



Máster en Democracia y Gobierno

Departamento de Ciencia Política y Relaciones Internacionales

Universidad Autónoma de Madrid

Working Papers Online Series

http://www.uam.es/ss/Satellite/Derecho/es/1242658791834/listadoCombo /Working_Papers.htm

Estudio/Working Paper 185/2017

"The evaluation of mega-events: Discussing the consequences of EXPO Milano 2015"

Simone Busetti Politecnico di Milano

Abstract

When evaluating mega-events, the literature is generous in identifying their consequences, both tangible and intangible, positive or negative. Overall, supporters have it that hallmark events can be catalysts of innovation and may open opportunities for big leaps in the economic, social and urban development of cities and metropolitan regions. Critics, instead, reveal the high risks of the 'mega-event policy' for urban growth, such as long-term debts, costs overruns, or overgrown infrastructures. Both, however, recognise the challenges in evaluating the effects of mega-events, due to the uncertainties of estimation for unique events, the ambiguities in the causal understanding and several biases possibly affecting genuine appraisals. The paper provides a brief review of the literature and shows how the method of process tracing may help in increasing reliability in assessing mega-events legacies. It does so by presenting a case of a highway infrastructure built for the Universal Exposition held in Milano in 2015.

Keywords: Mega-events, Legacy, Process Tracing, EXPO2015, World Fairs, Urban regeneration.

1. Introduction

Competition for funds at a global scale has made bidding for mega-events an attractive growth strategy. Accordingly, the mega-event policy would help coping with shrinking public budgets by attracting investments otherwise unavailable. On the one hand, hosting the event could be a direct stimulus for development (Burbank et Al. 2002). On the other, the event might provide a clear goal, a common deadline, and work as a catalyst for urban renewal (Garcia, 2004).

Whether the strategy is worth doing, however, is hard to say. The literature has identified a large number of consequences possibly connected to hosting a mega-event. The typical candidates regard economic, touristic and infrastructural effects.

Economic impacts in terms of both business growth and employment increases are typically reported (Stevens and Bevan, 1999). However, the long-term nature of such changes is widely contested, and – concerning jobs – their greatest part is mostly considered low-payed and temporary. On a more positive note, in the case of the Winter Olympics in a relatively little city such as Lillehammer, Spilling (1996) reports important changes in the entrepreneurial system, such as the activation of both new and existing business actors, the identification of business opportunities, and several innovative entrepreneurial events. Although some impacts might have rested only at the individual level, the learning of the business community was considered relevant.

Touristic flows are equally affected by hosting mega-events and are commonly included in official forecasts reporting the event benefits (Kang and Perdue, 1994). Here, however, a genuine appraisal is hard to make. In principles, a long-term increase in touristic flows is supposed to come out of greater media visibility. However, as noted by Jones (2001) that hypothesis implies that there is no such thing as bad publicity, which is instead quite common in both pre-event and post-event periods. In addition, touristic flows may suffer a decline in pre-event periods, when tourists stay away for fears of public works and renovations of visitor attractions, in so balancing the eventual increase in the event year (so it was reported in the case of Athens by Malfas et. Al. 2004).

Urban renovations constitute a third kind of consequences and the most tangible legacy of staging mega-events (Bramwell, 1997; Gursoy and Kendall, 2006). The urban

agenda can be incredibly boosted by the prospects of hosting the event, eventually providing host cities with new touristic attractions and improved services. However, some facilities might not be entirely new and derive from old projects; others can be brand new, but oversized for normal times and generally hard to make full use of after the event (the so-called 'White Elephants'). In some cases, problems of evictions, housing relocations and other negative consequences may affect neighbourhoods close to the event site (the increase of prostitution for instance) (Olds 1998). In addition, the catalysing effect of a common goal and a strong deadline may also increase time-constrains in a way not necessarily conducive to open, democratic, and rational planning (Pillay et al., 2010)

Beyond the importance of balancing negative effects, a discussion based on the typical economic, touristic and infrastructural consequences is problematic in being severely biased towards only a tiny part of the event legacy. In this direction, Preuss (2007) builds an analysis of mega-events legacy distinguishing into tangible and intangible, planned and unplanned and positive and negative legacy. The three dimensions form a 'legacy cube' that permits highlighting how evaluations (especially pre-event ones) typically focus on only a part of the actual legacy, i.e. the planned, tangible and positive one.

Similarly diversified views on the nature of legacies are proposed by Chappelet (2012) and Hiller (1998). Chappelet adds to the distinction into tangible and intangible, individual and territorial and – importantly – after and 'before and during' the event legacy. This latter dimension signals how mega-events produce relevant effects well before the event is being staged, or already when candidacy bids are prepared. Hiller proposes a linkage model, showing how – beyond forward linkages producing direct outputs – mega-events entertain also backward and parallel linkages. Backward linkages refer to the context in which the idea for the mega-event occurs and regards all factors motivating the candidacy and mobilising pre-event resources. Finally, parallel linkages exist as side effects, not necessarily anticipated, and not directly under the control of organisers (e.g. individual entrepreneurial activities or neighbourhood displacements).

Such investigation into the nature of legacy shows how the consequences of a mega-event can be vast, varied, largely unintentional and hard to tell in advance. In this

respect, evaluating a mega-event is a hard task. The next section reviews three complications in evaluating mega-events: causal ambiguity, political bias, and measurement difficulties. Then, the method of process tracing (PT) is introduced as a possible strategy for coping with such difficulties when doing case studies of mega-event legacies. The empirical section follows and present a case of an infrastructure officially built for the mega-event, testing if the mega-event can be reliably related to the building of that infrastructure. The conclusions reflect on results, by assessing pros and cons of the method.

