

concept

Petter Næss

**Needs analysis
Bedre behovsanalyser;
Erfaringer og anbefalinger
om behovsanalyser i store
prosjekter**

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Summary This report discusses and gives advice about need analyses in connection with large-scale governmental investment projects. The study is based on society's view on needs, not the view of the project owner or the project organization. Experience from a number of large-scale investment projects has shown that the need analyses on which decisions to implement the projects were based, have often been insufficient and sometimes misleading. **In many cases there is a more or less conscious distortion of the analysis, making proposed projects look more advantageous than is reasonable to expect.** Based on a survey of analysis methods and the experience of inadequate and misleading needs analysis in major investment projects, the report recommends new guidelines for the scope and limitations of needs analysis, responsibility and timing of execution, documentation and connection to goal formulation and impact evaluations.

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Summary

This report discusses and gives advice about need analyses in connection with large-scale governmental investment projects. In this context, governmental investment projects means projects carried out by means of a considerable proportion of mainly national governmental capital, but possibly also county-level or municipal capital, with or without partial private financing. The study is based on society's view on needs, not the view of the project owner or the project organization.

The need for an investment project may generally be judged by comparing the features of the project with the needs expressed by users and other possible affected groups. However, distinct from many consumer goods, the need fulfillment of large-scale governmental investment projects cannot be measured from individual or singular needs. This is partly due to the fact that most large investments in material structures and systems are meant to satisfy collective as well as individual needs, often over a period of several generations.

Needs, goals and measures are interconnected in chains, and needs can be expressed at different levels of detail. The less generally a need is defined, the stronger ties will be established towards specific types of solutions. Thus, an important issue in connection with large-scale investment projects is the status of the need on which the project is justified, compared to the national political objectives within the sector to which the project belongs, as well as across sectors. In the context of large investment projects there usually also exist, in addition to the needs present at the outset and on which the project is grounded, a number of "latent" needs that will be actualized if the project is implemented. The latter needs concern the achievement/maximizing of positive side effects and avoidance/minimizing of negative side effects.

Need analyses may be conducted, based on different interpretations of the concept of need. They may also be carried out within more or less objectivistic versus interpretative perspectives. The situation, in which planning of large-scale governmental investment projects takes place, is often characterized by ambiguity, dynamic environments, lack of clarity about the content and unclear means, ends and boundaries of the analysis.

Methods for need analyses could be classified into three main categories: Normative, market oriented and interest group oriented. Normative need analyses are based on political objectives or experts' definitions of appropriate levels of services or performances. The use of quantitative norms related to specific technical solutions also belongs to this main approach. Market oriented need analyses aim at measuring the demand for a planned facility, either in the form of income from tickets, user fees etc., or as the number of users (e.g. the number of vehicles on a new road). Such analyses are often carried out by means of model simulations, perhaps based on investigations of willingness-to-pay. An alternative kind of demand-oriented need analysis is the reference prognosis method. According to this method, the demand for a new project is not elucidated "from within" based on characteristics of the specific project, but is instead estimated from a comparison of the project in question with a reference class of similar projects. Interest group based need analyses imply the collection of information about the needs of different interest groups in connection with a complex of problems. Here, interest groups refer to several public authorities, groups within business life as well as groups within civil society.

Experience from a number of large-scale investment projects has shown that the need analyses on which decisions to implement the projects were based, have often been insufficient and sometimes misleading. The research literature on deficiencies and distortions in need analyses in the context of large-scale governmental investment projects shows that this is a serious and quite widespread phenomenon. Partly, the problem is a matter of *defective qualitative surveying of the various needs occurring* in the situation which a proposed investment project is supposed to improve. Partly, the problem consists in *misleading quantifying of the demand for a chosen project concept*.

When need analyses narrow the identification of needs down to the market demand for a specific solution, while ignoring the broader specter of societal needs that might justify or be affected by an investment project in the situation at hand, there is a danger that the needs of the originators of the project are confused with society's needs, and that the wishes of narrow interest groups for economic benefits, prestige or ideologically preferred solutions take precedence over national political objectives and the needs of broader groups in society.

