

## **Evaluation Support in Strategic Decision Making Processes Comparing Tools and Methodologies**

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### **Abstract**

The reasoning we will be proposing underlines a twofold meaning of the term evaluation: to evaluate "in order to program complex and integrated projects"; and to evaluate "in order to structure the analysis of complex transformation plans". Implicitly we assume the distinction between a strategic and a tactical-operational level: the first of these follows a negotiating procedure, while the second resumes classic methodologies concerning the analysis of investments: those are theoretical and empiricist references, which need to be analyzed in relation to the specific circumstances of the real estate context and the complex urban transformation plans in economic systems.

First of all, it is necessary to clarify the framework of steps and instruments involved in the entire real estate development process, according to both private and public profiles, regarding the most recent complex planning procedures in Italy. The first part of the paper therefore focuses upon the role of assessments in the preliminary phase in supporting the decision making process and the delicate moment of briefing, which is absolutely necessary to shape and define strategic choices (policies, guidelines, programs) and also tactical operating choices (precise plans that put strategic choices into effect and make them operational).

The second part of the paper underlines the importance of specific evaluation tools required to articulate complex analysis of transformations, to shape problems and to resolve them. Finally, we propose to examine the Strategic Choice Approach, a methodology aimed at managing uncertainties and developmental decision making processes, especially for public projects, which are applied with other analytical procedures.

### **Keywords**

Decision making processes, Development, Uncertainty, Briefing, Strategic choice

### **1. Evaluation for Programming Complex and Integrated Projects**

We assume the distinction between the strategic and the tactical operational levels in which the role of evaluation is carried out: the first aspect involves the negotiating approach, while the second resorts to classical methods of investment analysis. Obviously, theories and instruments must be adequate with

regard to the specific nature of the real property context and the major transformations which have occurred or are taking place in the markets and economic systems. An approach of this type gives rise to the need to review the entire process of planning and programming resources; furthermore, it gives rise to the need to re-configure instruments for the evaluation of priorities, suitability and opportunities. In particular, in the majority of cases involving complex transformation projects, the capacity of projects to strengthen the competitive role of situations (generally urban) in an international context (with a view to global economic situations) is assuming central importance in the choice of suitable investment.

With regard to programming and planning of projects (in relation to the most recent complex planning practices in Italy) it is right to recall the framework of instruments involved and their position in relation to the overall process of real estate development, in terms of both the private and the public situation. At the same time it is right to highlight the role of evaluation in the preliminary support phase to the decision-making process, in particular in the delicate moment of briefing, in other words during the phase of shaping and making decisions of a strategic nature (definition of policies, guidelines, programs) and tactical operational decisions (the precise projects that activate strategic choices and render them operative).

We will be focusing attention on integrated projects; by examining the general significance of evaluation, it is possible to identify various applicational aspects, including:

- evaluation as an instrument to support the choice between alternatives;
- evaluation aimed at reporting upon the performance of the policies, of the projects or reviewing management, in particular for organizations of a public nature;
- evaluation as a step in processes of communicating and sharing policies and related outcomes and as an instrument for explaining to the stakeholders the different impacts and effects;
- evaluation as a means of understanding the most correct methods of operating, in the implementation processes, in the final or verification phases, in which the implications and effects of programming are most tangible (often over a long period of time).