2. Evaluation bias in mega-events

Causal ambiguity. As stated by Jones, 'there appears no rigorous hypothesis as to how the hosting of a hallmark event translates to long-term development' (2001: 245). Theories explaining why mega-events have certain effects are often poorly developed or remain implicit, hampering the tracing of clear causal chains and increasing the risk of spurious causal attributions. Unless causal links are very straightforward – such as the construction or renovation of event-related facilities or the direct employment opportunities created by the event – understanding the causal contribution of a mega-event is in fact no easy task. A reliable identification of consequences can be made only by hypothesising and testing a clear causal link that connects staging the event and the specific consequence under study. The interesting – but complicating – factor is that there is not one and only link that can explain a causal relation. Rather, several hypotheses can be made on how mega-events produce their consequences.

In some cases, for instance, the main driver rests on providing a global showcase for host cities. Accordingly, the event may be pivotal in order to attract new investments or partners for starting new business ventures or facilitating the sponsoring of policy innovations. Another possibility may regard an increased permeability to innovation. In order to cope with increased presence and unprecedented organisational challenges, host cities will be prone to use new tools and innovate the administration. On this line, new policies could be more easily experimented during the event period and then remain as a long-term legacy to the city. Still another possibility may come from an increased collaboration by both public and private actors. For the former, for instance, although bids are normally made by cities, mega-events typically require the involvement of both national and regional governments, and a new network may form and facilitate the formulation and implementation of new policies.

These are only some of the possible causal contributions and many more can be hypothesised and tested. The relevant point, however, is that such causal claim should be clear and not left implicit. In the following section, a hypothesis is developed for consequences already in the municipal agenda and not functionally related to staging the event. These kind of consequences are quite typical in mega-event planning, when municipalities use the opportunity of preparing for the event in order to embark into radical changes that are not strictly necessary for the event to take place (the classic example being the complete transformation of the seafront in Barcelona). In fact, it is always hard to distinguish between regular municipal governance and the mega event legacy.

Political bias. Chappelet argues that 'From the point of view of an owner of a mega-event – such as the IOC or the CGF – an overall positive legacy is a crucial argument to quell local criticism and above all to ensure that other cities will submit candidatures in the future' (p.81). The quote introduces the importance of actors' goals in mega-event policy, and – consequently – in their evaluations.

Critics of mega-events contend that the decision to bid is hardly due to cost-benefit calculations, but it is mainly a political decision. In fact, policy makers can have several goals – not necessarily connected to policy innovation – for bidding for global events. In addition – similarly to the owners of a mega-event format – local coalitions may have an interest in overstating positive consequences. This can serve both to rationalise the project and to play the political process of getting internal consensus. As put by Jones, "when the proposal to host such events are couched in the language of civic boosterism, those in opposition can e made to feel disloyal or unambitious" (249). Party politics and conflicting interests within the host society may in fact hamper an objective measurement of the event (Boyle 1997). Critics notice that mega-events are supported by growth coalitions, through which global interests may well win over local needs (Hall 2006). Shortly put, actors' interests and internal conflicts may severely limit the scope for objectivity in evaluating results, introducing biases both towards negative or positive results.

There is another genuinely political process that may impede objectivity. Getting the event is a tough political game, played globally by cities who compete fiercely. Purely political strategies like bargaining, opponents' discredit, forging coalitions, and obtaining consensus will explain much of what is promised and how the bid is presented. In this respect, official documents will normally overpromise not only to project the image of a good deal internally, but also to support the political game in the global contest.

Measurement problems. Mills and Rosentraub (2013) state that the evaluation of the development effects of mega-events is typically biased because of four errors, all conducing to an overestimation of impacts. First, mega-events are commonly staged in cities which are already tourist attractions (the exception being Winter Olympics). Hence, a substantial displacement or substitution effects should be considered between groups of visitors. Second, aggregate spending is a contested measure for benefits, since a substantial amount of trade regards imported goods. An extreme case in point regarded the German World Cup, when contracts for beer and fast food rights within stadia were held by non-German exclusive contractors (Hall 2006). Hence, a better measure than aggregate spending would be profit, which is harder to obtain and rarely used. Third, the temporary labor created by the event will partly come from abroad, and hence some earning and spending will go abroad and not benefit the host area. Finally, since most spending is made by people living nearby, who can hardly be supposed to spend more because of the mega-event, their expenditures cannot be considered additional to ordinary economic activity.

Preuss (2007) takes an even more critical stance. He finds how the two typical measures for forecasting legacies – the use of benchmarks and the reference to macroeconomic indicators – are severely flawed. Concerning benchmarks, he shows how even the same event in the same city may produce completely different effects. In his words, uniqueness, high complexity, and fast-changing environments, make almost impossible to take past cases as benchmarks for understanding future outcomes. Instead, the use of economic indicators to build reference cases or growth trends is highly error prone, for it requires heroic assumptions on the stability of contexts and the ability to control for intervening variables. More fundamentally, such approaches are strictly limited to economic effects, which – as shown above – are only a tiny part of the event

legacy. Hence, a bottom-up approach is proposed in order to catch all possible changes due to the event.