The various types of errors and deficiencies demonstrated in the data material to which we have had access, show a clearly nonrandom pattern. As a rule, they function to support a certain conclusion: that investment in the proposed technical solution is desirable and necessary. The material supports a suspicion that more or less deliberate distortion of the analysis in order to make the project appear in a favorable light is a relatively frequently occurring phenomenon.

Based on our review of methods of analysis and the experience of deficient and misleading need analyses documented in the literature, we recommend the following guidelines regarding the extent and demarcation of need analyses, organizational responsibility for the analyses and appropriate scheduling, requirements on the documentation material, and coordination with goal formulation and impact assessment:

Recommendations concerning the extent and demarcation

- The need analysis must cover all relevant societal needs, not only needs expressed as willingness-to-pay. In particular, needs incorporated into national-level politically adopted governmental objectives must be taken into due consideration.
- Need analyses at the early planning stage of large-scale governmental investment projects must be carried out at a strategic level, not at a project level. This implies that the analysis must focus on a higher level in the hierarchy of needs than the more narrowly defined needs directly tied to a particular type of technical solution.
- The need analysis must not only elucidate the “project-triggering” needs, but also needs in connection with negative and positive side effects.

Recommendations concerning organizational responsibility and appropriate scheduling

- The analysis should be conducted by an agency providing as “neutral a turf” as possible, e.g. a secretariat appointed by the affected ministries, and with a broad, interdisciplinary staff.
- Public hearings, citizen juries etc. should be organized to make it possible for interest groups and civil society to express criticism against or support to the analysis.
- The analysis should be made subject to independent scientific evaluation (peer review)

- Professional and criminal sanctions should be enforced against planners and forecasters who repeatedly produce seriously misleading predictions.
- The main need analysis must be carried out at the early stage of project planning, before decision-making on the choice of a concept solution. There may also be a need for more detailed need analyses at later stages of project planning, but these analyses cannot substitute the need analyses required at the early stage of the project.

Recommendations concerning the documentation material

- Different methods of analysis and perspectives should preferentially be combined in a need analysis. In this way the deficiencies and weaknesses of one method may be compensated by the strengths of a different method.
- The methods chosen should together enable an identification of all relevant needs – “project-triggering” needs as well as needs in connection with side effects – and an assessment of their importance and relevance to different population groups. Different needs should be measured at a level of measurement appropriate for the specific need.
- Needs that can in a reasonable way be expressed in economic terms may be “translated” into monetary units in order to facilitate subsequent cost-benefit analyses. When making such economic assessments of needs, due attention must be directed towards the fact that considerable uncertainty and disagreement usually exists about the assumptions on which the calculations are based. This should be exposed by indicating uncertainty margins around the estimates.
- The importance of needs that cannot in a reasonable way be expressed in numbers or monetary terms may be indicated on a common, crude scale. Needs already quantified and/or assessed in monetary units, may preferentially be “translated” to this scale in presentations of the main conclusions of the needs analysis¹. This makes it easier to compare between needs valued in economic terms, measured in other quantitative entities or impossible to quantify.
- The documentation material should in an easily accessible way give an account of the criteria, assumptions and weightings on which the conclusions are based.
- Because of the societal nature of the relevant needs in connection with large-scale governmental investment projects, the need analysis should take general governmental objectives within relevant sectors of society as their point of departure – not only the sectors from which the “project-triggering” needs emanate, but also sectors that might be positively or negatively affected by side-effects.
- The need analysis should not be based on pre-formulated quantitative technical standards.
- A normative main approach to the need analysis should be combined with the involvement of different interest groups, including different sectors (and possibly levels of administration) within the civil service as well as different groups in civil society and business life.
- In many cases there will be a need to prepare forecasts about the future use of a large investment project, e.g. a railway line. Provided that data about comparable projects are available, the so-called reference prognosis method should be preferred to forecasts based on an “inside”

¹ This of course does not preclude quantified and valorized data from being utilized, when appropriate, in more detailed analyses and presentations.

assessment of the technical features of the project and possible circumstances that may affect the demand.

