

The development of large public infrastructure projects: integrating policy and project studies models

Pierre-André Hudon¹ and Serghei Florice²

¹Department of Management, Université Laval, Québec City, Québec, Canada

²Department of Management, Université du Québec à Montréal, Montréal, Québec, Canada

Correspondence author: P.-A. Hudon, Department of Management, Université Laval, Québec City, Québec, Canada.

Email: pierre-andre.hudon@fsa.ulaval.ca

Abstract

Project management theory often reduces development to a simplistic and smooth process of consultation leading to a consensual set of requirements. However, in large public infrastructure projects, this is rarely the case as development is often subject to major power struggles. This article shows that public policy theory has an excellent potential to shed a fresh light on project development. An integrated model combining the theoretical insights from the Advocacy Coalition Framework and project development studies is presented and illustrated using the case of a major Canadian city streetcar network megaproject. The implications of the model for understanding “wicked problems” are discussed.

Keywords: megaprojects, Advocacy Coalition Framework, volition, representation, project management, infrastructure

In project management theory, the definition of objectives and implementation arrangements is often reduced to a simplistic and smooth process of consultation leading to a consensual set of requirements (Morris, 1994). However, as the introduction to this special issue points out, the definition processes for large public infrastructure resemble wicked problem-solving (Buchanan, 1992; Levin et al., 2012). Projects confront uncertainty, stemming from knowledge and modeling deficiencies, given their uniqueness and novelty, and complexity, stemming from conflicts and interactions between multiple demands, factors, and constraints (Esposito et al., 2023). More importantly, the definition is adversarial, along individual, public interest, ideology, and even identity lines, making projects the playground of major power games (Priemus et al., 2008). However, despite some notable efforts (Esposito et al., 2022; Flyvbjerg, 1998), political aspects of megaproject shaping processes remain largely undertheorized.

This paper builds on the premise that public policy theory has an excellent potential to shed fresh light on shaping infrastructure megaprojects, particularly on aspects undertheorized in project studies, such as the role of power, discourse, ideology, and organized political action (Gerald & Söderlund, 2018). In turn, pre-project political dynamics raise questions that are also central to public policy research: Why do governments decide to act in a given situation, who makes the decisions, and what form will the resulting decision take on?

Megaprojects' internal characteristics, such as large size, high costs, reliance on public funding, high visibility and important social, political, economic, and technological symbolism, and widescale impacts, such as direct benefits, indirect spillovers, disturbance, and ecological or social disruption, make them very similar to public policies (Aaltonen & Kujala, 2010; Mok et al., 2015). Like policies, megaprojects can also be portrayed as one-of-a-kind solutions emerging from stakeholders' attempts to influence their purpose and form using not only evidence, rational arguments, and professional legitimacy but also manipulative discourse, political power, and alliance-forming abilities. We can therefore consider large public infrastructure projects as embodied public policies and analyze them with the same tools.

A particular theoretical perspective on the formation of alliances aimed at influencing public policy decisions, the Advocacy Coalition Framework (ACF) (Jenkins-Smith et al., 2018; Sabatier & Jenkins-Smith, 1993a; Weible & Jenkins-Smith, 2016; Weible et al., 2009), is especially likely to provide insights into megaproject shaping processes. The distinctive contribution of the ACF is combining the analyses of political networks and beliefs in a dynamic perspective. This dynamic perspective is especially likely to complement other explanations of the protracted, irregular, and ineffective nature of megaproject front-end evolution, with its numerous stoppages, iterations, turning points, and hesitations (Miller & Lessard, 2001; van Marrewijk et al., 2016).

To adapt the ACF for a megaproject context, we combine it with the process-oriented framework for the front-end development of complex projects developed by Floricel and colleagues (see, e.g., Floricel et al., 2023). This framework focuses on the emergence of a network of relationships between various participants and stakeholders and distinguishes two aspects of development processes, termed, volitional and representational. The volitional aspect captures the role of interests, power, emotions, resources, and material affordances as bases of relationships between project actors, while the representational aspect captures their cognitive, communicational, and symbolic bases. The framework can be integrated with the ACF because the latter includes in coalition formation processes both representational aspects, namely the evolution of beliefs and policy-legitimizing political discourses, and volitional aspects, like shifting interests and power.

Consequently, the central contribution of this article to policy development research as applied to megaproject shaping is an integrated theoretical framework based on this dialogue between the ACF and project development process theories. The framework addresses the interaction in time between two key processes of policy elaboration, namely coalition mobilization and organizational structuring, and, respectively, discursive legitimation and objectivation of project solutions and execution plans. Based on the case of a major Canadian city streetcar network,¹ a megaproject currently in the final phase of planning, we also illustrate and enrich our conceptualization using empirical theory elaboration methods (Ketokivi & Choi, 2014).

The paper goes on as follows. The first section introduces the ACF and discusses its relevance for project studies. The second section presents a model of project development as the convergence of actors' volition and representation. The third section proposes an original integrated model combining theoretical insights from the two previous sections. The fourth section illustrates and elaborates on this model using the streetcar network project. Finally, the fifth section outlines the applications and implications of the integrated model for megaproject shaping and policy research.

