

SUMMARIES

Transportation projects and policies: Debating methods of expertise

Introduction

Jean-Marc Offner

Carole Pourchez

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In their introduction to this special issue of *Métropolis*, Jean-Marc Offner and Carole Pourchez provide a framework for assimilating the breadth of contributions. The current state of thinking on these critical issues and how this thinking has evolved over the recent past through pertinent experimental work and observation helps instill the reader with a sense of where this corpus is headed. The themes of information dissemination/processing and plurality from their broadest vantage points appear to the authors as critical to understanding not only the mechanisms and inner workings of the decision-making process, but almost more importantly the newfound spirit and dynamic in its very conception.

This introductory chapter closes with an overview of the founding principles and overriding philosophy behind the PREDIT "Evaluation/Decision" research program. The subsequent articles presented all concern work carried out over the duration of the previous program. A number of contributions deviate from the strict exercise of relating the fruit of their efforts to examining a particular theme or point of view. The scope of this research can for the most part be lumped under the banner "the input of expertise into the decision-making process". This section closes with three key points of reflection regarding the role of research and the interplay among researchers in a pursuit of this magnitude, with some tips on what can and should be accomplished with the resources at hand.

The Cost/Benefit Analysis: A coordination and legitimization-based tool?

Bernard Roy

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The evaluation of transportation projects relies to a great extent on the input of economists. This article examines the economists' preferred evaluation instrument for quite a number of years: the Cost-Benefit Analysis (CBA). Within the scope of a research effort sponsored by PREDIT's "evaluation-decision" program, the authors have been incited to inves-

tigate the following two-pronged question: to what extent can CBA contribute to fostering coordination among actors and enhance the legitimization of decisions? This line of inquiry has been deemed pertinent for two reasons. For starters, CBA is playing an ever more prominent role, according both to PREDIT-backed research efforts aimed at improving this type of expertise and to the recommendations stemming from the revised (2001) Boiteux working group report. Furthermore, a greater number of actors from a broader spectrum are calling for tighter coordination, particularly in the area of transportation.

The first section of this article is aimed at sharpening the notion of coordination and the second sets out to demonstrate that the level of objectivity and scientific nature of the CBA instrument warrants closer inspection. At the outset, CBA would appear capable of rendering a result that remains independent of the value systems of the various actors involved. As the authors put it, this tool can only on extremely rare instances claim to legitimate, all by itself, a public investment decision or for that matter to provide a scientifically-objective point of departure to serve as a reference. In contrast, it can still serve as a framework for quantifying the impacts necessary for the introduction of multiple criteria and as a stimulus to shape discussion on the significance of calculations needed in defining criteria components.

Monetization of the exogenous effects of transportation services

Michel Rousselot

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This article addresses both the findings of the "Boiteux Report" published in 1994 by the General Planning Commission and the PREDIT working group conclusions regarding the recommendations of this report, which called for shelving the then-popular multi-criterion analyses in favor of an evaluation based on the economic calculation (i.e. a present value calculation encompassing the rates of socioeconomic profitability). These indicators are thus considered as some sort of scientific proof of a public interest valuation and are to be used to justify the appropriateness of decisions made not only among the decision-makers themselves, but

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among all parties involved in the process. The report does however recognize that these calculations encounter serious difficulties, which limit the reliability of the quantification of external variables, which often remain poorly defined and even more poorly evaluated. During public hearings, externalities such as noise, air pollution and visual blight, often get cited. The report goes on to urge the incorporation of positive and negative externalities into evaluation calculations and further recommends undertaking the monetization of environmental effects associated with a proposed project.

Several research programs were conducted in both the Paris and Lille Metropolitan Regions on specific environmental nuisances generated by road and rail transportation. The quantitative results of these studies are not yet available. Given that most evaluations involving externalities tend to be confined to the effects of accidents, congestion, noise and air pollution, the PREDIT working group sought to broaden the scope to include: the impacts of service interruptions, the use of public space, alterations to the landscape. The article makes reference to the more recent studies devoted to such exogenous factors and evokes the findings of extrapolative studies on air pollution applied to the Alpine zones in France, Switzerland and Austria in order to derive mortality and morbidity estimates among local populations. The author concludes with an assessment of the practical and methodological benefits from the working group's efforts.

Transportation: Choice of investments and cost of environmental nuisances

Marcel Boiteux

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In this article, Marcel Boiteux presents the report of a working group that he presided as part of a program to update the 1994 guidelines issued by France's Ministry of Public Works, Transportation and Housing for evaluating infrastructure investment costs that incorporate environmental and safety impacts and non-market considerations in the domain of transportation services. Such an effort has focused on the more human and qualitative aspects that have become more heavily emphasized in project design. The outcome of the working group's sessions has been a series of values to be used as input into economic evaluations and analyses. The feeling remains however that these data are insufficient for deriving applicable coefficients and scientifically-defendable factors. Although further methodological work is still required, this valuation process has entered into a phase of successive iteration and refinement.

A discussion is provided of the process by which a monetary value can be ascribed to essentially non-market phenomena, in order to round out the classical cost/benefit analysis used to study alternative project scenario. In the past, this type of input has resulted in over-weighting the value assigned to time (lost or gained), to the detriment of other parameters. The article describes the potential steps for building a well-balanced link between a quantitative assessment of nuisances and the appropriate level of taxation for remedial/coercive measures to mitigate the nuisances generated. In the end, this approach towards transforming the cost of pollution, for the firm as well as society as a whole, into a market force will serve to alter firm behavior and ultimately consumer behavior by virtue of more attractive pricing for less-polluting goods.