- In need analyses taking higher-level governmental goals as their point of departure, forecasts based on present trends should not stand alone. By comparing the future situation resulting from present traits of development within a policy area with a normatively desirable situation, any need for measures to change the current development may be identified (“back casting”).
- Demand analyses should play a subordinate role in need analyses of large-scale governmental investment projects, i.e. be a part of a more comprehensive framework of the analysis
- Seen in the light of the considerable costs transport modelling represent in many planning processes, the possibility of replacing such model computations with qualitative assessments of relevant factors that may contribute to increase or reduce traffic, should be seriously considered. Anyhow, transport modelling should only be included in need analyses of large-scale governmental investment projects if the built-in assumptions of the model have been quality controlled by independent experts from a subject field covering a wider range than that of the model makers.

Recommendations concerning coordination with goal formulation and impact assessment

- Close coordination between need analysis, goal formulation and impact assessment is necessary in project planning.
- Goal formulations may be interpreted as expressed intentions to meet certain needs. The goals must not only cover the “project-triggering” needs, but also capture the needs to increase positive and reduce negative side effects.
- The assessment of the impacts of the investment project must address the likely effects of all the need categories identified in the need analysis.

References

- Aftenposten (1999a): "Plan i nord passer dårlig med skytefelt." *Aftenposten*, 31.5.99.
<http://tux1.aftenposten.no/nyheter/iriks/d83737.htm>
- Aftenposten (1999b): "Spar penger, bruk skytefeltene i nord." *Aftenposten*, 4.12.99.
<http://tux1.aftenposten.no/nyheter/iriks/d113014.htm>
- Aftenposten (2002): "Nytt skytefelt i skuddlinjen." *Aftenposten*, 24.5.02.
<http://www.aftenposten.no/nyheter/iriks/politikk/article.jhtml?articleID=337149>
- Amdam, J. (1987): *Planlegging og samordning på kommunenivået. Utvikling av modell for kommuneplanlegging*. Volda: Møreforskning.
- American Planning Association (1991): "AICP Code of Ethics and Professional Conduct."
<http://www.planning.org/ethics/conduct.html>
- Arge, N., Homleid, T. & Stølan, A. (2000): *Modeller på randen... Bruk av transportmodeller i norske byområder. En evaluering*. Oslo: LOKTRA-prosjekt.
- Ascher, W. (1979): *Forecasting: An appraisal for policy-makers and planners*. Baltimore: The John Hopkins University Press.
- Banfield, E. C. (1959): "Ends and means in planning." *International Social Science Journal*, Vol. XI, no. 3, 1959.
- Berg, P.; Kilde, H. S. & Rolstadås, A. (2002): *Large Norwegian Governmental Projects – Any Lessons Learnt?* Paper for the NORDNET 2003 Conference "Project management: dreams, nightmares and realities", Oslo, Norway, September 24-26, 2003.
http://www.nsp.ntnu.no/nordnet2003/papers/E1_Rolstadas_Berg_Kilde_paper.pdf
- Berntsen, B. (1994): *Grønne linjer. Natur- og miljøvernets historie i Norge*. Oslo: Grøndahl Dreyer.
- Bjørklund, K. (2002): *Kommende kostnadsbomber*. Oslo: Sosialistisk Venstreparti.
- Bonsall, P. & Milne, D. (2003): "Urban Road User Charging and Workplace Parking Levies." I Hine, J. & Preston, J. (red.): *Integrated Futures and Transport Choices*, pp. 259-286. Alershot: Ashgate.
- Brekke, K. A. (2004): *Realopsjoner og fleksibilitet i store offentlige investeringsprosjekter*. Concept-rapport 1050-4. Oslo: Frischsenteret for samfunnsøkonomisk analyse
- Brinkerhoff, R. E. (1986): "Expanding Needs analysis." *Training and Development Journal*, Vol. 40, pp. 64-65.
- Brokhaug, I. K., Haraldsen, U. & Solberg, T. (2001): *Kreativitet i veg- og transportplanleggingen*. Håndbok 229. Oslo: Statens vegvesen.
- Brundtlandkommisjonen (Verdenskommisjonen for miljø og utvikling) (1987): *Vår felles framtid*. Oslo: Tiden
- Christensen, K. S (1985): "Coping With Uncertainty in Planning." *Journal of American Planning Association*, Vol. 51, pp. 63-73. (11 p.)
- Concept (2004): *Presentasjon av Concept-programmet*. www.concept.ntnu.no/vedlegg/Master_short.ppt