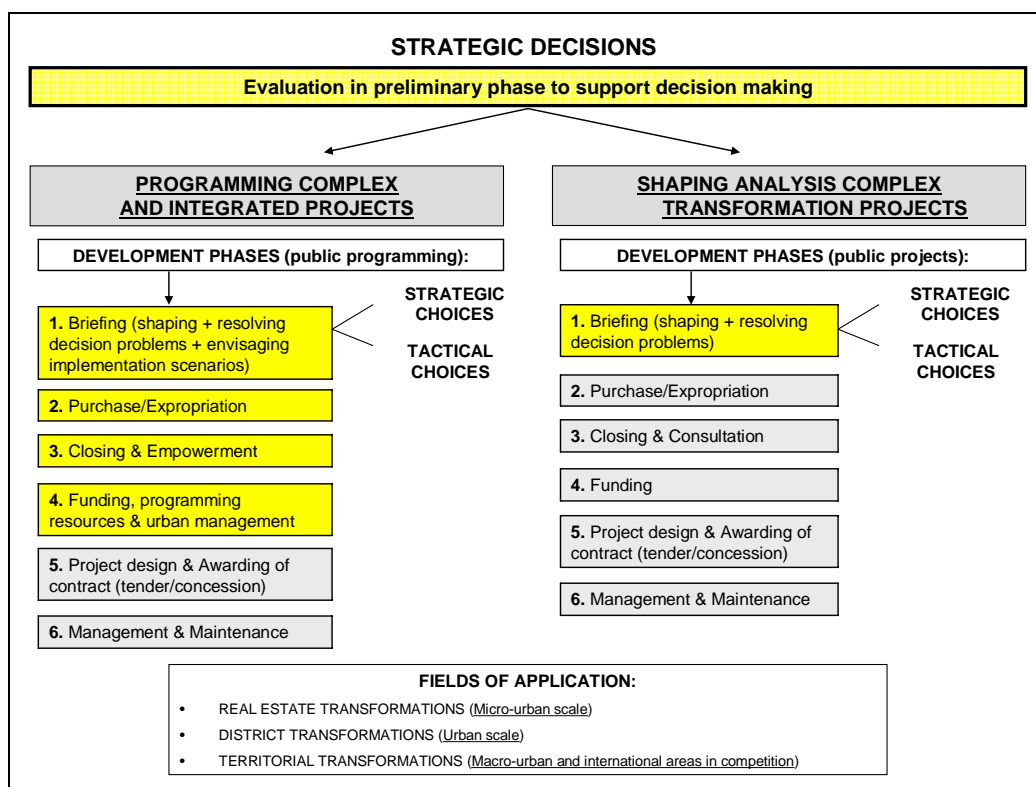
In particular, in the case, for example, of assistance in choosing between alternative investments, the evaluation leads to a comparative judgment of economic-financial convenience: therefore not to an absolute judgment, but related to specific decisions as to allocation.

On the other hand, in the case of monitoring of the "performance" of organizations, the evaluation instrument relates to concepts and activities linked to management control and process management (quality control, accreditation activity, certification, etc.). If, on the other hand, the context is that of communicating the mission of public authorities and their ability to share and explain results according to a process of transparency, the evaluation takes the form of a full-scale social accounting procedure by the institutions, for the purpose of reporting to the community on the way in which they have managed the resources allocated to them. Finally, if the evaluation arises out of the need to establish best practices for learning about/preventing/forecasting phenomena, it is often founded upon basic disciplines of social science, in particular on those which study the inference of causal relationships from the observation of phenomena.

A further approach is that which is known among experts as *empowerment evaluation*, in which the evaluation is not an instrument which leads to an outcome, but a means which in the decision-making process triggers off interactions, which facilitates exchanges between groups involved in the process and generates new relationships which increase the "social capital" (Bobbio, 2004).

It is precisely here that the proposed reasoning is to be found, considering the *Strategic Choice* approach as an instrument for establishing a methodology not only for resolving problems in decision-making, but which is also capable of providing a point of reference for the figures involved in order to structure a joint multi-disciplinary comparison which is as objective as possible.

If we consider the strategic dimension of the evaluation (Figure 1), the reasoning is developed in two directions: examination of the role of evaluation within urban planning instruments, which restrict and direct the definition of project programs on a complex and integrated scale; examination of the role of evaluation during the phases of structuring and analysis of complex transformation projects, in various fields of application. The fields of application range from real estate transformations on a micro-urban scale, to transformations which involve entire districts and therefore on an urban scale, and up to transformations on a macro-urban scale. Of central importance is the procedure for developing the public project, which for simplicity can be summarized in steps: briefing; purchase and expropriation; closing and consultation; funding; project design and contracting of works; management and maintenance.