The value tables set forth in this article help respond to the need for some sort of standardized quantification procedure. Such a price assignment exercise proves necessary when, for example, a local authority enters into negotiation with an industry regarding its pollutant loads. The values introduced have been based on both behavioral observations (observed values) and survey responses (stated values). The tables appearing at the end of the article include: the cost of human life, i.e. the value assigned to a human life saved or human injury averted, the cost of noise exposure, carbon emissions and air pollution within various geographic contexts, the value of time savings thanks to transportation improvements to both the road system and public transit for various types of trip purpose, and the value of time savings for freight traffic.

Contingency evaluation methodology applied to airplane noise

Guillaume Faburel

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This article emphasizes the incompatibility between the narrow technical focus of experts and the increasing inadequacy of transportation policy when it comes to building coherent public action. Such expertise tends to be too segmental and sectorial, while over-relying on statistical tools, and in the end losing the ability to address the complexity of the decision-making environment that involves social interrelations and environmental restrictions. The context of the effort to quantify the social cost of airplane noise in the vicinity of Paris's Orly Airport was used to apply a novel socioeconomic evaluation technique: the contingency evaluation. A representative sample of residents exposed to noise pollution were asked to indicate what they would be willing to pay for the uti-

lity of nuisance avoidance. A statistical analysis then allowed determining the monetary value associated with improved environmental quality, thereby giving rise to the inherent social cost of the nuisance.

This approach, which relies on a conventional application of contingency theory, but extends beyond a mere linear extrapolation to incorporate an actual exchange and overlap between pure evaluation and the decision-making sciences. The context is unique inasmuch as air-plane noise can be easily discerned spatially, in both geographical and "attitudinal" terms. The author adroitly notes that an issue such as this cuts across lines of socioeconomic distinction, which sometimes unduly complicate survey techniques: the survey boundary is easily drawn on the basis of contour maps of decibel readings.

Discussion extends into how to go about avoiding possible risks of distortion in the data and their interpretation. The article also delves into the methodological nuances and ramifications involved in deriving an accurate assessment of the nuisance and of the method's interface with target groups. From the standpoint of developing an evaluation tool as a prescription of collective action, those involved in the study found the methodology pertinent, yet felt a certain lethargy as to its potential to bring about substantive change.

The approach has revealed the presence of four mechanisms at work when expertise is applied to the issue of transportation and environmental nuisance: an interdisciplinary, less linear aim; reliance on household surveys of those directly concerned; a quantitative description of the land use process affecting these households; and the extension of scientific measurements into the political and operational spheres. In short, even though the method is based on statistical processing, overlap with the domain of public policy suffices to provide greater credibility and less of a "black box" perception. The potential for subsequent use would necessitate replicating a hospitable framework for implementation.

Evaluation models for controversial risks

Robert Kast, André Lapied

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The viaduct bypass project for the city of Millau in southern France has provided the opportunity to raise a number of critical issues regarding the public decision-making process. By virtue of its sheer scope, its strategic importance as a key piece in the intricate regional planning puzzle and its combined socioeconomic

and ecological impacts, this project offers a most illustrative and comprehensive example of a large-scale public project and the types of economic problems encountered. By the same token, it exposes the means by which efficient decision-making is carried out, with the cost-benefit analysis being based on the economic theory that best justifies the evaluation techniques employed. The authors demonstrate however that the basic tenets of public-sector economics do not necessarily give rise to unanimously-accepted solutions.

The article goes on to highlight the difficulty involved in characterizing risks and in defining appropriate criteria for their identification. Three methods have been proposed herein. The first is based on a portfolio-management approach towards minimizing differences among the rates of economic return. The second emphasizes maximization of the functional correlation index that serves to detect a deterministic relationship between two risks, the one to be assessed and the one being shaped as a portfolio of negotiated assets. The third method focuses on the relevant source of uncertainty by introducing the "comonotony" property. The article then explores in greater detail how to go about evaluating the risk of tourism-related impacts generated by the viaduct project. Along these lines, the "tourism risk" may be defined as total allocated housing expenses as a function of area-wide traffic forecasts.

The authors conclude by noting that construction of the Millau bypass viaduct exerts impacts on aspects as far-reaching as regional planning and development, the local tourist industry, the well-being of the community and the environment. The controversies coming to the fore have for the most part targeted the incorporation and evaluation of project-related impacts. The public decision relies upon a cost-benefit analysis of these impacts, with such costs and benefits by their very nature remaining highly uncertain and controversial. The methods proposed in this article are intended to provide evaluation instruments that effectively reflect the wide range of personal assessments delivered by those involved with and affected by a large-scale public project.

An experimental economics-based approach

Laurent Denant-Boèmont

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The research project discussed herein has been based on the hypothesis that difficulties inherent in the evaluation of projects stem in part from weaknesses in forecasting techniques and hence from a limited or even obsolete

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knowledge of the behavior of transportation users. For evaluation purposes, it is vital to possess solid and fine-tuned knowledge of individual behavior, against what has become a backdrop of complex, risky and reversible trip-making choices. The author calls for the use of a new set of methodological tools in order to improve on and further this knowledge base. This pursuit led to explore the field of experimental economics, despite the relative lack of enthusiasm it generates within the professional community. Regardless of the tool chosen, the traffic forecasting exercise encounters difficulties due to both the arduous task of deciphering user behavior and then accounting for the widening differences between forecast output and on-site observations.