The ACF and its usefulness for project management

The ACF is an analytical tool that attempts to explain policy change over time by focusing on the first three stages of the policy cycle: agenda setting, formulation (depicted as an iterative and nonlinear process), and adoption. The core idea is that the multiple actors involved in the definition of a public policy join together in advocacy coalitions. While large public infrastructure megaprojects are often contentious, and coalitions mobilize for or against them to sway public opinion and influence governmental decisions (Aaltonen & Kujala, 2016), project development theories have a limited understanding of organized forms of political influence as opposed to analyzing isolated stakeholders and networks (van Den Ende & van Marrewijk, 2019).

The ACF explains policy formulation and changes through coalitions' interactions within a policy subsystem. Coalitions are bound together by beliefs and are defined as follows:

¹ Because the interview data used in the case write-up are protected by a confidential agreement, we are unable to identify the project specifically.

people from a variety of positions (elected and agency officials, interest group leaders, researchers, etc.) who share a particular belief system – that is, a set of basic values, causal assumptions, and problem perceptions – and who show a nontrivial degree of coordinated activity over time. (Sabatier, 1993, p. 25)

Coalitions are initially structured around attitudes toward a certain public policy, which themselves stem from belief systems. Each coalition tries to translate its beliefs into policy elements by using various strategies, including advocacy, lobbying, and knowledge production (Sabatier, 1993).

Once authorities have reached a decision, technical aspects of policy implementation are negotiated, including rules and governance, resource allocation, and appointments. Coalition structures tend to remain stable over time and reflect deep social cleavages, such as the Left versus the Right and economic development versus ecology. However, external events can affect the constraints and resources of policy subsystem actors.

Three conceptual building blocks of the ACF need more detailed explanations.

First, the ACF distinguishes three levels of actor-level “beliefs”: deep core beliefs, policy core beliefs, and secondary aspects. Since deep core beliefs are specific to actors, are rather unalterable, and have fewer practical policy applications, advocacy coalitions tend to aggregate around policy core beliefs or secondary (tactical or instrumental) aspects. Coalitions formed around policy core beliefs tend to be more stable than coalitions formed around secondary aspects.

Second, the “policy change process” is depicted as rather lengthy and gradual, driven by four sources: (1) external shocks or perturbations; (2) internal events within a policy subsystem, including new coalition members additions; (3) policy learning, gradually altering assumptions, behaviors, or thoughts coming from changes in the belief system; or (4) negotiation between coalitions when status quo is perceived as nefarious, which can be catalyzed by brokers (Jenkins-Smith et al., 2018). The ACF identifies several pathways of the policy change and stresses the role of new scientific and technical information in policy learning both inside and between coalitions (Pierce & Osei-Kojo, 2022).

Third, “coalition formation” can be described as the process of coalescence not “through formalized membership, but through ideological similarity” (Weible & Ingold, 2018, p. 336). The formation process is therefore irregular, usually occurring in a public forum where discourses and narratives flow freely. Also notable for megaproject research is Weible and Ingold’s (2018) typology of roles that heterogeneous actors can assume in a coalition, including main actors (steadily associated with the coalition), auxiliary actors (not steadily associated with the coalition, but sharing some goals), brokers (seeking to bring forth consensus and resolve conflicts), entrepreneurs (championing specific ideas), and general citizens (interested or affected by the policy, not directly a part of the coalition, but potentially mobilized).

Most prior attempts to apply the ACF to infrastructure projects focused on the success factors of project development. This research found that success is affected by the insufficient use of scientific evidence (Pratiwi & Juerges, 2022), changes in the economic policy outlook and level of democratization (Kim, 2012; Lee, 2016), level of policy conflict (Yordy et al., 2019), discourse strength and cohesion (Brewer, 2019), and mastery of administrative processes underpinning project development (Ellison & Newmark, 2010). Most findings also reveal that coalitions split between economic development proponents and ecologists/conservationists. The notable exception is You et al.’s (2022) article, which found that project instigators confront status quo defenders, which tend to mobilize actors more aggressively than instigators. This is of particular relevance for large infrastructure projects, where debates rarely concern the shape of the project, but rather its very existence. Overall, while these attempts leverage the broad theoretical umbrella of the framework to reveal a variety of factors that influence project shaping and grasp the complexity of fault lines between groups, they do not exploit the ACF’s full potential to understand development as a process.

Project development as a convergence of volition and representation

Recent work by Floricel and colleagues (Floricel et al., 2023; Floricel & Piperca, 2016) uses the analytical distinction between actors’ abilities to relate to the world through representational, and, respectively, volitional capacities to theorize organizing processes occurring in projects, especially in their front-end development phase. This distinction echoes a longstanding philosophical dualism between mind (ideas) and matter (Chlup, 2000), but their particular perspective sets apart an apparent representation constructed by actors’ cognitive abilities from the largely unknowable world hidden behind this

representation (Kant, 1781/1998; Schopenhauer, 1818/1966). This perspective extends the scope of both aspects enabling richer explanations of project development irregularities and complementing ACF's potential insights.

Representation

Actors' representational capacities range from tacit perception, understanding, and categorization abilities to aptitudes for operating with abstract symbols and ideas. Phenomenological perspectives give tacit abilities important social structuring roles, through the perception-shaping effects of learning, communication, and culture (Bericat, 2016), and the emergence of shared norms and routines from repeated interactions (Berger & Luckmann, 1966). In turn, information processing views (March & Simon, 1958) emphasize explicit representations as abstract mirrors of reality and uncertainty resulting from their lack of correspondence with a complex world. Representations structure action directly as face-value knowledge, akin to causal beliefs in the ACF, but also because efforts to maintain their correspondence shape the communication and processing capacities of organizations (Henderson & Clark, 1990).

