

Stakeholder Mobilization as Major Project Construction Sites Unfold: When Tangible Mitigation Measures Matter More than a Rhetoric Speech. A Canadian Case Study from the Public Transport Sector.

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Title: Stakeholder Mobilization as Major Project Construction Sites Unfold: When Tangible Mitigation Measures Matter More than a Rhetoric Speech. A Canadian Case Study from the Public Transport Sector.

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Abstract: When construction sites open in residential areas for the purpose of carrying out road repair projects, residents generally have to deal with nuisances caused by the roadwork (i.e. noise, dust, detours) a few days or weeks. However, this quickly recovered peace of mind is not the case for residents living near constructions sites of major public infrastructure projects. In their case, nuisances must be endured for several years. In order to mitigate negative effects of long timeframe projects, managers assigned to community relations office will try to communicate regularly and as transparently as possible with stakeholders affected. Although it is a strategy advocated to generate and maintain stakeholder mobilization, the exploratory study of a Canadian major public transportation project demonstrates that rhetoric speech alone is not enough. The implementation of tangible mitigation measures, identified collaboratively to ensure a tailored response in the shortest possible time, appears therefore much more effective. In this development paper, we undertake to present and discuss the tangible measures implemented in four construction sites deemed to have strongly impacted stakeholders in their surroundings.

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Keywords: actor-network theory, execution phase, external stakeholder mobilization, major public infrastructure project, mitigation measures

Introduction

When construction sites open in residential areas for the purpose of carrying out road repair projects, residents generally have to deal with nuisances caused by the roadwork (i.e. noise, dust, detours) a few days or weeks. However, this quickly recovered peace of mind is not the case for residents living near constructions sites of major public infrastructure projects. In their case, nuisances must be endured for several years. In order to mitigate negative effects of long timeframe projects, managers assigned to community relations office will try to communicate regularly and as transparently as possible with stakeholders affected (Olander et Landin, 2007). Although communication about project benefits is a strategy advocated to generate and maintain stakeholder mobilization, the exploratory study of a Canadian major public transportation project demonstrates that rhetoric speech alone is not enough. The implementation of tangible mitigation measures, identified collaboratively to ensure a tailored response in the shortest possible time, appears therefore much more effective.

The purpose of this development paper is to present a range of tangible measures implemented to remobilized external stakeholders strongly impacted by the nuisances generated by the groundbreaking of a major project on certain construction sites. In the following parts, we first overview stakeholder mobilization from the Actor Network Theory (ANT) perspective (Callon, 1984), as this approach benefits to stakeholders' analysis (Missonier et Loufrani-Fedida, 2014). We then recall the risk management process, which calls for mitigation measures to offset project discrepancies. These theoretical anchors lead us to state our research question. Next, we present our method and describe the case study. Key findings and data summary tables then follow. Finally, we conclude with some areas for discussion and further research.

Actor-Network Theory

The actor-network theory (ANT) (Callon, 1986) refers to a four-stages process following this sequence:

Problematization means posing a problem (i.e. socio-technological change), making stakeholders aware that they are concerned by it, and that they can find satisfaction through a solution (i.e. a public transportation service) that translators (i.e. government, project managers) are in position to and rightly so, make them aware.

Interessement is expressed in terms of incentive schemes aimed at sealing alliances. Interest could refer to the set of actions through which project managers strive to impose and stabilize the identity of actors they have defined through problematization. These actors may be external project stakeholders.

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Enrollment refers to a set of multilateral negotiations, power moves or tricks that accompany the interest and allow it to succeed. In the case of a major project, enrollment can go through the development of the four-sublimes that Flyvbjerg (2017) reports as being political, economic, technological, and aesthetic attributes.

Mobilization consists in the displacement of the allies or the spokespersons as representatives of these allies of the project. In other words, mobilize is making stakeholders mobile, especially those who were not at first, by the intermediary of a translator. Involving local communities in the decision-making process for a public project (Keeys et Huemann, 2017; Di Maddaloni et Sabini, 2022) can have a mobilizing effect and thus ensures a strategic convergence between the various objectives pursued by project stakeholders (Denis et al., 2007).