A joint effort among several research entities was undertaken to assess the decision-making process with respect to transportation policy. The fundamental question that served to frame this project concerned how to improve the knowledge on transportation facility user behavior and in particular their reactions to a wide array of measures for stimulating the quality and quantity of services available. The article goes on to discuss the role of experimental economics, its history, purpose, potential and drawbacks, along with the types of test set-ups and control experiments.

Experimental economics relies on a certain number of behavioral hypotheses aimed at producing data observed within the confines of a laboratory setting (as opposed to tracking down data in the field). This approach was opted for amidst the debate pitting two schools of thought in transportation evaluation methodology: the statistical processing of existing flow counts and readings, through focusing on a handful of explanatory variables, vs. a series of user surveys for drawing analyses on the basis of actual statements of transportation consumption practices (i.e. revealed preferences vs. stated preferences).

Information and evaluation systems

Michel Houée

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The program entitled "information systems" was framed as one of the seminar topics addressing "information as an evaluation instrument". This paper discusses aspects of the research conducted on this topic in the domain of transportation services, via a number of illustrations taken from a wide array of contexts throughout France. In essence, in the field of transportation the term evaluation may encompass any and all information of a socioeconomic nature (not just modal choice and trip-making, but energy

consumption and atmospheric pollution as well). An in-depth discussion is devoted to the need for and generation of a good set of indicators. Such indicators must account for the overlap between transportation conditions (roads, congestion, etc.) and local economic development.

Generating reliable indicators involves ensuring their calibration and pertinence, in addition to determining the impact analysis boundary. Such a boundary-delimitation effort must also recognize that the appropriate impact zone does not always coincide with the way data are geographically organized (i.e. jurisdictional, administrative boundaries). One example would be the difficulty inherent in collating data on public transit ridership with that available on employment-generation. Further discussion is provided on the optimal strategy for capturing and measuring the full impact of the event under study. Both the impact observation position and pertinent time period are to be chosen with great care.

Other parameters enter into consideration during this period and may introduce interruptions in the continuity and comparability of the observations. Nonetheless, the key to the credibility of any such endeavor is accurately estimating the theoretical condition of what would have been the situation had the impact-generating event not occurred since impact measurement always gets placed in comparative terms. All of this potential for uncertainty over whether the conception of the information system is capable of guiding the evaluation process or not should not however lead to casting doubt on the system's overall worth.

From acquiescence to virtue : Democratization in the transportation policy debate, France and the Netherlands

Jean-Roland Barthélemy

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Recent innovation in the field of transportation concerns the enhanced level of participation among local residents, transportation professionals and public interest groups. In the past, emphasis had been placed on industry and technical experts to come up with project-specific solutions to identified problems. In France, the State had been responsible for framing projects and proposing solutions via its engineering expertise and capital investment in transportation facilities.

Problems now tend to be addressed from a more global perspective, reaching out to embrace the environment and safety. Switzerland and the Netherlands have been forerunners to many

of these innovative ideas. A gradual closing of the gap between the fields of transportation planning and regional planning has broadened the focus beyond technical and scientific considerations, and served to turn a linear decision-making process into an iterative one by including other actors and opening the debate to the public arena.

The Dutch system is based more on compromise than on conflict and is well adapted to the shift towards greater openness. This "democratization" has nonetheless been accompanied by its share of criticism over schedule overruns and the potential for obstructionism. In France, the process gets bogged down when environmental and security issues are involved, yet recognition for the need to expand the range of input has helped projects withstand subsequent opposition.

The article proposes an interesting discussion of the prerequisites for enhancing this participatory approach, through a careful structuring of the debate and decision-making process and the effective timing of when to draw in the right mix of actors and tie the concepts of spatial development with transportation policy. The Dutch approach has been evolving with respect to linkages from one level to the next, harmonization of decision-making tools in the area of transportation and optimal financing schemes. Transposing the advances made in the Netherlands to a French context does provide for a fresher perspective on broadening the process in terms of both actors and issues.

Innovation and the role of consultants in the transportation planning process

Éric Baye, Gilles Debizet

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On the basis of a research mission recently conducted within the scope of the PREDIT program, this article presents the findings gleaned from an observation of the role of consultants in the innovation process across three European countries: Germany, France and the United Kingdom. It strikes the authors as a bold undertaking to draw conclusions from a simultaneous glimpse of the expertise provided by transportation consultants in three countries whose culture and history in terms of decision-making are so fundamentally different. Nonetheless, similar trends are at work, thereby lending greater credence to such a comparative effort. Take for example: the concern expressed among all three countries for increasing the potential use of rail transport at the regional or intra-regional scale, or the profit-driven rationale behind public transit services, or the rising force of environmental considerations against the back-

drop of a changing urban landscape. Planning requires a more multimodal approach these days. On the whole, the key to innovation lies in the hands of local and regional authorities.