But neo-institutional (Meyer & Rowan, 1977), linguistic (Rorty, 1967), visual (Boxenbaum et al., 2018), and pragmatism (Dewey, 1944) currents argue that externalized project representations, such as models, texts, drawings, and plans, result from complex construction processes, providing countless opportunities for manipulation, and have many different, hardly controllable structuring effects on project action and collaboration (Ninan & Sergeeva, 2022). This view differs from the ACF's assumption that knowledge used in policy debates, such as scientific and technical information, corresponds to an objective reality and plays a straightforward role in policy learning.

Volition

Project actors' volitional abilities are expressed in their direct, primarily physical interactions with the world, conditioned by motivations that range from biological urges to deliberate interests, not only by sensorimotor and physiological capacities but also by actors' invested energies and emotions. In the broader sense used here, volition equally includes the material forces, objects, structures, power, and resource configurations within which actors operate. However, the ACF appears to de-emphasize volition, implicitly adopting (Weible, 2018) economic and rational action theories' assumptions (Coleman, 1988), which abstract it into value and utility perceptions, goals, risk seeking or aversion, rational calculations, resources optimization, and formal and informal power.

But the extended view we adopt allows incorporating insights from a range of theories proposing a more complex, less predictable view of volitional processes. Hence, the sociology of emotions (Bericat, 2016) highlights the role of desires, moods, passions, affective dispositions, and feelings in fostering the social bonds, emotional attachments, trust, and solidarity that cement social sentiments and movements. Socio-technical, socio-material, and actor-network views stress the intertwining of social interactions with complex physical and biological processes (Barad, 2003; Callon, 1986; Hodgkinson & Healey, 2011). Accordingly, a broader set of conditions and apparatuses are theorized as capable of structuring volition (Foucault, 1977; Gibson, 1979). But, overall, these perspectives suggest that volition is much less controllable than that the ACF supposes, although the latter's "devil shift" notion, the portrayal of opponents as nastier than they are (Sabatier et al., 1987), prefigures some predictability reducing mechanisms.

The representation–volition framework for megaproject development

Figure 1 summarizes the various kinds of interrelated activities that make up megaproject development. In addition to elaborating the representation–volition (V/R) distinction for this specific setting, the framework differentiates "shaping" activities (Miller & Lessard, 2001; van Marrewijk & van den Ende, 2022) from "stabilizing" activities. Shaping activities are shown on the left side and aim to legitimate a project concept and to gather a support coalition to justify preliminary decisions such as budget allocation. Stabilizing activities are shown on the right side and serve to elaborate detailed project solutions and execution plans and to put together a network of irreversible actor commitments to begin project execution.

In projects, the representation side (top half of Figure 1) refers to socially constructed linguistic and visual descriptions expressed in explicit discourse and documents. Representation construction leverages inputs, which we term "evolving models," with an implicit base in tacit skills, beliefs in the

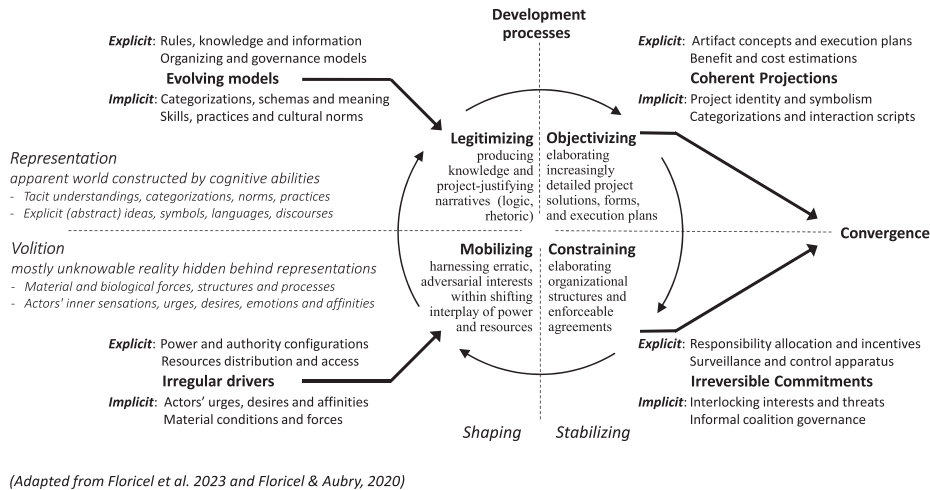


Figure 1. Distinctions and activities in project development.

usefulness of specific methods or cultural norms, and explicit expressions as rules and (valid) knowledge but also of organizing and governance models. Activities can be separated into “legitimizing,” such as feasibility studies and need analyses, which produce a narrative aiming to justify the project and create an illusion of rational decision-making (Samset & Volden, 2016), and “objectivizing” ones, such as solution elaboration, and engineering and planning attempting to construct a coherent projection of a future reality to guide project execution (Comi & Whyte, 2018).

The ACF already stresses representations as reflections of reality, as belief systems, composed of fundamental values, beliefs (deep core, policy core, etc.), and strategies (secondary aspects); constructed through learning processes (scientific studies and technical analyses); and expressed in policy documents, discourse expressions, and proposed rules projections. But the V/R framework adds an emphasis on fact construction; on models as “rational myths” and fads; on confrontational, manipulative, and distorting public debates and media coverage; and on the resulting representations’ suboptimality.