At each stage of the ANT process, there may be dissenting actors. In a project management context, dissent usually leads to divergence (Vuorinen et Martinsuo, 2019) or, to stay in the ANT' field, demobilization. Therefore, the project is more clearly than ever subject to risks (Williams, 2017).

Project Management Risk Management Process

To illustrate the risk management process in project management, we refer to the process described in the sixth edition of PMBoK (PMI, 2017). This process consists of five iterative steps: 1) Identify the risks, 2) Analyze the risks, 3) Evaluate the risks, 4) Treat the risks, 5) Monitor and Review the Risks.

In any project, the emergence of risks should be prevented through mitigation measures. When it comes to external project stakeholder management, one of these measures is to better and more frequently communicate with project stakeholders. Yet, community relations managers can play a central role within stakeholder mobilization. As Vandersleen and Dodia (2010) state, public relations help the stakeholders to keep their «eyes on the prize» and to focus on «ultimate organizational objectives».

Research Question

However, we can question the mere capacity of rhetoric speech to mobilize efficiently external major project stakeholder, especially those located near construction sites which generate nuisances. That is why we formulate this research question: *«How and through what mitigation measures does major projects external stakeholders remobilization take place?»*

This question is worth asking because as a project unfolds the process of sensemaking (Weick et al., 2005) by external stakeholders can diverge from the project managers strategic orientations (Dyer, 2017) and lead to irreversible situations (Ninan et Sergeeva, 2022). Indeed, as long as a project is a concept on the drawing board or prototyping stage, it is not physically visible. This can have the effect of reinforcing common sense and, when the ground is broken, creating a progressive paradigm shift. Hence the demobilization of external stakeholders that interests us in this research.

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What's more, tangible mitigation measures need to be considered as parts of the socio-technical network of a major project which, according to Latour (2005), is a network composed of humans and material elements or "actants" such as objects or instruments, because they could contribute to mobilize or remobilized stakeholders.

Method

To find an answer, we analyzed data relating to the demobilization of external major project stakeholders in reaction to nuisances in the vicinity of four construction. Our objective was to explore how external stakeholders' mobilization is shaped and sustained, in terms of tangibles mitigation measures rather than public relations rhetoric speech.

Data collection was based on in-depth semi-structured interviews conducted over two periods of time, in 2019 and 2022. Eight top or high-level managers were interviewed both periods while two more managers were interviewed in 2022 (see Table 1).

Table 1.
Interviewee profiles and periods of the interviews.

Interviewee profiles	Periods	
	2019	2022
Chief executive officer	x	x
Deputy general manager	x	x
Feasibility team leader	x	x
Procurement team leader	x	x
Procurement manager	-	x
Operations manager	x	x
Operations manager	-	x
Consortium 1 leader	x	x
Consortium 2 leader	x	x
Communication manager	x	x

Secondary data such as corporate websites and newspapers of record, enabled us to support interviews, confirms events and dates and allow triangulation. It should be noted that no external stakeholders were interviewed as part of the research. However, a chronological review of newspaper articles enabled us to identify their reactions like attitudes, actions like behaviors, and public complaints regarding the project's groundbreaking, depending on the most disturbing construction sites. The same was true by the follow-up of the minutes of the citizens' meetings, as made available to the public on the corporate website.

We analyzed data from the second data collection period. This choice is justified by the fact that interview questions allowed us to obtain information about the implementation phase of the project. A phase that can affect external stakeholders particularly those in the vicinity of construction sites. In this research, we choose to focus our attention on what

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happened in terms of external stakeholder mobilization while the project was coming out of the ground in four construction sites. In-depth analysis of project management interviewees verbatim allowed us to identify, describe and classify construction site-specific mitigation measures for mobilizing external stakeholders. Data interpretation went through dynamic discussions between our research team to fine-tune our common understanding.