The article goes on to discuss the role of models among traffic specialists and consultants among the three nationalities surveyed. It would appear that the infatuation for such tools in the past has given way to recognition of their limitations to incorporate parameters requiring a more qualitative touch, which often proves the case in the arena of planning objectives. The impact of planning consultants on innovation processes reveals broad differences among the three countries. In the United Kingdom, professional organizations play a relatively significant role in knowledge production, training and the issuance of recommendations. In Germany as well, consultants are often invited to participate in commissions and working groups. The situation is altogether different in France, where considerable expertise is retained on the public sector side within the Public Works Ministry, and the consultant's role is relegated to more of a service provider than an actor in strategy- and innovation-building processes.

While experts are well versed in their respective national contexts, crossing over to other national markets remains a difficult transition. International consulting groups still rely on local experts and find much resistance when it comes to applying one country's innovation process on the other side of the border. French schools and universities tend to show less responsiveness to changes in the professional environment as regards their curricula.

The A.G.I.R. Organization: A case study in building expertise

Élodie Guérin-Lavignotte

Gaël Franquemagne

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A.G.I.R. is one of France's major transportation groups. The PREDIT Decision Evaluation program has served to assess the expertise capacity demonstrated by this association by focusing on the organization, composition and practical experience of its efforts. This approach has shed new light on the classical interplay between local authorities, transit operators and transportation entities. The methodology, consisting of surveys and interviews among A.G.I.R. members, has given rise to a perspective the authors refer to as "managerial expertise". They qualify expertise as a tool used to help retain oversight and control within an environment increasingly characterized by public service delegation and deregulation.

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Research on this association reveals how elected officials and transportation professionals (with each interest group being given an equal voice) are seeking, by means of a diversified panoply of strategies, to further reduce the gap existing between public and private interests. Aimed at avoiding the all too frequent situation where politicians find themselves being bullied by "technical experts", this approach serves to generate confidence and discovery of mutual interests.

A.G.I.R.'s position in the market for transportation consulting services has now grown to include a total of 40 transportation networks (featuring some larger metropolitan areas, with the city of Marseilles being the next targeted). The association also pays serious attention to its role as lobbyist in the more general policy debate; it not only represents opponents to deregulation and forced competition, but also espouses the right of politicians to exercise greater choice than the current system of delegation currently allows.

This emphasis on keeping sight of the political stance has helped generate a more dynamic public-sector level of expertise as an effective counterweight to the privately-driven development process. And the expertise methodology has been evolving as well, away from a strict socioeconomic justification for purposes of legitimizing decisions into a true learning and synergistic experience for all actors involved.

Creation of an environmental expertise network

Jacques Lolive

Anne Tricot

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This article discusses the significance of the conflicts arising with respect to major transportation infrastructure projects (highways, in particular) in the Southern Alps. Such conflicts have helped forge networks of environmental expertise. The first part is devoted to the overlapping issues stirred by some of the region's major projects (both rail and road) on the French side. The second part broadens the scope beyond the French border to assess the emergence of a truly Alpine environmental expertise. The strategic development choices made in France during the 1950's (i.e. assigning transportation priority to the automobile, boosting national productivity, paving the way for concession-backed financing) have given rise to irreversible trends focused exclusively on microeconomic interests, financial constraints, mathematical models, etc. as the lynchpin to the traffic forecasting studies that frame transportation-related expertise.

The authors examine the influence of special interest groups on the pace of project development. Given the hard-nosed approach to the role of expertise throughout the development process, associations are forced to produce their own methods of expertise (what the author refers to as a "counter-expertise" or "counter-appraisal"). Yet, this approach in the field of transportation infrastructure often places associations in the disadvantageous position of competing with the administration on the administration's own turf. An alternative strategy would consist of shifting expertise towards the domain of the environment in order to catch the administration's experts off guard.

This article also analyzes the creation and promotion of so-called "expertise networks". The case of CIPRA, a non-governmental organization founded in 1952 and now representing some one hundred associations across the 7 Alpine countries, is highlighted. In September 1991, CIPRA-France was created to operate from the global standpoint of preserving both the cultural and natural heritage. The article concludes by assessing the consequences of these latest trends on the French model of public policy decision-making.

A perspective on expertise and research

Jacques Gagneur

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The topic of expertise has gradually evolved into a critical aspect of the decision-making process and directly encompasses issues as complex as power-sharing and democracy. Expertise in fact comes in a multitude of shapes and sizes, giving rise to a subtle combination of interactions amidst a wide array of issues. This article sets about raising a number of pointed questions regarding the involvement of experts in the development and decision-making process. Some examples include: Has the expert's mission been framed around a normal operating situation or an acute situation? Has the mission's substance been narrowly defined or has considerable leeway in terms of both interpretation and initiative been built in? Does the mission require a broad panoply of skills or some very expert knowledge within a specific field? Is the value-added expertise being provided by a single individual or a team of consultants?

Responses to these questions and others go a long way to crafting what will be the eventual decision-making process, in both content and format. The technical requirements of the assignment serve to determine both the role and visibility assumed by the expert. The ensuing study methodology is naturally going to leave an imprint on all pertinent decision-making pro-

cesses. Such questions, which often prove to be a "hot potato" for political leaders, cannot be answered in a straightforward manner inasmuch as alliances and allegiances do not necessarily imply a singular course of action.