- Cowi (2004): Notat av 11.10.04 i forbindelse med klagesak i Naturklagenævnet om den 3. Limfjordsforbindelse.
- Deaton, A. (1986): "Demand Analysis". In Griliches, Z. & Intriligator, M. D.: *Handbook of Econometrics*, pp. 1767-1839. Elsevier Science Publishers BV.
<http://www1.elsevier.com/hes/books/02/03/030/0203030.pdf>
- Downs, A.. (1962): "The law of peak-hour expressway congestion." *Traffic Quarterly* (16) 393-409.
- DR Nordjylland (2004): *Den 3. Limfjordsforbindelse*.
<http://www.dr.dk/regioner/nord/nyheder/limfjord/scenarie01.shtml>
- Dreborg, K. H. (1996): "Essence of backcasting." *Futures*, 28(9), 813-828.
- Duun, H. P.; Lervåg, H.; Lie, M. & Løseth, O. E. (1988): *Energiøkonomisering i lokal forvaltning. Håndbok for kommuner og e-verk*. Oslo: Olje- og energidepartementet.
- Edwards, W. & Newman, J. R. (1982): *Multiattribute Evaluation*. Thousand Oaks: Sage Publications.
- Elster, J. (1989): *Nuts and Bolts for the Social Sciences*. Cambridge/New York/Oakleigh: Cambridge University Press.
- Engebretsen, Ø.; Lian, O. & Strand, S. (1998): *Samferdsel og robuste bo- og arbeidsmarkedsregioner*. TØI arbeidsdokument TR/0802/1998. Oslo: Transportøkonomisk institutt.
- European Commission – DG Energy and Transport (2001): *Manual on Strategic Environmental Assessment of Transport Infrastructure Plans*. Amersfoort: DHV Environment and Infrastructure BV.
- Farsund, A. A. (2002): *Landbruksvareindustrien som aktør i landbrukspolitikken: Fra korporatisme til pluralisme?* Paper til den XIII Nordiske Statskundskabskongres, Aalborg 15.-17. august 2002. <http://www.socsci.auc.dk/institut2/nopsa/arbejdsgruppe1/farsund.pdf>.
- Festinger, L. (1957). *A Theory of Cognitive Dissonance*. Stanford, California: Stanford University Press.
- Finansdepartementet (2000): *Veiledning i samfunnsøkonomiske analyser*. Oslo: Finansdepartementet.
- Flyvbjerg, B. (1991): *Rationalitet og magt : bind 2 : et case-baseret studie af planlægning, politik og modernitet*. København: Akademisk Forlag.
- Flyvbjerg, B. (1993): "Når demokratiet svigter, rammes miljøet - et case studie om trafikplanlægning som miljø- og helseplanlægning." I Kullinger, B. og Strömberg, U.-B. (red.): *Planera för en bärkraftig utveckling*, s. 187-197. Stockholm: Byggeforskningsrådet.
- Flyvbjerg, B. (2001): *Making Social Science Matter. Why social inquiry fails and how it can succeed again*, Cambridge: Cambridge University Press.
- Flyvbjerg, B. (2002): "Bringing Power to Planning Research: One Researcher's Praxis Story." *Journal of Planning Education and Research*, Vol. 21, pp. 353-366.
- Flyvbjerg, B., Bruzelius, N. and Rothengatter, W. (2003): *Megaprojects and Risk. An Anatomy of Ambition*. Cambridge: Cambridge University Press.
- Flyvbjerg, B.; Holm, M. S. and Buhl, S. (2002): "Underestimating Costs in Public Works Projects: Error or Lie?" *Journal of the American Planning Association*, Vol. 68, No. 3, pp. 279-295.