Case Study Description

To find answers to our research question, we explored the single case of a major public transportation infrastructure project (Yin, 1984). This project, a Canadian automated electric train project was launched in 2017 with an investment of \$8 billion (USD)¹. It aims at building 26 stations along a 67-km elevated, ground-level and underground network, connecting three urban areas, that is to say 18 municipalities spread out to the north and south of an island city, many bus lines, four metro stations, and an international airport. The finality of this major project is to relieve congestion on the roads and economically boost connected cities (i.e. real estate investments along the route are estimated at \$3,6 billion (USD)).

Sponsored by a subsidiary of an institutional investor (regional public pension fund), the project benefited from an exceptional legal arrangement almost 18 months after its beginning. Full authority to the organization was given by special law to design, deliver, and operate it, starting 2024.

Early in the development phase, a community relations office had been appointed to deal with external stakeholders, especially those who live in the vicinity of construction sites.

The four construction sites we focused on are located along the main line of this major transportation project. The first site (Site A), on the north shore of the city island, includes number of municipalities originally served by a train that allows residents (workers, students) to commute to and from downtown in a quick and comfortable manner. The second (Site B), the third (Site C) and the fourth site (Site D), are located on the city Island. Site B is crossed by a rail line. This is the same line that leaves from the north shore (Site A) and it is also the one that the future new transportation service will use. Site C is located at the heart of a neighborhood that is both residential and academic. Surrounding it are very close houses and educational institutions (primary and secondary schools, university campus). In addition to connecting to a subway station, Site C must eventually connect to the railway that runs from north shore to downtown. Although the railway passes very deeply underground through a century-old tunnel, there is no exit to the outside. Finally, site D is located downtown in a lively and trendy neighborhood, combining converted warehouses and a new residential area with condominiums.

¹ The case at study is part of a large research program on the performance of the development phase of public infrastructure major projects.

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Stakeholders affected by the construction activities taking place on these sites are mainly: commuters (Site A), residents (Sites B, C, D), parents of schoolchildren and teachers (Site C).

Key Findings

Data analysis allowed us to find answers to the research question: How and through what mitigation measures does external stakeholders remobilization take place?

To achieve this, we started with the identification of nuisances at the micro-level of the project for each of the four construction sites. These nuisances can be associated with noise (i.e. equipment in operation, explosives), air pollution (i.e. dust and fine particles), safety (i.e. truck traffic), and loss of use of public service (i.e. inter-municipal train line interruption). Then, we sought to know what community relations managers have done to mitigate these nuisances. Beyond the communication efforts to inform and reassure the stakeholders affected through, for example, citizens' meetings, press release sent to the media or posts in social media, unplanned actions were initiated in order to maintain mobilized or even re-mobilized stakeholders. These actions either took place in the environment of affected stakeholders (i.e. home, workplace, school), near the construction sites or away from them. In response to the nuisances, it was clearly a matter of ensuring wellbeing, safety, quietness, and efficient commuting. These findings are aggregated in Table 2.

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Table 2.
Aggregated findings.

Status	Sites	Construction project stages	Stakeholders affected	Types of nuisances	Classes of objects mobilized	Objects mobilized	Locations where measures were implemented		
							Resident's environment (i.e. home, workplace, school)	Nearby the sites	Away from the site
Wellbeing	C	Sites preparation and work (i.e. excavation, earth moving)	Residents, commuters (workers, students), young families (parents and school children), university students	Dust and fine particles due to digging and excavation using explosives	Air pollution mitigation measures	Particle protection filters on windows (Site C)	X		
						Air-conditioning (Site C)	X		
						Real-time particle measurement system (Site C)		X	
Safety	C	Hauling soil off the construction sites	Residents, commuters (workers, students), young families (parents and school children), university students	Truck traffic	Worksite's planning	Trucking schedules (Site C)	X	X	
Quietness	A, B, C, D	Sites preparation and work (i.e.	Residents, commuters (workers,	Noise from operating machinery,	Noise mitigation measures	Noise canceling headphones (All sites)	X		