Other questions raised by this article: Does the expert have a vested interest in the mission assigned (development project, public service delegation, etc.) that could sway his/her judgment and conclusions? Does the expert depend on a particular group, is a charter in place to guide his/her conduct? Can the expert's fees be paid easily or is some sort of financing required? Does the expert find his/her services being remunerated handsomely or meagerly? Does the content of the mission include a public participation role in addition to providing technical input? For certain multi-partner projects, the expert is also called upon to "catalyze" and coalesce the various actors involved. In this capacity, the expert's "external" perspective is considered by all parties to be a positive influence.

It was further recalled that the financial conditions between the expert and the contracting party actually shape the nature of the expertise rendered. The quality of results depends heavily on the extent and intensity of the parties' commitment to the process, and on this point significant differences have been observed.

Public hearings as a development process prerequisite: Genesis and codification

Marianne Ollivier-Trigalo

Xavier Piéchaczyk

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Recent legislation in France has been aimed at the development process for major infrastructure projects and project developers in an effort to revamp their approach to public hearings during the early development stages. The work conducted herein has focused on the actors-ideas duality encountered in the decision-making process. Some of the points raised for reflection pertain to: knowledge dissemination among actors, decision-making mechanisms at play between the central and local levels, expanded input from a wider array of actors, and shifting boundaries of influence in the classical public vs. private debate. The concept of policy networks has been applied in an effort to discern interactions among a limited number of actors; this concept reflects the nature of exchanges at the flexible periphery of a decision space, as opposed to the rigid top-down State-driven framework and its rapport with this process. Another notion introduced is that of the "policy community", which incorporates the range of ideas generated along with the

exchanges and coordination among actors, all the while keeping a watchful eye on the presence of networks and their eventual "solution-generation" impact.

A discussion ensues of the process by which public involvement as a prerequisite to project development has become widespread since the 1990's, extending the process to envelop associations, public interest groups as well as the myriad of bureaucracies. The format is incremental in nature, whereby the debate progressively moves away from the core issue. The period 1992-96 was targeted for examining the trend in legislation favoring this more outward-looking public policy initiative.

The article concludes with an insert by one of the authors focusing on the sociology behind public hearings and the generation of a body of public interest that serves to rally in favor or against a project. The role assigned to the public hearing commissioner is indeed a delicate one, by virtue of being placed in the awkward position of eliciting the general interest expressed during a public hearing while maintaining an institutional bent.

Assuaging land use: Tales of actors and project interactions

Cécile Blatrix

José-Frédéric Deroubaix

Arthur Jobert

Yann Le Floch

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In examining the notion and role of land use within the scope of major infrastructure projects, the authors set out with the premise that the "territorial" parameter often does not receive the detailed level of attention and emphasis it deserves. Beyond the mere physical, jurisdictional and quantitative attributes, this territorial focus suggests an arena where actors to the planning and development process exercise their craft in conjunction with the local population and historical context. The findings have been based on three distinct research missions carried out as part of the PREDIT Decision Evaluation program: a motorway project in central France whose alignment was designed to allay fears of road nuisance; local public action in opposition to an urban development project for environmentally-driven reasons; and the physical overlap and competition between two national-scale infrastructure projects in northeastern France (a wide-berth canal and a high-speed train line) and the mechanisms employed to pit one against the other.

The results tend to highlight the different perspectives associated with the notion of a territory, depending on the actor's vantage point

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(nearby residents, ecologists, planners, developers, local elected officials), giving rise to complex coalitions and unexpected alliances. It is apparent that actor categories would have to be broken down further in order to sharpen the analysis (i.e. demographic factors describing the residential population adjacent to a project site - age, profession, home ownership status - go a long way to determining potential reactions). External factors (e.g. administrative/legal) also help explain some of the subjectiveness inherent behind the perception of "environmental nuisance". These considerations are to be incorporated into models for describing the relationship between the physical/geographical space and the actors' arena of input. The identification with a territory also has an impact in conflict resolution and serves to galvanize a symbolic identity of how a target project site is actually being perceived. The article goes on to discuss the role of experts in helping see through political controversy and lend a certain legitimacy to the process.

A subsequent section addresses the idea of a territory's propensity to oppose or not the building of infrastructure projects. This parameter would not pertain to geography and socioeconomic profiles alone, but spans a cultural and attitudinal assessment as well, e.g. rural regions attracting larger influxes of city out-migrants place higher importance on environmental amenity and display more devotion to the protection/conservation ethic. The collective memory of an area, shaped by past development-related conflicts and experiences, also conveys significant input. The article closes with a discussion of how the framing of public action has shied away from a purely sectorial or project-specific approach in favor of a territorial approach, a move that focuses more heavily on an area's resources and constraints and hence adapted to local specificities and participation.

Expertise as an evaluation and communication tool

Marianne Ollivier-Trigalo

Sandrine Rui

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This article discusses the merits of organizing public forums of exchange and debate surrounding the introduction of major public projects. The points raised pertain to a series of workshops held encompassing a broad range of actors to the project-development process: promoters, local associations, elected officials and hearing mediators. While a good amount of criticism (regarding timing, content and scope) got echoed by a cross-section of participants, it was generally concluded that adequate access to pertinent and well-dosed information proves

critical to ensuring a cogent and productive exchange. The appropriate scales, both spatial and temporal, for orienting the public debate also take on tremendous importance.