**Figure 1: Strategic Decision-making Level: Evaluation for Programming Support and Decision-Making on Project Scale (Source: Prepared by the authors)**

## 2. Practices regarding Complex and Integrated Planning in Italy

Various recent instruments of Italian urban planning practice form the basis for the strategic vision of instruments for ascertaining project feasibility and funding parameters.

The normative structure and procedure linked to the classification of these instruments for "new generation" territorial government have direct repercussions, in the short-term as well as the long-term, upon aspects not only of management of processes linked to complex urban transformation projects, but also upon identifying "scenarios" of the impact of proposals at strategic planning level.

The need to innovate Italian practices in the field of urban planning has been dictated – now for around fifteen years – by the need, on the one hand, to operate outside rigid traditional plans (though obviously within definite normative and legislative prescriptions of a general character); and by the awareness, on the other hand, that the "alarm" over new complexity – which has been raised by many of those directly or indirectly involved in transformation processes – should give rise to real new

mechanisms for re-organizing and identifying the problems of cities, urban policies, decision-making processes, etc.

Hence "complex programs". These are "programs" in the sense of considering, within the projects to be carried out, the specific presence of public funding, highlighting the vital importance of its feasibility within a short to medium time period which is also definite (and actually programmed). They are "complex" insofar as the instruments for territorial government and evaluation of the pre-feasibility and feasibility of transformation projects deal with the various different aspects of the negotiating processes, the choices and the interests of the multiplicity of public and private partnerships, with the need to be able to program, access – and subsequently manage – resources and funding provided by different authorities, in a time framework in which the chronology for the execution phases becomes a crucial factor in governing this complexity.

The complexity can initially be dealt with through operations of systemization: the literature in this sector contains many classifications of such instruments, some of which emphasize the link between applicational aspects and the instruments; others emphasize the chronological order, then the development of various aspects, themes, policies; others, finally, use the criterion of the reference line, on the basis of the themes and problems to be dealt with. This last instrument, in particular, seems to be most efficient in order to emphasize the role and the link between programming instruments and evaluation instruments for and in programming. In fact, on this basis, in relation to complex instruments adopted for the Piedmont area by the regional authority, three directions can be identified.

- complex programs as an innovative response to the limitations of traditional planning processes and instruments;
- complex programs as instruments for local development;
- complex programs as instruments for urban regeneration (Governa and Saccomani, 2003)<sup>1</sup>.

In addition to the existing Urban Pilot Projects, Urban Community Initiative Programs, Urban Recovery Programs, District Contracts, Urban Redevelopment Programs and Urban Redevelopment and Sustainable Development Programs, new instruments have only recently been added, generated by opportunities that the relevant authorities have had to reconsider and review their programming. In fact, in various Italian regional areas – such as Piedmont and Lombardy – regional authorities since 2005 have been involved in promoting initiatives aimed at introducing new programming procedures for public investment: for example, with the regional proposal on Integrated Local Development Programs<sup>2</sup> and the subsequent proposal on Integrated Territorial Plans<sup>3</sup> the Piedmont Region has sought to launch a programming process for resources for strategic projects over the territorial area with the intention of introducing various innovative factors: the preliminary phase of drafting Feasibility Plans for Integrated Programs and Feasibility Studies (of public works included in such programs) is conceived for the purpose of selecting, among the proposals presented, "a project park" of strategic works and local development start-up units. In this way, the programming of public works starts off by identifying needs, and the strategies that tend to satisfy them, with a view to homogeneous local development of territorial contexts.

Beyond the specifics of each of the programs mentioned so far, one aspect to be underlined is the fact that the evaluation instruments to support the decisions adopted in these complex integrated programs

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<sup>1</sup> Cf. also note 6.