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							Resident's environment (i.e. home, workplace, school)	Nearby the sites	Away from the site
		excavation, earth moving, installation of beams)	students), young families (parents and school children), university students	trucking, excavation using explosives		Soundproof curtains (Sites A, D)	X		
						Green walls (Site B)		X	
						Nights in a hotel (Site D)			X
						Teleworking through agreements with employers (pre-COVID-19) (Site A)	X		
						Surface bus services (Site A)		X	X
Commuting efficiency	A, B, C	Tunnel construction	Commuters (workers, students) in downtown area	Interruption of passenger train services to and from the city	Alternative services				

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It should be known that the nuisances have not been identified by community relations managers. On the contrary, it was the impacted stakeholders who brought them to their attention. Therefore, these managers had to manage the changes in stakeholders' environment at the same time it was happening. The need to manage these changes clearly caught them off guard. It was particularly the case on Site C, the one located a few meters from an elementary school. For example, frequent passage of heavy-duty trucks filled with earth on schooldays morning, explosions due to excavation, and dust generated by the work led to the formation of a coalition of parents with strong influence (e.g. petitions signed, alarm television and radio stations, recruit their own health experts). Faced with this demobilization in reaction of the impacts of the project progress, community relations managers had no choice but to really go out and meet the stakeholders affected. The exchanges, described as highly emotional, with a mixture of fear and anger, led to implementation of tangible mitigation measures like particle protection filters, air-conditioning in classrooms and real-time particle measurement system (see Table 3).

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Table 3.

Nature and content of exchanges between affected stakeholders and project managers that led to the implementation of measures.

Stakeholders affected	Project contacts	Triggering factors	Reactions and actions of stakeholders affected by project nuisances	Characteristics of the exchanges between stakeholders and project interlocutors			Implementation period
				Locations	Atmosphere	Nature and content	
Commuters (workers, students)	Community relations office	Difficulty or inability to go to work and return home by an efficient means of transport (i.e. train)	Complaints, protests, lawsuits	On site, in the impacted suburbs	Very high in emotions (i.e. anger, exhaustion, very high willingness to be accommodated)	Get to and from work quickly by public transport (i.e. train, bike path)	As project unfolds
Residents	Community relations office	Difficulty or inability to enjoy peace in the backyards, streets, or neighborhood	Complaints, protests, lawsuits	On sites, in the impacted streets Virtual kitchen meetings (during COVID-19 restriction periods)	Highly emotional (i.e. anger, exhaustion, willingness to collaborate)	Maintain a minimum noise level to be able to enjoy the day in peace, to (tele)work, and sleep	As project unfolds
Parents of schoolchildren	Community relations office	Back and forth of trucks loaded with earth passing in front of the school at the same hours	Complaints, protests, human chain, calls for expert opinions, media alert,	On site, in the impacted school Meetings with the school	Highly emotional (i.e. very high level of fear, anger, exhaustion, willingness to collaborate)	Prevent potentially fatal accidents in front of the school	Very soon after discussions with affected stakeholders and agreements on the choice and

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Stakeholders affected	Project contacts	Triggering factors	Reactions and actions of stakeholders affected by project nuisances	Characteristics of the exchanges between stakeholders and project interlocutors			Implementation period
				Locations	Atmosphere	Nature and content	
		of beginning and ending of schooldays Degraded air quality Distracting noises	and threats of legal action	administration and parents' committee		Prevent health problems (i.e. asthma) Prevent learning disruptions	implementation of mitigation measures
Teachers	Community relations office	Sound of explosives that destabilizes	Complaints to school principal, discussing the situation with parents	Meetings with the school administration and teachers' committee	Highly emotional	Ensuring quality teaching and learning conditions	Very soon after discussions with affected stakeholders and agreements on the choice and implementation of mitigation measures

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Conclusive Discussion

Data analysis led us to identify tangible mitigation measures implemented in four construction sites deemed to have strongly impacted the stakeholders in their surroundings. This effort has made it possible to answer the research question: «*How and through what mitigation measures does major projects external stakeholders remobilization take place?*».