Mutual dissatisfaction arises when exploring the various roles and positions adopted by individual parties to the process: associations seek greater involvement and clout; elected officials find themselves stretched by the State as project sponsor on the one side and local electors on the other; and finally project developers, less inclined to absorb the full extent of project responsibilities. Each party thereby exerts pressure to reshape the roles and inputs involved in the process.

The discussion pursues with the query of exactly who has been given the legitimacy to attend the public utility hearing, which presupposes that participants are perpetually assessing and sizing up one another and themselves by the same token. The value systems brought by each individual participant also goes a long way to framing the discussion. The authors introduce the notion of an evaluation grid to ensure that certain precepts remain upheld throughout the process. They further observe that this sequence tends to polarize, as well as politicize, the actors' respective views and interests.

Public hearings within the Urban Transportation Plan: An expertise-building step?

Nicolas Louvet

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The notion of public hearings spans the financial, legal, political and even procedural aspects of the decision-making process for major projects. This article sets out to investigate the impact associated with various orientations and configurations ascribed to the public hearing on the actual content of decisions, or in other words to assess the productivity of holding public hearings. Urban transportation plans were used as a backdrop for the analysis conducted due both to their widespread availability (all French metropolitan areas of at least 100,000 population) and to the central role of public hearings in their elaboration. The discussion leads to drawing the distinction between a participatory expertise and a more technical or scientific expertise. Participants to a public hearing tend to wear three different expert caps: the doer (able to catalogue situations and prescribe actions); the listener (able to define the level of pertinence of the information being conveyed by relying upon a stockpile of previous knowledge) and the combiner (able to assimilate and prioritize information in accordance with a quasi-strategic conception).

The process laid out consists of a two-way give-and-take that makes use of recursive information flows based on knowledge of each other's relative expectations. The ultimate aim is to establish a common ground for dialogue that involves the right mix of local constituents representative of local population segments (in defense of or at odds with various aspects of the transportation plan). Both "sides" to a public hearing seek to voice opinions and frame the debate through finding this right mix. While the overriding tendency does drive the process towards consensus-building, a certain level of culture shock may arise depending on the type and mode of interaction/reaction on the part of participants.

"La Francilienne": A multimedia tool for training public hearing facilitators

Laurence de Carlo

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Experts often go to great lengths to simplify the comprehension of their reports and facilitate the integration of report contents. Yet these efforts remain insufficient from the standpoint of nurturing and framing an open debate on public policy issues that encompasses a variety of rationale and perspectives, all with justifiable claims to be taken into consideration. For this reason, expertise and expert pronouncements must be made more accessible, amidst an underlying need to give legitimacy and credibility to the breadth of actors involved in the policy-making process. The author stresses the value of creating a training program in how to go about opening the public debate: this learning process should not only include knowledge acquisition, but an in-depth reflection on our approach to social interaction as well. Such training in the techniques of shaping and fostering public debate is not to be based on a model strictly focused on upholding the virtues of expertise in the formal sense.

Within the scope of the PREDIT Decision Evaluation Program, the author (in tandem with another professor at the ESSEC Business School outside of Paris) has set out to design such a training tool via a CD-Rom, entitled "La Francilienne", intended as much for students entering into a graduate program in business or engineering as for trainers working with transportation professionals, be they developers, associations or State/local authorities. The primary objective behind this tool is to enable trainees to communicate with a multiple set of actors spanning various levels of expertise, experience and motivations and to avoid getting mired in deadlocked conflicts. The CD-Rom is aimed at stimulating a unique juxtaposition of different academic traditions, namely the Euro-

pean school (descriptive and socio-political tendencies) and the North American school (prescriptive and psychological). The Europeans recognize the existence of conflicts and their contribution to social interactions, whereas the North American focus is on proposing conflict-resolution tools and techniques.

The ex-post evaluation of projects

Véronique Gamon, Jean-Marie Jarrige

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France's framework legislation on transportation policy ("LOTT") serves to structure the organizational bases upon which transportation services and facilities are implemented and managed throughout the nation. The policy guidelines used as underpinnings in the building of this legislation include nationwide solidarity, social equality and consistent geographic coverage. This article focuses on studying the process by which ex-post evaluations are produced for transportation infrastructure projects.

The objectives of this work are twofold: measure the pertinence of the methodological tools employed and analyze the organizational backdrop against which these evaluations were actually conducted. Three examples framed the author's view of this topic: an assessment of the A49 highway connecting Grenoble and Valence, the A-line of Strasbourg's tramway system, and the high-speed rail link (TGV) between Paris and the Atlantic coast. While the number of "a priori" evaluations has led to standardized identifiable approaches, the "a posteriori" attempts remain few and far between. Those undertaken have in fact encountered a series of difficulties and contradictions capable of casting doubt on the very relevance of the methods derived.

Two key aspects inherent in such projects have received special attention herein: development schedules and traffic forecasting. In addition to analyzing the evaluation methods themselves, considerable effort has gone into better understanding the rationale on the part of actors involved in these assessment programs. Conclusions of this research indicate that tensions existing among the participating organizations have led to roadblocks in setting up an entirely-neutral evaluation procedure. It would also appear that a public policy evaluation via a "LOTT"-type strategy still requires more in-depth examination that encompasses four orientations: clarifying the role of actors responsible for producing such evaluations, refining the methodology, drawing up the technical and policy specifications for subsequent dissemination, and studying the public policy evaluation approaches practiced elsewhere in Europe.