A bottom-up appraisal, however, is not exempt with problems. As already shown, because of ambiguities laying in both uncertain causal links and political bias, detecting genuine consequences will be a tough job. Further measurement problems may come from an overuse of the event label. In fact, almost all projects during the event will be framed as part of it, but may not necessarily have solid causal connection to the event. On the other hand, unintended consequences may easily escape assessments based on official programmes or declared goals. Hence, when conducting case studies for evaluating mega-events, there is strong need to improve reliability in causal inference. The next section presents the method of process tracing (PT) as one way of increasing confidence in within-case inference.

3. Introducing process tracing

Process tracing (PT) has recently raised interest in political science (Collier, 2011), policy analysis (Kay and Baker, 2015) and evaluation (Schmitt and Beach, 2015; Befani and Stedman Bryce, 2016). PT is a qualitative method for drawing within-case inferences in single cases (Beach and Pedersen, 2013; Bennett and Checkel, 2015).

Although there is no standard way of conducting a PT-based study, the method's prescriptions can be condensed into two basic recommendations, concerning theory building and theory testing. In relation to the former, PT takes its name from its intended use in unpacking causal processes, typically by articulating the intermediate steps linking causes and outcomes. In this respect, PT resembles theory-based approaches to evaluation (Pawson and Tilley, 1997; Blamey and MacKenzie, 2007; Astbury and Leeuw, 2010), and respond to the broader methodological call for opening the black box of causality (Brady and Collier, 2010). In relation to theory testing, PT offers a Bayesian approach to data collection, evidence assessment, and theory update, equipping analysts with novel tools for dealing with small-n or unique interventions.

As a first step toward evidence collection and assessment, PT begins by examining prior confidence in a hypothesis (H) in terms of any preliminary supporting evidence for H (e.g. results of previous studies), and by critically discussing expectations. This relates to how the impact of the evidence on confidence in H should be evaluated. Briefly stated, a very unlikely hypothesis would need a great deal of confirmatory evidence in order to be considered likely, whether likely hypothesis should be considered more solid to the negative effect of disconfirming evidence (and push researchers to look for more evidence in order to disconfirm the hypothesis). A simple example may clarify the point. When looking for evidence that a person committed a crime, initial evidence will provide a measure of prior likelihood and drive the search for evidence. For instance, the same evidence – the discovery of a motive for committing the crime – will affect differently one's confidence depending on the accused having or not past criminal records (i.e. whether one starts the investigation with either high or low prior likelihood in the hypothesis).

The second step regards the consideration that not all evidence is equal. The probative value of a piece of evidence depends on two characteristics: certainty and uniqueness. Certainty (also called *true positive rate* or *necessity*) expresses the probability of observing the evidence conditional to H being true. High certainty means that the evidence should be there if H is true; low certainty means that the evidence is inessential to prove H. Uniqueness (also called *sufficiency*) is the reverse of the probability of finding the evidence conditional to H being false (the *false positive rate*). High uniqueness (i.e. low false positive) indicates that the evidence is specific to H and unexplained by alternative hypotheses; low uniqueness (i.e. high false positive) means that there are many alternative explanations for finding that piece of evidence.

In a typical example from PT textbooks, being in town on the day of a murder has high certainty and low uniqueness. Such evidence (so called *hoop tests*) has limited confirmatory power if found and a strong disconfirmatory power if not found. Conversely, being caught with a smoking gun close to the crime scene is an example of evidence with high uniqueness but low certainty. Such evidence (the so-called *smokinggun test*) greatly increases confidence in H, but not finding it has only limited disconfirmatory value—that is, given the low true positive, H could be confirmed even in the absence of such evidence. Table 1 provides a summary view of different types of tests with a key on their impacts on the likelihood of H. Finally, doubly decisive tests are those with high certainty and high uniqueness (such as the CCTV records on the crime scene).

Type of test	CERTAINTY	UNIQUENESS	Empirical results	Impact on the confidence in H
	-		Passed	+++
Smoking gun	Low	High	Failed	=
Hoop test	High		Passed	=
		Low	Failed	
Doubly-			Passed	+++
decisive	High	High	Failed	

Table 1. Probative values of evidentiary tests

Combining priors, uniqueness, and certainty, PT provides analysts with a powerful and transparent tool for guiding the process of evidence search, and for assessing the probative value of the collected evidence. This reasoning is formalised in the Bayes theorem, combining priors and true and false positive rates to update confidence estimates—that is, to measure posterior probability, i.e. the probability of H in light of finding a certain piece of evidence with certain true and false positive rates. Table 1 summarises the reasoning on probative values and provides an informal key to understand the impact that different tests may have on the confidence in H (for formal treatments, see Humphreys and Jacobs 2015, Befani and Stedman Bryce, 2016).

4. When is urban renewal genuine legacy?

In order to establish that the mega-event caused a certain innovation, evidence must be found that the event changed the decision or implementation setting, by – for instance – accelerating existing projects or creating unprecedented opportunities for brand new ones. The case of projects already existing in the municipal agenda is particularly tricky. Even more so, when such projects have no functional connection with the event. In this case, in fact, the mentioned problem of distinguishing between the without case (the ordinary planning) and the mega-event case, is pressing. As several sources of overstatement exist, in fact, increasing confidence in causal attribution would be key.

Interesting candidates here include several long awaited renovation or infrastructural works in Milan that were included in the EXPO candidacy dossier and were eventually begun or completed in preparation for the Universal Exposition. Table 2 provides a summary of such infrastructures. Clearly, whether they can be considered or not part of the mega-event legacy make a huge difference to the appraisal of the benefits of the EXPO. The question regards under what circumstances one can assert that the mega-event is truly related to such projects.

