, temporal alignment is also a significant obstacle to address. Moreover, there are different perspectives on the infrastructure challenge itself and there is a need to look for the intersection between the various conversations and to break down silos. In the context of the CIIX, are we talking about big deals or small projects such as housing finance, or indeed both? Another challenge that was raised is that the social aspects of a particular project have been more difficult to reconcile with economic goals than environmental aspects have been with economic goals.

One participant suggested that Canadian institutional investors may not be the players to lead this initiative and there may be more uptake from third world institutional investors. When Canadian investors look to invest in infrastructure, the regulatory system is important for identifying risks related to social pressures and it is assumed that regulatory systems can contain such pressures. In developing countries with weaker regulatory systems, there is a higher degree of sensitivity to these issues. Canadian institutional investors are relatively conservative. Sovereign wealth funds (SWFs) in an international context might be more comfortable with actively seeking social and environmental impacts. It was noted that some of these funds have very specific development policies. The need for platforms to aggregate smaller pension funds was raised again. Moreover, public policy is not the only leverage point that is needed. That said, many SWFs are ultimately after returns.

Returning to the issue of standards, the discussion considered how to move in a direction in which all investors can be involved, both domestic and global. It was emphasized that investors need to understand the deal. The question of what incentives and drivers could be used to promote the integration of ESG considerations was posed. In the case of the WCX, the plan is to put the projects out there that deliver impact and emphasize transparent and credible deals. Another participant agreed that if standards build-in the sustainable components from the outset and the deals offer good returns, investors will buy it. In this instance, the term social or cultural capital is not needed. Again it was emphasized that it is important that investors can trust the partner and the deal structure itself.

The discussion also returned to the issue of bundling small deals. It was suggested that the government must be an active partner. The issue of alignment in timing was raised again and the emphasis was placed on reasonable time period for procurement, noting that prolonging the process will ratchet up costs and in effect, kill the deal. The discussion also returned to the issue of increasing the public's trust in user-pay model. If the government cannot deliver projects with their own means (predominantly property tax revenue for municipalities and transfers) this provides an impetus to shift to a user-pay model.

Session 8: Next Steps, How do we put CIIX in place? Is the time right for this initiative?

Participants were asked to consider whether they see the need for establishing a platform such as the WCX in the Canadian context and if so, what is needed to do to move that platform forward? Moreover, how could such a platform be made more palatable to the larger investor?

The discussion began with consideration for the importance of coordinated effort among the various participants. It was noted that aggregation is needed not only at the deal end but also the supply end (that is, platforms to aggregate smaller investors themselves). Aggregation on the supply end could be leveraged to convey the investor demand for the ESG component to the potential infrastructure deals coming forward. Coordination was also considered on the project sponsor side. Indeed, the complexities around the various levels of government in Canada involved in infrastructure planning and procurement is a challenge (not to mention the dimension of northern communities which have their own unique challenges with meeting basic infrastructure needs). The question of scope (national or regional) for the CIIX was posed.

The development of standards was raised as another potential role for the CIIX, as well as the possibility of project accreditation. On the deal-side it was noted that there are a lot of questions around what makes a good project. Innovation such as experimenting with deal structure is needed. Questions such as 'what are we selling' and 'what is the product' need to be addressed. Indeed, it does not fall to the investor to do the work. It was emphasized that the CIIX must provide investors with the product that meets their criteria for investment and objectives. It was also suggested that the CIIX will need to contend with the paradox that standardization is both desirable but at the same time limiting for investors, as it can impose rigidities that are no longer relevant to the context by the time standards are agreed upon. The challenge is to ensure we develop the mechanisms needed to maintain the standards and metrics that are relevant for investors. The issue of stacking capital was also raised, and in particular, opportunities for using government as a partner in deals to provide market-rate returns.

With respect to the work plan, it was clear that there is a need for developing a framework methodology for aggregating smaller deals. A small pilot aggregation project was proposed. The CIIX will need to decide where to situate the pilot with a view to scaling it up in the future. It was noted that it will be important to demonstrate how the pilot is beneficial to a wide range of players in order to ensure its scalability. A second task identified was the need to map the multiple standards that currently exist, noting that investors themselves are beginning to develop their own. The question of whether it is feasible and desirable to establish a standard set of standards in this space was also posed. The symposium concluded with a warm thank you to the participants and presenters, and an acknowledgement for the need to leverage the depth and breadth of expertise in the room and continue to expand the circle of engagement going forward.