- Flyvbjerg, B.; Holm, M. S. and Buhl, S. (2004): *How (In)accurate Are Demand Forecasts in Public Works Projects? The Case of Transportation*. Draft paper in progress.
- Fogelson, R.E. (1996): "Planning the Capitalist City." In Campbell, S. and Fainstein, S. (eds.): *Readings in Planning Theory*, pp. 169-175. Malden, Mass./Oxford: Blackwell.
- Forsvardepartementet (2002): *Forsvarsbudsjettet 2003*. Pressemelding 8.10.02
- Fridstrøm, L., og R. Elvik (1997): "The Barely Revealed Preference Behind Road Investment Priorities." *Public Choice* **92**, 145-168.
- Gilovich, T.; Griffin, D. & Kanhehan, D. (2002) (eds.): *Heuristics and Biases: The Psychology of Intuitive Judgement*. Cambridge: Cambridge University Press.
- Gotfredsen, K. (2000): "Turistattraktioner uden omtanke." *Danske Kommuner*, 22.6.00
- Gaardmand, A. (1996): *Magt og medløb. Om mahognibordsmetoden og den korporative planlægning*. København: Arkitektens Forlag.
- Hahn, E. (1990): *Ecological Urban Restructuring. Beginnings of a Theoretical Foundation and Presentation of a Concept for Action with Concentration on the Urban Micro-Level of Neighbourhoods and City-Quarters*. Paper for the UN/ECE Research Colloquium in Piestany, Czechoslovakia, November 1990.
- Hajer, M. A. (1995): *The Politics of Environmental Discourse - Ecological Modernisation and the Policy Process*. Oxford: Oxford University Press.
- Hammer, S. (2003): *Diskursen og det kollektive - teoretisk drøfting og empirisk utprøving av diskursbegrepet som makrososiologisk redskap*. Dr.polit.avhandling ved Institutt for sosiologi og statsvitenskap, NTNU. Trondheim: Norges teknisk-naturvitenskaplige universitet.
- Hartoft-Nielsen, P. (1997): "Lokalisering, transportmiddel og bystruktur." *Byplan*, nr. 6/97, s. 247-260
- Healey, P. (1996): "Planning Through Debate: The Communicative Turn in Planning Theory." In Campbell, S. and Fainstein, S. (eds.): *Readings in Planning Theory*, pp. 234-257. Malden, Mass./Oxford: Blackwell.
- Hey, C.; Hijkamp, P.; Rienstra, S. A. & Rothenberger, D. (1999): "Assessing Scenarios on European Transport Policies by Means of Multicriteria Analysis." In *New Contributions to Transport Analysis in Europe*, pp. 171-191.
- Hiebert, M. B. & Smallwood, W. M. (1987): "Now for a completely different look at needs analysis." *Training and Development Journal*, Vol. 41, pp. 75-79
- Hine, J. & Preston, J. (2003): "Introductory Overview." I Hine, J. & Preston, J. (red.): *Integrated Futures and Transport Choices*, pp. 1-9. Alershot: Ashgate.
- <http://www1.sv.no/artikkel.php?IdArtikkel=224>
- Hudson, B. M. (1979): "Comparison of current planning theories: counterparts and contradictions." *Journal of American Planning Association*, Vol. 45, pp. 387-398.
- Haaland, W. (1994): "Hvor mye er nok? Behov i lys av Brundtlandkommissjonens rapport." *Tidsskriftet Alternativ Framtid* nr 4 (1994)
- Idebanken (2004): *Verktøy for kreative dialoger*. <http://ide.idebanken.no/visjonsverktoy.html>
- Infrastrukturudvalget (2000): *Udvikling af infrastrukturen i Aalborg-området*. Aalborg: Aalborg Kommune, Nordjyllands Amt og Trafikministeriet.
- Johnson, D. (2004): *Granskning av regionala transportinfrastrukturplaner med avseende på indirekta miljøeffekter*. Rapport från Naturvårdsverket. Stockholm: Naturvårdsverket.