Table 1. Official EXPO infrastructures already present in the local agenda

Infrastructures included in the candidacy dossier already present in the regional/municipal agenda

M4. Line 5 of the Milan underground is a 15 kms rapid transit line still under construction. It was supposed to be built for the EXPO, and works were rescheduled several times in order to comply with that deadline at least for its East stretch connecting to the Linate Airport. First projects date back to the years 2000s, and it is now planned to be completed in 2020.

M5. Line 5 of the Milan underground is a 12.8-kilometre light metro line. The line serves the north-eastern part of the city. The first stretch opened in February 2013 while the second stretch – partly serving the EXPO site – was completed on the 29^{th} of April 2015, precisely one day before the opening of the EXPO. The first projects and proposals date back to the 1990s, while the contract was granted in 2003.

Pedemontana. The Pedemontana is a 67 kms highway running North, connecting the territory of Bergamo and the one of Varese. The idea dates back to the 1950s, while the actual project was defined in the 2000. Works for the first stretch opened in 2010 and were completed in 2015.

Bre.be.mi. Bre.be.mi. is a 62 kms highway connecting the city of Brescia to Milano. The first proposals and feasibility studies date back to the end of the 1990s. The preliminary project was presented in 2001 and the final project was delivered in 2009. Works ended in 2014.

TEEM. The East External Highway (A58) is a major route of about 32km in length that encircles the eastern territory outside Milan. At its north and south edges, it connects two major highways: the A4 (Milano-Venezia) and the A1 (Milano-Bologna); also serving the A35, which connects Brescia to Milan.

FNM T1-T2. Works for the train connection between Terminal 1 and Terminal 2 of Milan Malpensa Airport began in 2014 and ended in 2016. Projects for connecting the two terminals by train dated back almost since the opening of Terminal 1 at the end of the 1990s.

M1 Extension. The extension of the underground line 1 was planned to be opened in 2015 before the EXPO, but it is still under construction. It comprises two new stops adding to the actual North-West stretch. It is now due to open in 2019.

Typically, the implementation of a mega-event is characterised by heightened time and media pressures, international visibility, and external deadlines. In this respect, implementing an intervention included in the official programme may put greater pressure on policy-makers, leading to additional resource provision (e.g. budget additions beyond routine or special procedures). Such fast-track policymaking can take several forms, including special funds, dedicated decision structures, and temporary (streamlined) norms. As required by PT guidelines, Figure 1 presents the hypothesis in the form of a mechanism according to the definition by Machamer et Al. (2000), i.e. identifying entities that engage in activities.

Figure 1. Boosting urban renewal



EXPO2015 provides several examples congruent with H1. The higher pressure on implementing actors was particularly evident in completing the event site, where workers were employed 24/7 for three shifts in a row. Special procedures marked the event from its very beginning and, even before winning the bid, the Prime Minister's Decree of 30th August 2007 declared EXPO2015 a 'Grande Evento' (i.e. an exceptional or major event), signifying that ordinary administrative procedures were to be suspended. This special status was justified in the decree by virtue of the event's 'organisational complexity' and the expected 'participation of high officials from the country and abroad', so lending official recognition to the causal relevance of the event's international visibility. As further evidence of external pressure, the *Bureau International des Expositions* (BIE)—the intergovernmental organisation in charge of overseeing World Expos—visited periodically and was in close communication with local implementers.

While this preliminary evidence does not mean that all projects officially included in the event actually enjoyed fast-track decision-making, it lends some weight to the plausibility of H1—in other words, it sets prior confidence as high. Further support was provided by the exploratory interviews. Answering why the EXPO dossier included several projects not directly required by the event and formerly in the ordinary agenda, interviewees recalled the impression that – when the candidacy was being prepared – EXPO projects were to enjoy a sort of priority lane. In order to test the hypothesis, the case of the East External Highway (A58) will be analysed in the next section. The A58 highway was selected as a case study because not strictly necessary for the event's staging, but included in the official EXPO infrastructural dossier, and (contrary to some of the infrastructures in table 2) actually completed on time for the exposition. To this extent, the A58 represents a suitable case for testing H1.

5. The A58 highway: routine project or mega-event gift?

The East External Highway (A58) is a major route of about 32km in length that encircles the eastern territory outside Milan (see Figure 3). Comprising three lanes in both directions and including several tunnels and bridges, the works also comprised 38km of local roads and several other interventions designed to enhance access to the new infrastructure or to reduce its impact on local traffic and the local environment. Total costs for the project amounted to about 1.6 billion Euros.





The A58 has strategic appeal in terms of mobility in northern Italy. At its north and south edges, it connects two major highways: the A4 (Milano-Venezia) and the A1

(Milano-Bologna); it is also of fundamental importance for full functioning of the A35, which connects Brescia to Milan. In fact, the A35 does not reach Milan directly but leads into the A58, through which it connects northward to route SP103 and southward to route SP14, both of which proceed to the city (see Figure 2).

The A58 was included in the group of infrastructure projects to enhance EXPO's accessibility and opened on 16 May 2015, just fifteendays after the event began. The significance of such preliminary evidence and the other clues collected during the empirical work are mapped in Figure 3 here below and discussed in the remainder of this section.

rigure 5. Mapping the evidence for H	Figure	e 3. Ma	apping	the	evidence	for	H1
--------------------------------------	--------	---------	--------	-----	----------	-----	-----------



With respect to part a) in H1, the fact that EXPO official documents report the project in the event infrastructural programme (E.1.1.) is high in both certainty and uniqueness. In fact, the evidence should be there if the government includes the project among EXPO infrastructures, and there are no alternative explanations for such inclusion. Setting the official project deadline before EXPO (E.1.2.) has high uniqueness, as this indicates the importance of the project for staging the event, although other official works

may have different deadlines. The A58 complies with both requirements and permits strong confirmation of step a). As simple as it looks, this is important, as pressures to complete works and the special implementation context mostly relate to official EXPO projects. Clearly, this is necessary for H1 but by no means sufficient.