In turn, the volitional aspect (bottom half of Figure 1) corresponds to the shifting interplay of interests, power, and resources, in a complex, uncertain, and adversarial network of project actors. Volitional processes are enabled and constrained by explicit configurations of power and authority, and asymmetries in actors’ resource endowments and access, rooted in actors’ implicit desires, urges, and affinities and surrounding material conditions and forces. Volition harnessing activities can be separated into “mobilizing,” which leverage the power and create economic and material conditions to attract support for the project and appease contestations (Law & Callon, 1988; Revellino & Mouritsen, 2017), and “constraining” ones, which build a web of enforceable agreements and controls to ensure that project participants “lock in” their resource, effort, and risk-bearing commitments and channel their efforts toward project execution (Lenfle, 2014).

The ACF incorporates volitional aspects by emphasizing the system of power, coalitions, and brokers involved in policy elaboration processes, embedded in fundamental resource distributions and constraints. It even acknowledges the material foundations of social structures and political power. However, the V/R framework stresses the biological, emotional, and even deviant motivations, and the materially interweaved relations that hold relevant coalitions together, which the ACF often leaves implicit. From this perspective, volition is dynamic and requires a constant effort to keep the project networks together.

Development convergence and irregularity

Accordingly, the V/R framework enables a richer account of project development irregularity and its “wicked problem-solving” nature. Perturbation sources include both project context changes, for

example, the construction of new models and facts, or the emergence of new actors, powers, and material forces, and internal processes, such as rhetoric battles around opposing representations or emotion-fueled contestation movements. Compared to rational ACF perspectives, project development is depicted as a continuous struggle to forge order out of competing visions, interests, and causal assumptions (van Marrewijk et al., 2016), in an environment characterized by continually emerging competing narratives and champions (Missonier & Loufrani-Fedida, 2014).

To capture this irregularity, the framework adopts two key concepts proposed by process perspectives in the project studies (Brunet et al., 2021; Sergi et al., 2020). The first one, “trajectory,” akin to the ACF’s “paths,” is defined as the evolution in time of project activities and relational networks (Gustavsson & Hallin, 2015; O’Leary & Williams, 2013; Packendorff et al., 2014). The second concept, “convergence,” captures the extent to which relationships between project’s participants have reached a point at which project execution could start (Abdallah et al., 2022).

Studies applying this framework to study megaproject development have found highly irregular patterns of convergence, marked by turning points, iterations, stoppages, and delayed effects (Abdallah et al., 2022; Floricel et al., 2023). This appears to differ from the slow evolution toward new policy adoption that the ACF calls learning. In the next section, we integrate insights from the V/R framework with lessons from the ACF into a preliminary theoretical framework allowing us to theorize megaproject development from the perspective of public policy elaboration.

An integrated model of project development change and learning

Contrary to public policy formulation, with its constant and potentially infinite evolution, project development stops (or slows down greatly) once project definition is finished and execution begins. Therefore, project development can be seen as an exercise in convergence where opposing coalitions are forced to rally around the project or be sidetracked once project execution has begun.

General description

Figure 2 shows how project convergence requires both project representations (including feasibility studies, models, project definition, and project execution and operation plans) and volition (including financial commitment, public and political support, and enforceable governance frameworks) to gradually—yet often erratically—converge toward project execution.

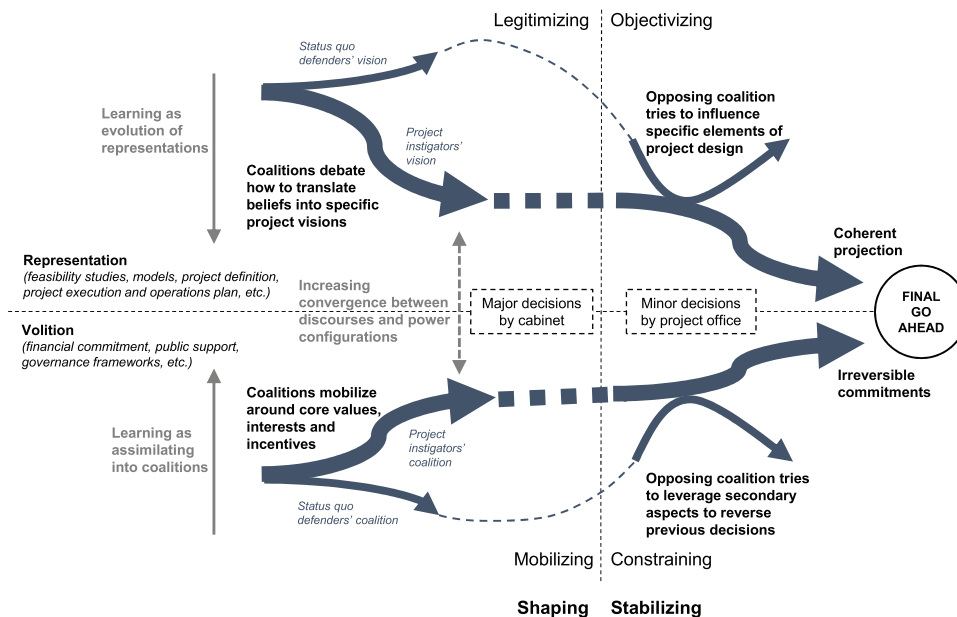


Figure 2. An integrated model of coalition formation and evolution for megaprojects.