- Jonsson, D. & Johansson, J. (2004): "Indirect Environmental Effects of Transport Infrastructure Investment". Forthcoming in *Transport Reviews*.
- Jonsson, D. (2004):
- Kahneman, D., & J. Knetsch (1992): Valuing Public Goods: The Purchase of Moral Satisfaction
- Kenworthy, J. (1990): "Don't Shoot Me – I'm Only the Transport Planner." In Newman, P. & Kenworthy, J.: *Transport Energy Conservation*. Perth: Murdoch University.
- Klakegg, O. J. (2004a): *Målformulering i store statlige investeringsprosjekt*. Concept-rapport nr. 1050-2. Trondheim: NTNU
- Klakegg, O. J. (2004b): *Talking av mandat vedr. punkt 2, Målformulering*. Arbeidsnotat i projektet Behov – Mål – Effekt. Trondheim: NTNU.
- Klosterman, R. E. (1985): "Arguments for and against planning." *Town Planning Review* 56 (1), pp. 5-20.
- Kunnskapsforlaget (1996-98): *Kunnskapsforlagets store norske leksikon*. Oslo: Kunnskapsforlaget
- Larsen, S. L.; Lerstang, T.; Mydske, P. K.; Røe, P. G.; Solheim, T.; Stenstadvold, M. & Strand, A. (1993) *TP10 - en miljøvernpolitisk snuoperasjon? : TP10 som prosess : hvilke forhold lokalt og sentralt har vært bestemmende med hensyn til organisering, prosess og virkemåte*. Samarbeidsrapport 3/93. Oslo: Norsk institutt for by- og regionforskning
- Lian, O. S. (2000): "En sosiologisk forståelse av behov." *Tidsskrift for den norske lægeforening*, Vol. 120, s. 111-114.
- Lindblom, C. (1959): "The science of "muddling through"." *Public Administration Review*, Vol. XI, No. 3.
- Loo, B. P. O. (2002): "Role of Stated Preference Methods in Planning for Sustainable Urban Transportation: State of Practice and Future Prospects." *Journal of Urban Planning & Development*, Vol. 128, pp. 210-224.
- Lovallo, D. & Kahneman, D. (2003): "Delusions of Success: How Optimism Undermines Executives' Decisions." *Harvard Business Review*, July, pp. 56-63.
- Maslow, A. H. (1962): *Toward a Psychology of Being*. New York: Van Nostrand
- McKillip, J. (1987): *Need Analysis. Tools for the Human Services and Education*. Series: Applied Social Research Methods, Vol. 10. Newbury Park/Beverly Hills/London/New Delhi: Sage Publications.
- Medalen, T. (1987): *Konflikter i vegplanlegging: en beskrivelse og analyse av konflikter i hovedplanprosesser*. Dr. ing.-avhandling. Trondheim: Norges tekniske høyskole, Institutt for by- og regionplanlegging.
- Miljø- og energiministeriet (1996): *Vejledning til planloven*. København: Miljø- og energiministeriet
- Miljøverndepartementet (2001): Miljøbyrapport. Vedlegg A.
<http://odin.dep.no/md/html/miljobyrapp/ODIN/pdf/Atp/ATPVedlegg.pdf>
- Moen, B. & Strand, A. (2000): "Når kapasitetsproblemer i vegnettet oppstår, skal andre...". Prosjektrapport 2000:1. Oslo: Norsk institutt for by- og regionforskning.
- Mogridge, M. J. H. (1997): "The self-defeating nature of urban road capacity policy. A review of theories, disputes and available evidence." *Transport Policy* (4) 1: 5-23.
- Mogridge, M. J. H., 1990. *Travel in towns. Jam yesterday, jam today and jam tomorrow?* Macmillan Reference Books, London.