Turning to part b), actual completion of the works within the deadline (E.1.3.) lacks certainty. EXPO infrastructure projects were divided into three groups in descending order of importance: 'essential', 'connected', and 'necessary' (the first two were included in the EXPO infrastructural dossier). Interestingly, while some of the 'essential' projects were not completed (notably, the metro line M4), many of the 'connected' or 'necessary' infrastructures were. This is no surprise, however, as one should not expect the 'mega-event effect' to overcome the virtually infinite number of implementation difficulties that typically arise in big infrastructural projects. On the other hand, as delays are quite common during such works, and completion within the deadline (E.1.3) is rare (i.e. it has some degree of uniqueness), it would be worth inquiring if this was due to H1.

Completing the works on time but within the average duration is not particularly significant. Instead, an implementation time shorter than average (E.1.4) constitutes more unique evidence, pointing more clearly to some atypical factor such as EXPO. Interestingly, works for the A58 were incredibly fast, beginning on 11 June 2012 and ending less than three years later—an undoubted record time for such projects. A 2014 report from the Italian Department of Economic Development and Cohesion estimated that infrastructural projects costing more than 100 million Euros were completed in about 7.2 years on average (DPS, 2014)—more than twice the time taken for the A58. Notice also that although in some regions of Italy works are of shorter than average duration, this is not the case in Lombardy, which is in line with national data (DPS, 2014).

As an additional clue, we can consider the pace of the whole process—in particular, whether decision-making and/or implementation of the A58 was accelerated once EXPO entered the municipal agenda (E.1.5), which would provide significant support for H1. In particular, the evidence has some degree of uniqueness, as one should find alternative factors, independent of EXPO but concurrent with it, that explain this acceleration. A brief history of the A58 may help to illuminate this point.

The first proposal for the A58 dates back to 2001, when the Province of Milano proposed to build a new East Highway, external to the one in Milano, which was overcongested. In 2002, together with financial and industrial partners, the Province established the company TEM Ltd., specifically to design the new infrastructure. The draft preliminary project was presented in 2003, approved locally, and took until 2006 to pass through all the requisite administrative procedures. In 2008, Milano won the EXPO bid, and the A58 was included among the 'connected infrastructures' for the event. In the same year, completion of the executive project and infrastructure contracts were put out to tender. The contractor presented the executive project in 2010. The year 2011 was spent mainly on administrative procedures and some variations to the project, which were ready at the end of the same year. In total, the whole design and tender phase took about nine years (from 2002 to 2011). Interestingly, this was longer than the country average, which is estimated at about 7.3 years (DPS, 2014); so, although the works themselves were completed quickly, the tender and project phase took longer than average. In this respect, it would seem that inclusion in the EXPO infrastructures may have accelerated implementation.

However, the same brief history would also tell that the A58 enjoyed no special status because of EXPO (E.1.6.). The administrative process was routine, and in terms of legal procedures at least, the implementation process was afforded no shortcuts whatsoever. This test was classified as a smoking gun (high uniqueness, low certainty) because we can imagine that (even within the boundaries of ordinary procedures) the process may have been accelerated in several other ways.

Indeed, looking at the government deliberation granting final approval to the A58 (CIPE, 2011), some passages stress the importance of completing the works quickly. However, this demand had nothing to do with EXPO but with the parallel works for the A35. As mentioned above, the A35 can reach Milano only via the central stretch of the A58, without which the 62km of the A35would have ended in the fields. It should also be noted that as works for the A35 began in 2009 (three years before work began on the East External Highway), there was a real danger that the infrastructure would be finished but not working, impacting the A58 works (Corriere della Sera, 2013). Interviews with the company confirmed that there were pressures to complete the works quickly, but only for

the central stretch to join the A35. Finding no concurrent factors contributing to fast implementation was considered a hoop test for H1, which however fails in light of the evidence. In fact, complementarity with the A35 (E.1.7.) explains part of the pressures to accelerate works in a way unrelated to the staging of the mega-event.

Although EXPO provided no legal shortcuts, the process may nonetheless have gained from financial resources associated with the mega-event (E.1.8.). This would be a smoking-gun test for H1, as EXPO funds were limited and only a few infrastructure projects considered essential to staging the event received direct aid from those funds. Unfortunately, this proves to be another failed smoking gun.

The A58 was to be the first Italian highway built using only private money. Project financing provisions required the contractor to provide engineering and construction of the highway in exchange of a 50-year right to collect tolls. However, in 2013, the Italian government passed decree 69/2013. Among several provisions for the country economy, article 18 established a 2 billion fund for infrastructure projects, and 330 million Euros was granted to the A58. This government financial contribution was unexpected, and it would seem reasonable to suspect that EXPO was among the reasons for granting the funds. As preliminary evidence, however, although the decree actually included several financial provisions dedicated specifically to EXPO-related interventions (article 46), the Universal Exposition was never mentioned in relation to the A58. In the same way, interviewees excluded the importance of EXPO in those negotiations. Given the need to increase capital in order to secure a financial plan that appealed to investors, the contractor turned to the government for help. Interviewees also confirmed that the contractor lobbied the government directly, with no intercession by either the region or the municipality, both of whom were involved in organising the mega-event and could possibly have exploited this in negotiations.