This separation between volition and representation can be clearly seen in two distinct aspects of the ACF's coalition formation mechanics. Indeed, while the gradual evolution of representation stems directly from project core beliefs (akin to the ACF's policy core beliefs) being translated—albeit imperfectly via negotiation, adaptation, and compromise—into project-specific conceptual representations, models, and discourses, the gradual evolution of volition transpires in the relational consolidation of the dominant coalition. The latter will include publicly supporting the project, committing money, or adopting its justification narrative. Discourse can act as a stimulus that transcends the representation–volition divide to attract members of the coalition: Its emotional and symbolic power increases the breadth and effectiveness of its coalitional activity.

Before project authorization, during the shaping phase, two things happen simultaneously. First, on the representation side, coalitions debate how to translate their core beliefs into project concept specifics. Second, on the volition side, coalitions are mobilizing for and against the dominant representations of the project. Some actors will remain completely against the project, while others will seek major changes. Once sufficient commitment has been gathered—often using electoral campaigns and other windows of opportunity (Kingdon & Stano, 1984) as catalyzers—governmental authorities will formally announce the project. Project development then moves into its stabilizing phase. At this moment, representations are gradually becoming more detailed and more stable, and opposing coalitions are reshaping their positions. Once the final contractual go-ahead has been given, the project's planning (representation) is effectively complete, and commitments (volition), along with the respective surveillance, verification, and penalizing means, are mostly locked in and irreversible. Only minor changes are expected to happen during the construction phase of large infrastructure projects.

Coalitions dynamics

In our integrated model, coalition dynamics can also be thought of as a two-step process.

In the early phase, coalitions will form along the dichotomy between project instigators and project defenders (i.e., opponents), as defined by You et al. (2022). Project instigators and their supporters use various arguments to support the projects. These arguments are not necessarily linked to deep core values, since they diverge too much internally: For example, some will support the project based on economic development, while others will put forth its ecological benefits. These stakeholders may come from various ideological settings but will coalesce around their desire to see the project implemented. Status quo defenders will exhibit similar heterogeneous arguments: Some will try to block the project based on budgetary concerns, while others will invoke nuisance during construction.

In the later phase, once project support consolidates, a shift in project opponents' behavior will likely occur, as they move from being “status quo defenders” to being “modifiers” or even “saboteurs.” Indeed, most projects reach a point in their development where they seem to be going forward—usually when the construction budget is fully committed by the key public stakeholder, and a project planning office opens. At that moment, opposition largely fizzles out, but some opposing stakeholders remain and start rooting for substantial project modifications, working at the project office level but aiming to bring issues to cabinet. This does not imply that all opposition is done in bad faith. Indeed, some public questioning of the project yields desirable changes that boost acceptability, especially when done in a nonconflictual stance.

Learning and change

Learning, on the representation side, occurs in a manner very similar to the ACF's description of the phenomenon: through interaction between coalitions and using rational evidence. But learning also happens on the volition side, where it takes subtler forms. Lave and Wenger (1991) describe situated learning as becoming a practitioner, through the assimilation into a community of practice by integrating ways of being, norms, practices, and narratives. Coalitional learning, on the volitional side, functions similarly: Members gradually adopt each other's behaviors and discourses, at least superficially. This serves as a “binding agent” within the coalition, helping present a united front, especially when deep beliefs are not necessarily shared. In sum, learning changes both representational aspects, gradually integrating new elements and meanings in good faith interaction, and volitional aspects, uncovering new ways to consolidate the coalition by increasing member identification and emotional attachment to its goals, roles, and espoused values.

Illustration: streetcar network project

In this section, we illustrate the integrated model presented above by describing the development phase of a streetcar network project in a major Canadian city. This is done as a “proof of concept” to demonstrate the dynamics of the evolution of representation and volition and to show how the ACF’s premises can apply to project development analysis.

This case study is based on a systematic press review of the project and on six in-depth interviews with project managers. For the systematic press review, Canadian newspapers of record were consulted using university library databases, and all articles were read systematically to describe the project’s development trajectory. Primary data analysis included writing an extensive case narrative as well as identifying noteworthy events and activities. Events were then classified into representational and volitional categories, and their impact was characterized as favoring convergence or renewing divergence. This enabled us to identify key turning points and use them to explain development hesitations and irregularities. Results are summed up visually in Figure 3. Then, the case study served essentially to elaborate the theory by paying equal attention to the initial model presented in Figure 2 and the empirical patterns (Ketokivi & Choi, 2014). Theory elaboration proceeded in two ways. The first was by developing a more nuanced understanding of concepts, such as coalition. The second was an in-depth investigation of their relationships, for example, by adding refinements to anticipated patterns of convergence.

The project and its origins

The project includes the creation of a 19-km streetcar network, as well as improvement to the existing bus rapid transit (BRT) network. The project also includes the construction of intermodal stations, regular stations, and park-and-ride lots. The streetcar network, mostly built on dedicated lanes, will cross the city from east to west, aiming to improve traffic fluidity and increase the public transport offer, often saturated at rush hour. It will connect colleges, universities, hospitals, event sites, and sports facilities and will include an underground section under the historic old town.

In late 2007, a newly elected mayor announced a new streetcar project replicating important sections of the BRT routes. A study proposing a detailed project was published at the end of 2014, but without specifying whether vehicles would be buses or trams. A few months later, the option of simply improving the existing BRT (using only buses) became more popular as the provincial government was implementing financial austerity measures. Finally, in 2017, municipal elections revolved around public transit.