<sup>2</sup> Piedmont Official Regional Bulletin, no.13, 31 March 2005; cf. also the Piedmont Region program document: *Linee guida per la redazione del Programma Integrato e degli Studi di fattibilità* ([http://www.regione.piemonte.it/programmazione/accordi/sviluppo\\_loc.htm](http://www.regione.piemonte.it/programmazione/accordi/sviluppo_loc.htm))

<sup>3</sup> Ministry of the Economy and Finance, Ministry of Infrastructures and Transport, Piedmont Regional Authority, *Atto Integrativo dell'accordo di programma quadro in materia di promozione dei programmi integrati di sviluppo locale*, Rome, December 2005

assume a central role right from the phase of drafting the Feasibility Studies, in particular for those technical sections which require – even in summary form – the verification of technical feasibility and the analysis of potential demand. These two aspects assume a role which is by no means secondary in establishing the scenario for the proposals, for two main reasons:

- the analysis of technical feasibility of a public work, if carried out rigorously, makes it possible, already in this pre-project phase, to determine the overall total of the completion costs which, otherwise, are often subject to notable variations and oscillations if they are not suitably estimated and detailed;
- the analysis of potential demand, aimed at identifying possible users who will benefit from the completion of the work and who will actually use it, can avoid the numerous cases of public works being completed for a body of users which is overestimated (with an increase of management and construction costs) or underestimated, or worse still, which is absent in the area where the project is to take place.

Even in the recent past, there has been a practice of financing public works with ad hoc investment and funding, but making such allocation without ensuring beforehand an actual concrete need on the part of the community.

It would seem that the very introduction of Feasibility Studies themselves (Integrated Local Development Programs as well as Integrated Territorial Plans) has brought about a phase of new instruments for programming public resources. In fact, in this respect, the role of evaluation techniques is strengthened not so much – and no longer – as a final validation of a decision-making process through a "*judgment as to conformity*" but as instruments for defining their structure "*throughout*" its whole procedure, highlighting its components, the relationships between the figures involved and the resources available.

It is clear that the briefing phase, independently of the planning procedure adopted, plays a central role.

### **3. Evaluation for Structuring the Analysis of Complex Transformation Projects**

The major development projects, which over the last few years have been continually at the centre of heated debate over urban and territorial transformation (in course or already complete), increasingly constitute real and virtual points of discussion and debate between economic interests, political positions and social requirements.

On the one hand, they offer scenarios involving major interests, large investments and large profits; on the other hand, there is an aspect in which responsibilities are increasingly the subject of discussion, in which numerous figures, institutional and otherwise, are involved as stakeholders. In Italy – and not only in Italy – urban and territorial transformations are no longer the privileged domain of public administrations alone: they have become an area in which entrepreneurs, professionals, representatives of the academic world and citizens themselves seek to express their own needs and their own evaluations.

Leaving aside the comparison between the private and the public approach, it is appropriate to pause to consider the importance of the project brief and the ways in which it is translated during the preliminary stages of procedures.

The briefing stage, in fact, represents a delicate and fundamental moment for the success of the project, during which it is necessary, first of all, to examine the requirements and the objectives of the client and of all the stakeholders, in order for them to be translated into contractual terms and performance requirements of the works to be carried out. Examination of the project brief, which is still scarcely considered in Italy, is an absolutely necessary starting point in both public and private project programming, for the purpose of structuring and resolving problems in decision making.

These range from the choice of the location and the architectural form, up to the identification of significant indicators for the evaluation of the technical, economic and financial feasibility and the social and environment sustainability, taking into account the whole range of technical aspects and requirements of all stakeholders.

The briefing phase must therefore constitute, for public administrations as well as private entities, a lengthy and very complex phase which requires careful work in programming activities and coordination between the numerous professional figures involved. A rigorous subdivision of responsibilities, together with extreme clarity, in contractual terms as well as over the objectives to be achieved, are essential requisites for the completion of a project which is capable of respecting timescales, budget estimates and required performance standards. A clear and full brief is the best way of structuring the objectives which are intended to be achieved, of defining strategic policies to be fulfilled and of guiding the subsequent project and pre-site phases.

In the light of these preliminary matters, it is appropriate to pause to consider methodological aspects relating to the shaping and resolving of problems in decision making.

The concept of territorial area, as a complex system consisting of a variety of environmental, economic and social relationships, constitutes a common model for various methodologies which are directed towards strategic planning as well as evaluating the feasibility of specific urban and territorial transformation projects. Choosing the evaluation method and technique is a moment of fundamental importance.