When asked about the reasons for the record implementation time, the interviewees never mentioned EXPO, and when directly asked about the effect of the mega-event, all denied its influence on the A58. The highway opening ceremony provided further clues contrary to H1. This was a major occasion for media attention, and mentioning EXPO would certainly be expected. However, an analysis of recordings of the highway opening (Tangenziale Esterna, 2015) revealed that the regional governor, the

Italian Ministry of Infrastructure, and the contractor's CEO made no mention of EXPO. Interestingly, the Special Commissioner for EXPO was not even present. Notice that the A58 was an official EXPO project and an incredible example of good working public works: the absence of the Special Commissioner and the lack of specific mention point directly against H1. Equally, on the following day, the main Italian newspapers reported the opening of the highway and praised the successful completion but did not mention EXPO as a factor (Corriere della Sera, 2015a; Corriere della Sera, 2015b; Repubblica, 2015). Combining these clues makes for a strong hoop test of H1 (E.1.9.). However, it is one that the hypothesis fails to pass.

In addressing why implementation of the A58 had been so successful, informants agreed that, beyond complementarity with the A35, two factors mainly accounted for this rapidity: the incentives provided by project financing (E.1.10) and the successful management of implementation by the regional government (E.1.11)—both unrelated to EXPO. In the case of the former, the contractor was eager to complete the works in order to exploit the tolls; in this respect, the pressure was not external to the company (i.e. it was not EXPO-related), but regarded the incentives provided by the financial provisions in the contract.

With regard to implementation, all informants confirmed the special capability of the regional government in negotiating with the municipalities to resolve local conflicts. The regional government decided to establish a round table involving the regional, provincial, and municipal governments, their technical staff, the regional and national highway authorities, and the contractor. Interestingly, the first meeting at the beginning of 2007 ended with all municipalities declaring their opposition to the highway. In one year of intense negotiations, the regional government managed to secure unanimous agreement on the infrastructure, with locals relinquishing or modifying some of their most expensive requests (such as extensions of the metro line as formerly promised). For their part, local governments gained their fair share of compensatory works; the 32km highway came with 38km of new provincial and local roads, and 30km of cycling lanes. Additionally, there were several innovative projects to reduce the infrastructure's environmental impact and improvements to 15km of existing local roads. The round table

continued to operate after the executive project had been approved, helping to resolve further conflicts arising during the works.

Further factors related to the way the regional government managed implementation had to do with land expropriation and the regional institutional setting. The first regarded the use of an experimental procedure that sped up land expropriations. The experimental procedure entailed better payments for the land and some procedural shortcuts. The second regards the fact that in 2007, the Lombardy Region obtained a special delegation from the national government to manage directly three highways in the regional territory, among which the A58. A Regional Authority for Highways was established and this apparently ease interactions.

Testing H1

Both the literature and preliminary interviews determined prior confidence in H1 as high. As well as a similar mechanism identified in the literature on mega-events, when asked why the EXPO dossier included several projects not directly required by the event, interviewees recalled an impression that EXPO projects were to enjoy a sort of priority lane. Further supporting H1, this kind of new infrastructure is typical of interventions included in mega-event planning and is a common legacy of such events. Using Bayesian reasoning informally, high prior confidence means that relevant negative evidence is needed to diminish confidence in H1. Table 1 summarises the collected evidence, reporting certainty and uniqueness values, whether the test was passed or failed, and how that affected confidence in H1.

	EVIDENCE	CERTAINT	UNIQUENES	EMPIRICA	CONFIDENC
H1		Y	S	L RESULTS	E IN H1
a) The government includes a project in the event dossier.	E.1.1. EXPO official documents reporting the project	HIGH	HIGH	PASSED	+++
	E.1.2. Official deadline before EXPO	LOW	HIGH	PASSED	+++
b) For included projects,	E.1.3. Complete works on time	LOW	MODERATE	PASSED	+
implementers enjoy non- routine tools and can accelerate implementation	E.1.4. Record time implementation	LOW	MODERATE	PASSED	+
	E.1.5. Acceleration of the process subsequent to EXPO	LOW	MODERATE	PASSED	+
	E.1.6. Legal shortcuts afforded by EXPO	LOW	HIGH	FAILED	=
	E.1.7. No other factors responsible for fast implementation: Complementarit y with A58	HIGH	LOW	FAILED	
	E.1.8. Financial resources provided thanks to EXPO	LOW	HIGH	FAILED	=
	E.1.10. No other factors responsible for fast implementation: Project financing	HIGH	LOW	FAILED	
	E.1.11. No other factors responsible for fast implementation: Management of local conflict	HIGH	LOW	FAILED	
Both a) and b)	E.1.9. Discourse (interviews, public meetings, legal documents) couple the two	HIGH	LOW	FAILED	

Table 2. Summarising results for H1

Based on the informal discussion in the previous section as summarised in Table 1, we see that H1 failed 6 out of 11 tests. While part a) is clearly confirmed by passing two tests with high uniqueness, part b) presents a mixed evidentiary picture. Part b) is fundamental for H1, as inclusion among the official projects is certainly a precondition but does not in any way ensure a privileged implementation context.