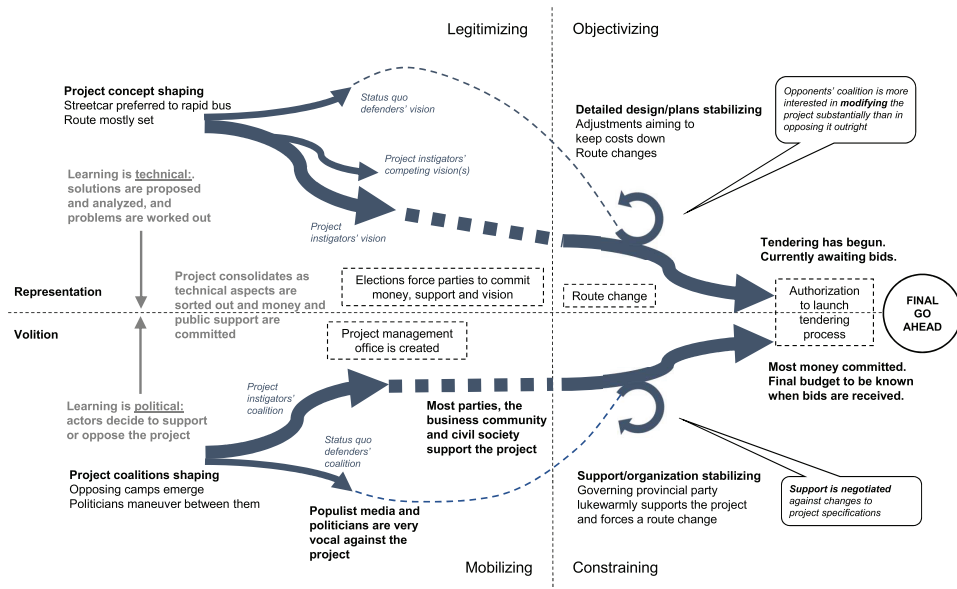


Figure 3. Analysis of the streetcar network project using the integrated model.

Two candidates, including the incumbent mayor, were favoring the creation of a new streetcar network, while a third candidate was campaigning for a new highway project. The election was decisively won by the incumbent mayor, who interpreted these results as a strong mandate in favor of a streetcar network project. Also, because the financial situation of the province had improved, the provincial authorities started favoring the streetcar option.

Project development and polarization of coalitions

With the 2017 municipal election, project development entered a more dynamic phase. At the start of 2018, the federal prime minister promised hundreds of millions of dollars for the project. The provincial premier, who would lose power later that year, also affirmed his financial support.

Perked up by the upcoming fall provincial election campaign, support for the project began to coalesce. All provincial parties promised to finance the project, though one did so lukewarmly. One by one, a major real estate promoter, the president of the city's most important university, mayors of neighboring cities, local development organizations, heads of important financial institutions, businesspeople, and several community organizations publicly supported the project. This was a rare instance of the business community and the NGO sector seeing eye to eye.

However, the project was not spared from contestation. Results of a public consultation launched in the summer of 2017 indicated that, although the majority of the population was in favor of the project, support was geographically skewed: Residents of the central neighborhoods were favorable to the project, while the suburban residents appeared more reluctant. Opponents were close to the populist right-wing movement and were mobilized around one municipal opposition party and shock jock-type radio hosts. In its discourse, the opposition tended to oppose the streetcar project and support the new highway project. Even if these projects are not fundamentally incompatible, the visions and values they underpin were often presented as antithetical.

Eventually, the two coalitions summarized in [Table 1](#) emerged.

Once the project appeared to be well underway, around 2020, another type of opposition emerged, from the remnants of the opposing coalition. These “modifiers” did not explicitly oppose the project, but called instead for substantial changes, including route changes, configuration changes to save trees along a major portion of the project, or even a change from streetcar to subway. Some requested changes were so important that they resembled project sabotage, though none were implemented.

The opposing coalition also tried to have the courts invalidate the project, arguing a violation of fundamental rights (lack of democratic debate, health and safety risks, etc.), but this was rejected by a superior court judge in 2023. The project office did make some minor adjustments, but the project plan remained essentially the same, except for one major change requested by the provincial government.

Table 1. Instigator and opponent coalitions in the streetcar network project.

Coalition	“Urban dwellers”	“Suburban commuters”
Project-related role	Instigators	Opponents, status quo defenders, and later on, modifiers
Outlook on project	Favorable to the project based on different beliefs: pro-environment pro-urban mobility pro-economic development	Unfavorable to the project Closely associated with the populist right Often favored a new highway project that it deemed more necessary
Members	Municipal government All provincial political parties (though lukewarmly for the party in power) Left-wing and centrist municipal and federal political parties Business community NGOs/community sector Residents of the downtown core	Suburban residents Right-wing municipal and federal political parties Populist talk radio hosts and their listeners

The provincial government as a (dis)honest broker

The center-right political party that was elected in 2018 had a strong supporter base in suburban voters but is less popular among urban voters. Ever since it took office, the party has always been ambiguous about the streetcar project, while supporting the (alternative) new highway project from the very beginning. During the 2018 electoral campaign, it did endorse the project but refused to reiterate its support in the summer of 2020 just before the tendering process was due to begin. This came after reports of cost overruns started surfacing and an impact study criticized the project for not reaching far enough into the suburbs. These events forced a substantial delay in launching the call to tender. The provincial government also forced a route modification toward a less dense suburb that did, however, host a major hospital. This modification was not supported by any publicly available data or planning analysis. A few months later, newspapers also reported that the provincial government pressured municipal politicians into not disavowing the new highway project in return for supporting the streetcar network. At the moment of writing this case, which we followed in real time for the past 3 years, the call for tenders for the three contracts has been launched and results are awaited, but project execution still appears uncertain.