Over the last few years, above all in the evaluation of public projects, there has been a notable spread in methods for analyzing demand and requirements which are based on scenario development and consultation, directed at listening and interacting constructively or resolving conflicts between the entities involved (stakeholders) (Bobbio, 2004).

The definition of the project brief in the pre-site phase may constitute one of the objectives shared by these evaluation methods, which can also be further divided into "instruments for the shaping of problems in decision making" and "instruments for resolving problems in decision making"; the first, in general terms, assist in analyzing individual variables which may compromise the sustainability of the project, while the second many represent key instruments for resolving the problems themselves, assisting the decision-makers to identify possible future impacts or to choose between alternative solutions.

In order to reduce the risk factors connected also with the peculiarities of the project, it would be appropriate, before applying techniques for analyzing demand and requirements, to pause to consider the individual variables of the project itself; and at the same time to examine in detail the problems in decision making, on which the evaluations carried out in a second phase of the analysis depend. The choice and application of a method for shaping decisions must, therefore, be carried out prior to the application of other evaluation instruments aimed at analyzing the needs of the community, in order to guarantee the greatest possible objectivity.

### **3.1 The *Strategic Choice Approach* for Structuring Decisional Problems in the Context of Public Projects**

Among the instruments for shaping problems in decision making, which are useful in defining the brief, is the *Strategic Choice Approach*, a planning and project approach developed by John Friend and Allen Hickling<sup>4</sup> between the 1960s and the 1980s, as part of the Institute for Operational Research, London. It has been applied in numerous situations, for example in the development of new industrial products, in the definition of environmental policies and in the application of new business strategies. The *Strategic Choice Approach* is an open project method, capable of managing the complexities relating also to urban and territorial transformation projects, assisting stakeholders to

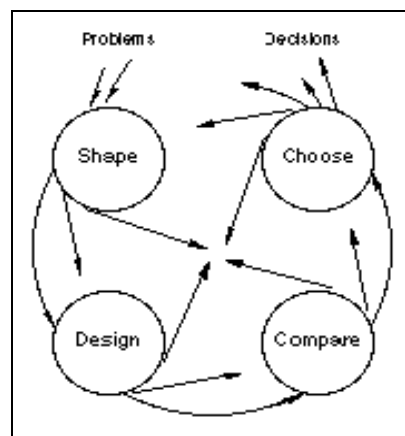
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<sup>4</sup> Friend, J. and Hickling, A., 1987.

clarify the structure and nature of uncertainties and of strategic decisions to be taken during the preliminary pre-site. In fact, *Strategic Choice* makes it possible to identify and select, on the basis of criteria of urgency and importance, a sub-group of actions and projects (options) which are mutually compatible and consistent with the future scenario envisaged by the stakeholders and by those responsible for managing the process. Furthermore, it assists in shaping problems in decision making, classifying them on the basis of priority, identifying a series of possible alternatives for each area of decision.

The foundation on which *Strategic Choice* is based (Figure 2) is the shaping of problems in decision making through a process of rigorous but flexible evaluation, based on four methods:

1. shape;
2. design;
3. compare;
4. choose.



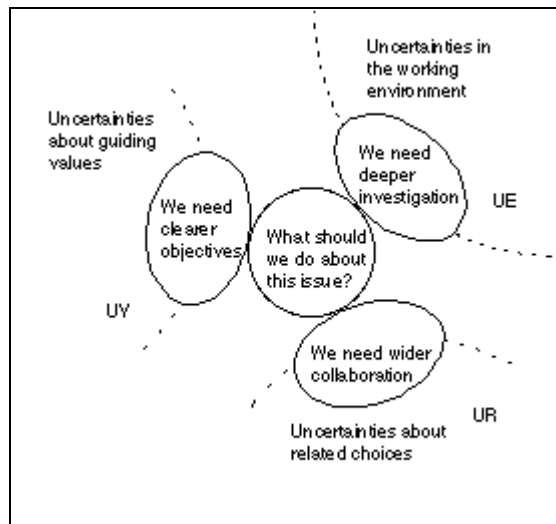
**Figure 2: The Four Operational Cycles (Source: Elaborated by J. Friend, A. Hickling (1987))**