In relation to part b), tests E.1.3-E.1.5 were successfully passed. These relate to completion of the works and to timing and pace. The three tests exhibit some uniqueness, indicating that something special happened in the decision-making and implementation phases of the A58 project, but no unequivocal EXPO effect can be identified. In this respect, while E.1.6 and E.1.8-two smoking guns relating to special procedures and funds—are not unduly problematic, the failures in all tests regarding concurrent factors (E.1.7, E.1.10, E.1.11) are strongly disconfirmatory. In fact, these hoop tests can explain the results for E.1.3-E.1.5 in terms of complementarity with the A35, the structure of project financing, and the implementation ability of the regional government. All of these factors are unrelated to EXPO and clearly disconfirm part b) in H1. Finally, further disconfirmation comes from E.1.9. The fact that legal documents, newspapers, public declarations, and all interviewed actors denied any connection between the implementation of the highway and EXPO is particularly significant for one of the official EXPO infrastructures. In conclusion, by compounding the strength and results of the evidence collected, one can say that decision-making and implementation in the case of the East External Highway-although certainly special-are highly unlikely to be EXPOrelated.

6. Conclusions

The appraisal of mega-events consequences is fraught with methodological challenges. Concerning qualitative studies, there is a number of confounding factors pushing towards an overestimation of consequences. Causal ambiguity, political bias, and the more general measurement problems typical of unique events may well impede a sound appraisal of mega-events legacy.

The method proposed here tries to limit the risk of spurious attribution and help coping with such biases. The first point has to do with making explicit the causal claim to be put to test. The causal power of a mega-event may rest with setting clear goals or inescapable deadlines, increasing legal resources, providing funds, making available new coalitions and so forth. Several non-mutually exclusive contribution claims can be made for the same event, which can be at the same time an accelerator through procedural shortcuts in one case, or a facilitator of inter-governmental collaboration in another. Given the great number of confounding factors, if such claims are not clearly formulated and tested, it is hard to make reliable claims on the genuine contribution of a mega-event to urban renewal.

In this respect, the hypothesis presented here exposed a class of consequences which is particularly subject to the biases mentioned at the beginning. In the literature, there exists a general idea that mega-events can be favourable contexts and push local governments to unprecedented activism. However, this is not sufficient to establish a sound causal link. In this respect, the benefits of searching for more explicit causal claims cannot be underestimated, as this may expose a diverse array of causal paths through which mega-events can be beneficial (or detrimental) to urban development. More so, PT guidelines asking to translate hypotheses into step-by-step causal chains are a good way for pushing researchers towards a transparent understanding of what is a consequence of a mega-event.

Proceeding from H1 in diagrammatic form, it was possible to articulate the empirical implications of the hypothesis and so refine the search for evidence. It is worth noting, in fact, that what is evidence and its value for H is specific to the hypothesis being tested. Being congruent to the event topic, for instance, would be relevant for a hypothesis stating that the mega-event stimulated the formulation of a certain project idea, but it would be totally inessential in the case of the hypothesis tested here. In this respect, the use of an explicit causal claim and of Bayesian reasoning permits to identify the relevant evidence. Additionally, it permits to understand when the search for evidence can be considered completed or when more evidence should be searched for. In the case of the A58, the fact that positive evidence came from hoop tests signalled that the evidentiary

material was not enough for making any reliable inference on H, in so inviting the search for additional evidence.

The case included typical elements of ambiguity that invited contrasting conclusions. The A58 was among the official EXPO projects, was completed on time for the event, and was built in record time, all elements in support of H. Reasoning on probative values provides a kind of significance test for those evidence, allowing for a refined understanding of its impact on the hypothesis. Granted, the informal Bayesian reasoning used here is certainly a powerful tool for assessing the weight of evidence and serves to guide judgment of mixed evidentiary pictures of this kind. In addition, it adds transparency to reasonings and inferences that are normally done in qualitative studies, but unfortunately remain implicit.

Appendix 1. Interviews

On EXPO2015				
Claudio Artusi	EXPO in Città (Off-site Events), Coordinator	09.12.2015		
Giovanni Azzone	Politecnico di Milano, Rector	16.12.2015		
Alessandro Balducci	Milano municipality &Politecnico di Milano, Deputy Mayor for Planning	14.12.2015		
Paolo Beria, Raffaele Grimaldi, Antonio Laurino	Politecnico di Milano, Transport Experts	18.12.2015		
Luisa Collina	Politecnico di Milano, Design Expert	14.12.2015		
Pier Andrea Chevallard	Promos, Milano Chamber of Commerce	21.12.2015		
FabrizioGrillo	EXPO Italy Pavilion	15.12.2015		
On the A58				
Fabio Terragni	Tangenziale Est ltd, CEO	22.01.2016		
Luciano Minotti	Tangenziale Est ltd, Technical Director	05.03.2016		
Raffaele Cattaneo	Infaele Cattaneo Lombardy Region, Deputy Governor for Transport and Infrastructures			
Aldo Colombo	Lombardy Region, General Director for Transport and Infrastructures	13.05.2016		