Discussion

The case study of the streetcar network project provides interesting insights for integrating research on policy and megaproject development, as well as for the main themes of this special issue.

Application of the integrated model to the streetcar network project

The case illustrates the difficulties of achieving the main aim of the development phase, namely representational (discourse and plans) and volitional (interests and resource commitments) convergence. Among the many setbacks, detours, and iterations revealed in the case, we highlight the fact that the creation of the project office and its decisions on many secondary aspects preceded by years the moment, which has not yet been achieved at the moment of this writing, when major decisions and authorizations can be considered irreversible. Such patterns corroborate the V/R frameworks' assumption that megaproject development is much more irregular than the policy-making sequence suggested by the ACF. Even our integrative model in [Figure 2](#), which captures the dynamics of coalitions but depicts it as a rather continuous advancement in time, should be brought more in line with organizing-as-process perspectives on development as a constant struggle to create order in a chaotic world. The ACF and other policy development models would also benefit from incorporating more dynamic, process-oriented perspectives, instead of predictable, orderly pathways.

Interests and volition

A related benefit of using the integrated model is the depiction of a more dynamic understanding of coalition behavior, one based not only on a more explicit inclusion of members' interests and self-interested calculation but also on what we term volition. One criticism is the fact that the notion of deep core beliefs, which seems to belong to the representation side, as a sort of fundamental postulate in understanding the reality, also includes a volitional aspect, namely identity-shaping values that command deep emotional attachments and trigger intense reactions. This would suggest a reconsideration of the ACF's notion of belief systems, as imposing an overly cognitive perspective on what are in fact volitional aspects.

More broadly, the ACF should include a more complex view of actors, namely a more heterogenous and dynamic understanding of their motivations. These could include not only stabilizing elements such as deep attachments but also destabilizing irrational reactions and fears. For example, in the streetcar project, the virulence of the reaction of some of the opposing coalition's members went beyond the "devil shift" discussed in the review section. Like in many social movements, the project became the symbol of wider societal frustrations—and, in the presence of amplifying conditions such as the pandemic, such reactions can destabilize a project at any moment.

In turn, the project development literature should incorporate more explicitly elements such as the political maneuvering, dog-whistle rhetoric, ambiguous support strategically renewed around election dates, and so on. For example, in the streetcar project, elections were not leveraged to move toward convergence. Instead, ambiguous support was used as a strategy to fend off the potential electoral

consequences of stating a clear opposition to the project. Moreover, project studies should pay more attention to the organized nature of coalitions. Driven by politicians and parties, and relying on various institutionalized and ad hoc forums, the instigators' coalition appears more organized in the shaping phase, which may be the key to its success. Yet, when part of the coalition becomes institutionalized, for example, in the form of a project office, auxiliary actors and general citizens—to use [Weible and Ingold's \(2018\)](#) typology—appear to take for granted that development will be completed and their collaboration becomes that of a “silent majority.” This may unexpectedly fragilize the coalition and make the project vulnerable.

Finally, from a process perspective, the case also suggests reconsidering the role played by the irreversibility of project decisions. Unlike policy decisions, projects cannot generally be canceled after execution has advanced significantly. But this irreversibility may have a backward influence, making it even more difficult for a party that reluctantly supports the project to opportunistically approve it before the election and then reverse the decision later.

Learning

We also find that the case highlights two interrelated aspects of learning: technical and political.

Technical learning refers to the evolution of project representations from the interacting visions of coalitions, on the path to forming a coherent and eventually irreversible project plan. In the streetcar network case, as in many megaprojects, a branch of government played the role of project instigator. Its technical knowledge also played a fundamental role in refining the project plan, although opposing, and conflicting visions shaped the project by putting forward alternatives and debating them in the public sphere. Gradually, representations crystallized, and changes became minor adjustments rather than significant evolutions. This form of learning is perhaps closer to the original concept presented in the ACF, where policy learning stems from the expertly informed debate between coalitions. However, the case also reveals that representations are constructed and manipulated in ways that misrepresent the reality and trigger emotional reactions, for example, the studies that support the viability of the alternative highway project.

Political learning refers to the evolution of coalitions, structured in an instigator–opponent–modifier configuration. In the case at hand, an instigator coalition formed around the municipal government and included an eclectic group of pro-environment, pro-urban mobility, and pro-economic development actors. Members of the instigator coalition quickly adopted each other's arguments and vocabulary, which evokes learning-as-becoming and learning-as-belonging processes. On the other hand, the opposing coalition's behaviors evolved substantially: From opponents—or status quo defenders—aiming to stop the project outright, most opponents turned into “modifiers” when it became apparent that the project would go forward. This form of learning is closer to situated learning-by-doing, in which opponents learn in a hard, behavioral way the contours of the available relation-resource-strategy niches in which they can operate. Of particular interest for political (volitional) learning is the evolving role of the new provincial government elected in 2018, which continually tested its ability to stealthily oppose the project and support its alternative. This kind of political (volitional) learning contributes to a more nuanced understanding of the ACF's broker role and the determinants of their conciliatory activities. This finding could contribute to a revival of the literature on stakeholders' roles in project development and governance ([Achterkamp & Vos, 2008](#)), moving it beyond a network position perspective ([Mok et al., 2017](#)) to a more heterogenous, complex, and dynamic view ([Aaltonen & Kujala, 2016](#)).