The most delicate phase is that of shaping, in which it is necessary to define the areas of decision, the alternative options (for each area of decision), the areas of uncertainty (Figure 3), the explorative options (for each area of uncertainty) and the areas of discussion. This input data is then elaborated in the presence of representatives of the stakeholders and by a multi-disciplinary working group, coordinated by someone who is responsible for managing the procedures and with the support of STRAD (*STRategic Adviser*) software<sup>5</sup>. This is fundamental, also during the other phases, in order to be able to compare the different areas of decision, on the basis of their importance and their urgency, in order to highlight the interaction between the options and the principle sources of uncertainty.

In this methodology the most difficult elements to be identified and to manage are almost always those factors which hinder the taking of decisions, or the areas of uncertainty, which *Strategic Choice* distinguishes into:

- uncertainties relating to knowledge of the physical and environmental context (UE: *Uncertainties in the working Environment*);
- uncertainties relating to the relationships between the different fields of choice and the various decision processes (UR: *Uncertainties about Related choices*);
- uncertainties relating to the policies, to the value systems on the basis of which to evaluate the choices (UV: *Uncertainties about guiding Values*).

<sup>5</sup> See: <http://www.btinternet.com/~stradspan/products.htm>



**Figure 3: The System of Uncertainties (Source: Elaborated by J. Friend, A. Hickling (1987)).**

After the shaping phase, the members of the working group are supported by the STRAD software also in designing and developing the software itself, in analyzing the effective strategies for managing uncertainties and in shaping an action plan. The plan organizes the timescale for implementing the decisions, on the basis of the criteria of urgency and importance.

The principal product of *Strategic Choice* is a package of prescriptions, which contain descriptions of the actions to be carried out immediately, the explorative options to be carried out in order to reduce the uncertainties that affect the choices, the decisions to postpone in time, and the contingent actions to be carried out to substitute those already established, in the event of unexpected difficulties arising or particular situations occurring.

It is clear that *Strategic Choice* is more suitable for the shaping of problems in decision making relating to public projects (while not excluding the analysis of certain specific private projects) for a series of reasons; the types of strategic decisions which private operators must assume, in fact, are not orientated so much towards individual projects, as much as towards, for the most part, "business products" which they seek to put forward, or towards market sectors in which they wish to become involved.

Experiments are currently being carried out in relation to the application of *Strategic Choice* in the pre-preliminary phase of complex projects at territorial level, such as those relating to the design of new road infrastructures. These are projects for public clients which involve numerous stakeholders and which must be evaluated on the basis of numerous criteria. Road infrastructures, above all those involving toll motorways, are works which have an effect upon the environment in which they are to be situated, and condition to a broad extent the economic and social systems through which they pass.

The complexity of the briefing phase – during which the decision making problems relating to the project must be shaped and the framework of requirements must be defined – is demonstrated by the large number of multidisciplinary decisions to be taken. In addition to decisions of a technical nature, there are numerous decisions which aim to guarantee the sustainability of the project from the economic, financial, environmental and social points of view. Unless they are well thought out, they are in danger of blocking the project when it is already far too advanced, provoking considerable loss of time and, above all, money.

If, on the one hand, the process of identifying and shaping the numerous decisions to be taken is a complex one, on the other hand it is clearly difficult to achieve coordination and interaction between the funding body (client), the local administrations, the technical experts, the population and all those who are directly or indirectly involved in the completion of the infrastructure. In fact, in this type of



project the system of stakeholders is much wider; as a result the positions and needs to be evaluated in the formal definition of the project are also widened.

In carrying out projects for works of this complexity, it is therefore fundamental to have the support of an instrument such as *Strategic Choice* for the shaping of problems in decision making, through which it is possible above all to achieve a list of decisions to be taken and uncertainties to examine, which are shared by all stakeholders. Subsequently, after shaping, it is also possible to arrive at the definition of various actual characteristics of the project itself, such as for example, the road route and layout, and the various policies to be followed in order to guarantee respect for the concept of "sustainability" in its various different connotations.