In addition, our analysis has enabled us to roadmap the phenomenon of demobilization and remobilization of external stakeholders in the project under study (see Figure 1).

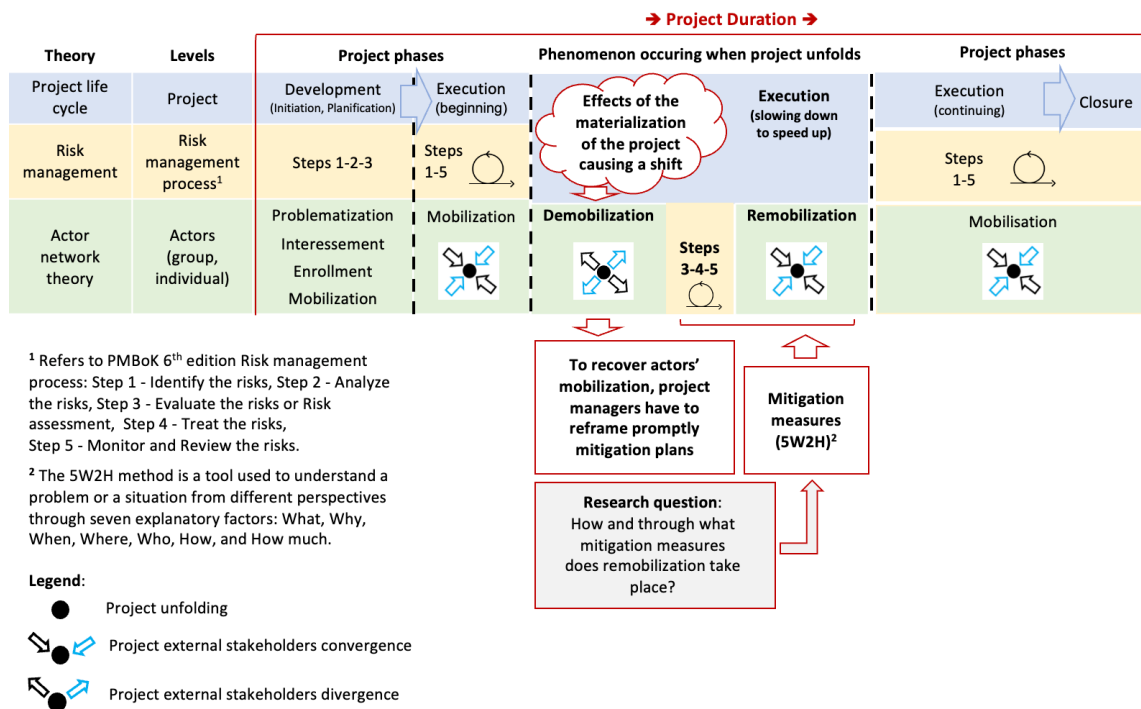


Figure 1.
Roadmap of the phenomenon of demobilization and remobilization of external stakeholders of the project under study.

To summarize, our analysis brings to light that implementation of tangible mitigation measures is made possible when project relationists adopt an empathetic posture and take to streets to get very close to the needs expressed by affected stakeholders and put aside their rhetoric speech about the four sublims (Flyvbjerg, 2017).

Also, major project cannot be considered a single entity with uniform impacts. A multiplicity of construction sites located in as many areas, each of which has its own

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particularities, can imply a multiplicity of challenges that can lead to all kinds of stakeholders' demobilization.

The costs of some tangible mitigation measures may be insignificant compared to overall project cost and of great value to avoid slowing down or interrupting construction activities and preserve the reputation of the management of major projects.

Unanticipated challenges that lead to a demobilization of stakeholders have the effect of pulling forward managers in charge of the relations with community's office so that they put aside for a while their rhetoric speech to commit with tangible and day-to-day mitigation measures adapted to external stakeholders needs.

This last observation may lead us to grasp the importance of sociomaterial relations (Paananen, 2020) or even integrated risk management (Xiang et al., 2023) when managing project external stakeholders.

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