Another important aspect revealed by the case study concerns the interactions between technical and political learning. Political learning by the opponent coalition generates changes in the technical visions and solutions that they promote. In turn, concrete solutions offer stimuli, such as evidence of a higher-than-expected impact on certain stakeholders that opponents use to create new rallying points for their dwindling coalition. Even more interestingly, the provincial government's political learning about sustainable positions in relation to their core constituencies repeatedly prompted them to overlook the results of technical studies and impose changes to the project. An example is late changes in the streetcar route, the fruit of a seemingly arbitrary decision.

Discourse

In policy-making models, including in the ACF, the role of discourse is typically considered in the context of cognitive, ideally rational or at least rationalizing evaluation and legitimating processes. But the

integrated model suggests that on the volitional side, for example, through its emotional impact, discourse serves as a binding agent to ensure a publicly united front by the coalition. The case illustrates the fact that the instigator coalition was composed of a diverse segment of stakeholders, with a variety of interests, values, and political affiliations. This finding raises the issue regarding the nature of the discourse that can keep together such a coalition. Possibly, especially in the initial phase, the project legitimating discourse is likely to be more ambiguous, to ensure the adherence of actors espousing different values (Davis & Thompson, 1994).

Megaproject wickedness

The integrated model and the case study also offer insights into the various aspects of wickedness highlighted in this special issue.

Conflict

With regard to the nature and evolution of conflict between coalitions, the case study suggests that instigators and opponents are not organized around the typical cleavage lines of pro-development versus pro-environment core policy values and can be held together by secondary interests (You et al., 2022).

The case suggests another source of conflict during the stabilizing phase. Change requests made in good faith, as a result of the learning process as proposed by the ACF, may generate low- to mid-level conflict. For example, once more detailed representations are produced, stakeholders may learn more about the real impact on the project and may request changes that may attenuate this impact. But other stakeholders, perhaps not yet aligned with the project, may request changes in bad faith to sabotage the project. The lack of justification for these changes may then lead to more conflict.

Complexity and uncertainty

Complexity and uncertainty, in the ACF, are dealt with by using gradual policy learning. The case study suggests that in megaproject shaping processes, one key source of complexity and uncertainty is the possibility that minor issues will be strategically pushed back to the cabinet level and will require a return to mobilization and legitimation activities (van Marrewijk & van den Ende, 2022). This pushback stems from secondary issues being taken up by opposing coalitions and inflated to the level of a major issue or used as an exchange token for obtaining concessions on other aspects.

The project development literature also suggests that various external events that represent changes in context and resource availability increase uncertainty and the complexity of achieving convergence (Florice & Miller, 2001). In the streetcar project, the increasing unavailability of competent subcontractors and the disruptions of supply chains for steel and other materials also made for an increasingly difficult volitional context, likely to force a return to more fundamental decisions regarding contracts.

Conclusion

The stated goal of this article was an attempt to combine theories of policy-making with theories of megaproject development in order to enrich the understanding of both processes. This goal was achieved by developing an integrated model that combined insights from both disciplines and subsequently applying them to an empirical case. This approach enabled the further elaboration of the integrative model and generated interesting insights for both foundational literatures.

In particular, for the ACF, it underscored the more complex and less predictable role of volition, that should be integrated along with an extended range of action-structuring possibilities embedded in discourse and learning processes to produce a better account of the policy elaboration processes. For the project development literature, it highlights this importance of political strategies and coalitional action, which in turn can impact project legitimacy, generate conflict, and make convergence even more difficult to attain.

The coalition-oriented framework with a broad understanding of volition and representation has a strong analytical potential, which allows not only to describe processes occurring in coalition formation and evolution but also to predict certain consequences in time, such as the conditions leading to the metamorphosis of the opposing coalition, the fragilization of instigators' coalition, and a late return to shaping activities. While we insist that megaproject development processes are highly unpredictable,

which may also hold for policy elaboration, the framework enables to identify conditions that produce typical short-term sequences with long-term unintended consequences (Floricel et al., 2023). Building an inventory of such temporal patterns could constitute the object of further research.

One possible weakness of this article is its reliance on a single case whose development was followed in real time but was not completed at the time of this writing. Therefore, our evaluation of the development process and its performance cannot be final and cannot serve to derive suggestions on the ways to improve the chances to achieve convergence. But the real-time tracing of events, activities, and changes revealed more fully the heterogeneity and dynamic complexity of megaproject development.

Further research could advance the elaboration of the key concepts of the integrated model to better integrate the underlying assumptions derived from different disciplines. Moreover, findings could be corroborated by a larger and more diversified selection of case studies, using process-focused methods, in order to increase the validity and generality of the integrated model.

Funding

The research leading to this paper has been financially supported by grants from Social Sciences and Humanities Research Council of Canada (Project: “An Integrative theory of complex project development”; Grant Number: 435-2018-1530), from the *Fonds de recherche du Québec - Société et Culture* (Project: “L’apport du champ des politiques publiques et de l’Advocacy Coalition Framework à la théorisation du développement des grands projets d’infrastructures publiques”; Grant Number: 2021-NP-281333), and from the World Economy Institute of the Romanian Academy and the European Regional Development Fund (Competitiveness Operational Programme 2014–2020; Project: “Support Center for IEM research - innovation projects competitive in Horizon 2020”; Project ID: 107540).

Conflict of interest

None declared.

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