#### 4. Conclusions

In this paper it has been sought to consider the potential uses of *Strategic Choice* in order to provide a new approach to the preliminary evaluation of public projects. This is not so much in order to achieve a series of prescriptions and strategies, but for the purpose of assisting the evaluator in defining and formalizing a series of variables that are necessary for establishing other evaluation methods.

A principal purpose of integrating the use of Strategic Choice with other evaluation techniques is to minimize intrinsic weaknesses that are to be found in the majority of evaluation instruments in the public context: for example, weaknesses due to the need for direct participation of citizens and the great responsibility/subjectivity of the evaluator in managing the evaluation processes. Assuming that an understanding of the needs of the local community and of the interests of public and private bodies involved in major transformation projects in the territorial area is the foundation on which it is necessary to build shared decision-making processes, it is appropriate, before considering evaluation as an instrument for "resolving" decisional problems, to use it in order to "shape" them: forecasting the long-term implications of projects on environmental, economic and social resources and identifying, therefore, the alternative and explorative options in relation to each action.

In this respect, it may be of interest to consider the application of the Strategic Choice Approach to a case study relating to the planning of new road infrastructures, which is the subject matter of a research currently being carried out. Further considerations are therefore deferred until the outcome of future developments and results.

#### 5. References

- Bobbio, L. (2000). "Produzione di politiche a mezzo di contratti nella pubblica amministrazione italiana", *Stato e Mercato*, n. 58, pp. 111-141.
- Bobbio, L. (edited by), (2004). *A più voci. Amministrazioni pubbliche, imprese, associazioni e cittadini nei processi decisionali inclusivi*, Edizioni Scientifiche Italiane, Naples.
- Bravi, M. and Fregonara, E. (2004). *Promozione e sviluppo immobiliare. Analisi dei processi e tecniche di valutazione*, Celid, Turin.
- Brunetta, G. (1997). *Giochi negoziali nelle politiche urbane* (preface by M. C. Gibelli and presentation by A. Zeppetella), Alinea, Florence.
- Cargiulo, C. (edited by), (2001). "Processi di trasformazione urbana e aree industriali dismesse: esperienze in atto in Italia", *Proceedings of AUDIS 1999/2000*, ed. AUDIS, Venice.
- Friend, J. and Hickling, A. (1987). *Planning under Pressure: the Strategic Choice Approach*, Pergamon Press.
- Governa, F. and Saccomani, S. (edited by), (2003). *Periferie tra riqualificazioni e sviluppo locale. Un confronto sulle metodologie e sulle pratiche di intervento in Italia e in Europa*, Alinea, Florence.
- Mattia, S. (2007). *Costruzione e valutazione della sostenibilità dei progetti*, Franco Angeli, Milan.
- Casalino, C. and Mazzoccoli, A. (2008). "I quadranti del territorio piemontese: le prospettive del Nord-Ovest", *IresScenari. Rapporto triennale*, 2008/17, pp. 6-24.
- Palermo, P. (2002). "Apprendere da Urban: effetti immediati e incerti sviluppi di un'esperienza innovativa", *Urbanistica*, n. 119, pp. 36-38.

- Papa, R. (1995). *La città come sistema complesso in crisi strutturale –strumenti e tecniche per il governo metropolitano*, in: Bertuglia, C. S., Fuccella, R. and Sartorio, G. L. (eds) (1995). *La città come sistema complesso in crisi strutturale –strumenti e tecniche per il governo metropolitano*, Giuffrè, Rome.
- Riganti, P. (2003). *Trasformazione urbana e mobilità. Una guida alla valutazione dei progetti*, Franco Angeli, Milan.
- Rizzuto, C. (2007). *I programmi Integrati di Sviluppo Locale (PISL): strumenti per la lettura di un'esperienza*, Tesi di laurea, Turin Polytechnic, Faculty of Architecture II, October 2007, presenter: arch. Coscia Cristina, co-presenter: arch. Grella Silvana.
- Simonotti, M. (2006). *Metodi di stima immobiliare*, Dario Flaccovio Editore, Palermo.