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The Politician vs. the Scientist vs. the Lyon Urban Transportation Plan

Bernard Jouve

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The decision to set up an Urban Transportation Plan for Lyon was made even prior to the Air Quality Law of 1996, as part of a strong public transit initiative: the construction of two surface rail lines covering 18.7 km, at a total capital investment of 2.3 billion francs. This article focuses on the pertinence of this initiative as regards the problem confronting the Lyon Metropolitan Area in the field of urban transportation. Expertise, its competing forms and the institutional dynamics (conflict/cooperation) it engenders go a long way towards explaining Lyon's urban policy decisions. On the eve of the 1995 mayoral elections, the metropolitan area, with a population of some 1.2 million, was trying to cope with a completely saturated road network and ongoing degradation of transit ridership levels. In all, some fifteen different professions are involved in the provision of transportation-related services, which means that a broad cross-section of institutions and perspectives are at play in this sector.

This article analyzes the evolution of the metropolitan area's urban transportation policy since 1995. The change in mayoral politics this same year provided impetus to the transportation planning process. From this point forward, the competing positions became more focused. Getting a head start on upcoming national legislation, the Lyon Metropolitan Area undertook revision to the plan. The solution of "putting all their eggs" in the basket of heavy rail transit was usurped by surface rail. The new plan did not give rise to tremendous controversy thanks to its ambitious and consensus-building approach despite the ambiguousness of the measures it was proposing. Several discordant views were voiced among experts regarding intermodal connections with the rail network and the inappropriateness of the geographic divisions chosen, yet for the most part these criticisms remained muted.

This article raises a number of key points for reflection concerning: the "effectiveness" of the political coalition between central city and sub-urban communities in driving the transportation plan and opting for a light rail solution; the relative weight in the balance between elected officials and experts; and the boldness behind some of the key transportation policy choices (favoring public transit over private automobile use). As is the case with all forms of scientific activity, expertise in the area of urban trip-making relies on a model of observed reality as

well as on a simplification of this reality into a certain number of variables and mechanisms deemed to be of critical importance.

Expertise of route alignments and aligning expertise

Jean-Yves Trépos

Valérie Bernat

Henri Barisel

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The research conducted herein has concentrated on analyzing an expert evaluation process undertaken for the construction of a new motorway in the Lorraine Region of eastern France that has given rise to considerable uncertainty. The ambition behind this effort was to coalesce the entire set of operations used to base and elaborate a decision in that rather unique instance when the Public Hearing procedure, as stipulated in the 1995 Barnier Law, has been triggered. The author discusses the background of the project as well as the myriad of controversies it has generated before analyzing the distinct points of view expressed by each category of expert involved in the hearing (institutional experts, associations, etc.). The special role enjoyed by the nation's Public Works research teams (the CETE network), the sole expert present and participating throughout the entire evaluation process yet not necessarily in the same capacity at all stages, is also highlighted.

Focus has also been placed on the work of Jacques Defrance, who demonstrated that the French-style public "Auditions" (as opposed to the procedure practiced in the United Kingdom) functioned asymmetrically (the specialists sit atop a dais while the other participants are seated in the auditorium, rather than addressing one another face-to-face like in the U.K., where the encounter has been legally prescribed). This configuration leads to two types of public hearing format: "inciting input" and "dictating input". The author closes by noting that the hearings pertaining to this new piece of infrastructure were clearly upset by these asymmetries, coupled with the paradoxes surrounding a "well-aligned expert evaluation process".

Expertise and decision-making: Airport & highway infrastructure in the Lyon Area

Maurice Chavallier

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Expertise in the field of transportation planning has made large strides over the recent past; coupled with a keyed-up watchdog effort on the part of project opponents, a new sort of occupation (the "counter-expert") has come to the fore. Called upon typically to find the right combination of arguments to help defeat pro-

jects or extensions proposed by State and local authorities, these counter-experts have found support and a source of inspiration in the myriad of new legal restrictions in line with stricter European legislation. The appeal for improved inter-modality has placed emphasis on additional rail components (on both the facilities and operations sides), which the counter-experts have parlayed into an additional argument. As environmental issues have taken on greater breadth and complexity, the decision-making process in turn has come under greater scrutiny. The public sector official has been ascribed a more professional role and a higher profile.

The Lyon Metropolitan Area serves as an experimental backdrop for examining how expertise has evolved amidst the changing mechanics and dynamic of the decision-making process. Once the area's eastern bypass road had been completed, the region saw plans for the western bypass and a segment of new motorway (favored by the majority of municipalities served) postponed or shelved altogether under the pressure of counter-experts, representing coalitions of project opponents. The concession of a northern toll road was annulled for failure to comply with European law.

Expert assessments now entail multi-faceted studies as a result of increasingly complex issues (legal, environmental, regional development goals), a more demanding populace, assurances for a durable solution, acceptability among users, and a growing requirement to demonstrate thoroughness. The author sees in these trends a difficult context for pushing projects through the approvals process, due in part to the shrewd application of this newfound tool of counter-expertise. The danger herein stems from: losing sight of the decision-making process by generating a multiplicity of sometimes contradictory studies, delaying project schedules due to overlapping layers of hearings, and inciting public officials to focus more on satisfying critics than on ensuring a cogent development process.