References

- Astbury B and Leeuw FL (2010). Unpacking black boxes: mechanisms and theory building in evaluation. American journal of evaluation 31(3): 363-381.
- Beach D and Pedersen RB (2013) Process-tracing methods: foundations and guidelines. University of Michigan Press.
- Befani B and Stedman-Bryce G (2016) Process Tracing and Bayesian updating for impact evaluation. Evaluation, doi:10.1177/1356389016654584.
- Bennett A and Checkel JT (eds) (2015) Process Tracing in the Social Sciences: From Metaphor to Analytic Tool. Cambridge University Press.
- Boyle, Mark. "Civic Boosterism in the Politics of Local Economic Development—'Institutional Positions'; and 'Strategic Orientations' in the Consumption of Hallmark Events." Environment and Planning A 29.11 (1997): 1975-1997.
- Blamey A and Mackenzie M (2007) Theories of change and realistic evaluation peas in a pod or apples and oranges? Evaluation 13(4): 439-455.
- Brady HE and Collier D eds. (2010) Rethinking social inquiry: Diverse tools, shared standards. Rowman & Littlefield Publishers.
- Bramwell B (1997) Strategic planning before and after a mega-event. Tourism Management 18(3): 167-176.
- Burbank, Matthew J., Greg Andranovich, and Charles H. Heying. (2002) "Mega-events, urban development, and public policy." Review of policy research 19: 179-202.
- Chappelet, Jean-Loup. (2012) "Mega sporting event legacies: a multifaceted concept." Papeles de Europa 25: 76.
- CIPE (2011) Programmadelleinfrastrutturestrategiche (Legge n. 443/2001). Tangenzialeestesterna di Milano. Approvazioneprogettodefinitivo. (East External Highway – Approval of final project) http://www.tangenziale.esterna.it/teem-data/wpcontent/uploads/2012/12/delibera_CIPE.pdf.
- Collier D. (2011). Understanding process tracing. PS: Political Science & Politics 44(4): 823-830.
- Corrieredella Sera (2013) Ricorsisulle cave. La brebemi a Milano solo nell'Aprile 2014, March 3, p. 6.
- Corrieredella Sera (2015a) Aperta la TEEM, 32 km da Agrate a Melegnano, May 17, p. 13.

Corrieredella Sera (2015b) Apre la TEEM. Più in frettaintorno a Milano, May 17, p. 7.

Dell'Acqua, A (ed) (2016) L'indotto di EXPO (EXPO Economic Impact), SDA Bocconi.

- DPS Dipartimento per lo Sviluppo e la CoesioneEconomica (2014) I tempi di attuazionedelleoperepubbliche (Average duration for public works), http://www.agenziacoesione.gov.it/opencms/export/sites/dps/it/documentazione/Rappor to_Tempi_OOPP.pdf.
- Flyvbjerg B, Bruzelius N and Rothengatter W (2003) Megaprojects and risk: An anatomy of ambition. Cambridge University Press.

- García, Beatriz. (2004) "Cultural policy and urban regeneration in Western European cities: lessons from experience, prospects for the future." Local economy 19.4: 312-326.
- Gerring J (2007) Case Study Research. Cambridge: Cambridge University Press.
- Gursoy D and Kendall KW (2006) Hosting mega events: Modeling locals' support. Annals of Tourism Research 33(3): 603-623.
- Hall CM (2006) Urban entrepreneurship, corporate interests and sports mega-events: the thin policies of competitiveness within the hard outcomes of neoliberalism. The Sociological Review 54(2): 59-70.
- Hiller, Harry H. (1998) "Assessing the impact of mega-events: a linkage model." Current issues in tourism 1.1: 47-57.
- Humphreys M and Jacobs A (2015) Mixing methods: A bayesian approach. American Political ScienceReview 109(4): 653–673
- Jones, Calvin. (2001) "Mega-events and host-region impacts: determining the true worth of the 1999 Rugby World Cup." International Journal of Tourism Research 3.3: 241-251.
- Kang Y and Perdue R (1994) Long-term impact of a mega-event on international tourism to the host country: a conceptual model and the case of the 1988 Seoul Olympics. Journal of International Consumer Marketing 6(3-4): 205-225.
- Kay A and Baker P (2015) What can causal process tracing offer to policy studies? A review of the literature. Policy Studies Journal 43(1): 1-21.
- Machamer P, Darden L, Craver CF (2000) Thinking about Mechanisms, Philosophy of Science, 67(1):1-25.
- Malfas, Maximos, Barrie Houlihan, and E. Theodoraki. (2004) "Impacts of the Olympic Games as mega-events." ICE.
- Mills, Brian M., and Mark S. Rosentraub. "Hosting mega-events: A guide to the evaluation of development effects in integrated metropolitan regions." Tourism Management 34 (2013): 238-246.
- Olds, Kris. (1998) "Urban mega-events, evictions and housing rights: the Canadian case." Current issues in tourism 1.1: 2-46.
- Pawson R and Tilley N (1997) Realistic evaluation. Sage.
- Pillay U, Tomlinson R and Bass O (2009) Development and dreams: the urban legacy of the 2010 Football World Cup. HSRC Press.
- Preuss, Holger (2007) "The conceptualisation and measurement of mega sport event legacies." Journal of sport & tourism 12.3-4: 207-228.
- Repubblica (2015) Milano, 32 chilometri con quasi 5 euro: la Teem inaugural e sfida la TangenzialeEst, milano.repubblica.it/cronaca/2015/05/16/news/Milano_32_chilometri_con_quasi_5_eur o_la_teem_inaugura_e_sfida_la_tangenziale-114515177/.
- Schmitt J and Beach D (2015) The contribution of process tracing to theory-based evaluations of complex aid instruments. Evaluation 21(4): 429-447.

- Spilling OR (1996) The entrepreneurial system: On entrepreneurship in the context of a megaevent. Journal of Business research 36(1): 91-103.
- Stevens T and Bevan T (1999) Olympic legacy. Sport Management, 19(9): 16-19.
- Tangenziale Esterna (2015) TEEM-A58 Cerimonia di apertura al traffico, https://www.youtube.com/watch?v=NmMkPiCzCIw.
- Tomlinson A and Young C (2006) National identity and global sports events: Culture, politics, and spectacle in the Olympics and the football World Cup. SUNY Press.