On the trail of the Urban Transportation Plan: A game of chance and necessity

Jean-Marc Offner

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This article is specifically devoted to the evaluation pertaining to the 1996 Law on Air Quality and Rational Energy Consumption, which among other things made it mandatory for all metropolitan areas of at least 100,000 population to establish an urban transportation plan and then to evaluate the plan every five years. This stipulation then begs the question whether

the transportation authorities responsible for devising these plans have implemented the appropriate observation techniques, along the lines of the national set of recommendations promulgated by the Public Works Ministry's methodological think tank. Jean-Marc Offner goes on to discuss how over the past 15 years in France, a whole lot has been said and written on the evaluation of national and local public policy issues.

Analysts agree when considering that practices do not altogether meet expectations in either quantitative or qualitative terms. The reasons cited to explain this shortcoming in the "modernization" of public action span the inflexibility of the French administrative system and the lack of successful conversions of policy into programs capable of marshalling the adequate resources and instituting a set of clear-cut objectives. The author examines the inherent incompatibility between knowledge and action and reveals that in the area of transportation, a comparative analysis of past vs. present situations yields little in the way of convincing argument. The tradition of intensive up-front evaluation, parlaying two centuries' worth of practical experience garnered by State professional bodies, naturally serves to minimize the importance ascribed to the post-decision situation. As for the Law on Air Quality and Urban Transportation Plans, State and local authorities issue the same rejoinder when defending the results of automobile traffic-reduction efforts.

Expertise, an umbrella and public decision

Alain Morcheoine

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This article begins by raising a pointed question as regards the ability to include environmental parameters in the domain of transportation planning. As associations become more heavily endowed with the capacity to conduct expert evaluations, they are exerting greater influence in the decision-making process, especially in light of European and international commitments made by France to reduce and mitigate pollution. This aspect also serves to enhance the quality of the public debate, by drawing focus away from strictly quantitative considerations to topics such as air quality and the effects of pollution on human health, climate changes and the greenhouse effect.

The shortage of appropriate tools for reconciling these issues is obviously a cause for concern. Relying on a technological "quick fix" without paying attention to the time frames involved serves to disqualify a large number of potential solutions. The author examines the

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possibility of shifting 20% of road trips onto the public transit system and notes that such a policy goal would require tremendous improvements in frequency, quality and capacity. Despite decision-makers' vows to overlook the immediate "political fallout" of their decisions, support for programs lasting well beyond their terms in office goes against prevailing behavior.

When calling upon outside expertise, the decision-maker, while not an expert in his own right, must still look critically at the advice being received. This umbrella or protective reflex entails taking stock of past trends, but not simply counting on the future to uphold the trend line. Interpolations appear to be scientific and reliable to the layperson, yet do not show much imagination and boldness. A cautious view towards models is recommended, as no model can replace judgment based on experience and never fully incorporate the often-vital qualitative aspects. The author cites the example of energy consumption, which completely thwarted the econometric forecasts of the 1970's and 80's. At present, no one would dare suggest the same about-face for automobile ownership, yet experts must be willing to dare or their input risks becoming woefully shortsighted. The prevailing methodology used in expert evaluations needs to be drastically revamped by going beyond an elegant quantitative exercise, correlations and trend lines.

Foreign perspective on a French program

Dominique Joye

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The author, a Swiss expert, has set out to apply an outsider's frame of reference in order to add some perspective to the French decision-making approach. In terms of the State's role, participation and implementation processes and the relative weight of ecological considerations, Switzerland and France rely upon widely-differing models, yet the two countries do share a number of linguistic and cultural similarities. This unique relationship has helped generate some valuable insight.

Some of the differences cited by the author include the comparative absence of the notion of public interest within the decision-making process in Switzerland, where opposing a project on the grounds of favoring special interests over the general interest is practically unheard of. As such, the Swiss model has been built around a totally-integrated level of participation, whereas the present work would indicate that the French system is now seeking to push participation onto center stage. Another has to do with how research is financed, with the French relying on large-scale, continually-

financed organizations in comparison with the project-by-project approach so prevalent in Switzerland.

On the more substantial similarities side, both nations propose shaping the issues related to transportation programs into a mobility-enhancement framework, with the approaches towards what constitutes mobility displaying a significant amount of overlap. The international impetus, reliance on programs and experiences from abroad as input and the push towards creating cross-skilled and truly pluridisciplinary research teams also tend to be echoed loudly in the two countries.

And now for a wrap-up...

Gérard Brun

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In his conclusion to this issue of *Métropolis*, Gérard Brun (Scientific Secretary of PREDIT 2 "Strategic Research") recalls the objective of the "Evaluation-Decision" Group presided by Jean-Marc Offner. The chief virtue of this issue, which has primarily been devoted to the Group's efforts, is the reuse potential of research conducted thanks to the inherent ease of dissemination. These concluding remarks also provided the opportunity to announce the start-up of the 3rd PREDIT beginning in 2002, to be structured around six broad-based themes:

"Mobility and territory"

"Freight transportation"

"Energy-Environment"

"Security-Safety"

"Clean-burning, cost-effective and safe vehicles"

"Smart and interactive cars".

Working groups have already been assigned to inventory and prioritize the research topics to be studied over the period 2002-2007.

Robert Sachs