- Møller, J. S. (1999a): *Lokalisering af virksomheder. Kan bolig-arbejdsrejserne påvirkes?* Rapport fra afgangsprøve ved civilingeniøruddannelsen i planlægning. Aalborg: Aalborg Universitet.
- Møller, J. S. (1999b): *Københavns metro. Gennemtænkt udbygning af den kollektive trafik?* Rapport fra projekt ved civilingeniøruddannelsen i planlægning, 9. semester. Aalborg: Aalborg Universitet.
- Mønnesland, J.; Næss, P. & Strand, A. (1994): *Arealplanlegging og kostnadseffektivitet. Er offentlig arealplanlegging en kostnadseffektiv måte å styre arealbruk og utbygging på?* NIBR-rapport 1994:8. Oslo: Norsk institutt for by- og regionforskning
- Naustdalslid, J. & Reitan, M. (1994): *Kunnskap og styring*. Oslo: Tano.
- Nettavisen (2002): "Kritiserte Forsvaret – fikk sparken." *Nettavisen*, 15.5.02.
<http://www.nettavisen.no/servlets/page?section=2&item=214355>
- Newman, P. W. G. og Kenworthy, J. R. (1989): *Cities and Automobile Dependence*. Aldershot: Gower Publications.
- Nielsen, K. L. (2000): *Environmental Appraisal of Large Scale Transport Infrastructure Projects.* "Ph.D.-avhandling. Aalborg: Aalborg Universitet, Institut for Samfundsudvikling og Planlægning.
- Nielsen, T. S. (2002): *Boliglokalisering og transport i Aalborg*. Ph.D.-afhandling. Aalborg: Aalborg Universitet, Institut for Samfundsudvikling og Planlægning.
- Noland, R. B. & Lem, L. L. (2002): "A Review of the Evidence for Induced Travel and Changes in Transportation and Environmental Policy in the US and the UK." *Transportation Research Part D*, Vol. 7, 2002, pp. 1 - 26.
- Nordjyllands Amt (2004): *Notat om Enhedslisten - Aalborgs klage til Naturklagenævnet om planlægningen af den 3. Limfjordsforbindelse*. Aalborg: Nordjyllands Amt.
- Nordjyllands Amt, Aalborg Kommune & Vejdirektoratet (2003): *VVM-redegørelse til 3. Limfjordsforbindelse*. Aalborg: Nordjyllands Amt, Aalborg Kommune & Vejdirektoratet
- NOU 1997:18. *Prioritering på ny. Gjennomgang av retningslinjer for prioriteringer innen norsk helsetjeneste*.
- NOU 1999:28 *Gardermoprojektet. Evaluering av planlegging og gjennomføring*. Utredning fra en gruppe oppnevnt ved kongelig resolusjon av 15. mai 1998
<http://odin.dep.no/sd/norsk/publ/utredninger/NOU/028005-020002/hov001-nu.html>
- NRK Hordaland (2003): *Ber Kristin stans bombeplaner. Voss kommunestyre vedtok i dag enstemmig å be forsvarsministeren stans bombeplanene på Mjølfjell*. NRK Hordaland, 20.6.03. http://www.nrk.no/nyheter/distrikt/nrk_hordaland/2853280.html
- Nyborg, K. & Spangen, I. (1993). *Politiske beslutninger om investeringer i veier*. TØI-notat 1026/1993. Oslo: Transportøkonomisk institutt
- Nyborg, M. (2002): *Miljø og nytte-kostnadsanalyse. Noen prinsipielle vurderinger*. Rapport 5/2002. Oslo: Frisch-senteret. http://www.frisch.uio.no/pdf/rapp02_05.pdf
- Næss, P. (2003) "Urban structures and travel behavior: Experiences from empirical research in Norway and Denmark." *European Journal of Transport Infrastructure Research*, Vol. 3, No. 2, 2003.
- Næss, P. (2004a): *Tidlig fase i store offentlige investeringsprosjekter. Vurdering av behov, mål, fleksibilitet og effekt*. Concept-rapport 1050-5. Trondheim: Concept-programmet.
- Næss, P. (2004b): "Prediction, Regressions and Critical Realism." *Journal of Critical Realism*, Vol. 2, No. 2, May 2004.

- Næss, P. (2005): "Residential Location Affects Travel Behavior - But How and Why? The case of Copenhagen Metropolitan Area." Forthcoming in *Progress in Planning*, Vol. 63, Part 1, Winter 2005.
- Næss, P. & Jensen, O. B. (2004): *Bilringene og cykelnavet. Boliglokalisering, bilafhængighed og transportadfærd i Hovedstadsområdet*. Bok under utgivelse. Aalborg: Aalborg Universitetsforlag
- Næss, P. & Sandberg, S. L. (1998): *Choosing the fastest mode? Travel time and modal choice in two transport corridors of Oslo*. NIBR report 1998:15. Oslo: Norwegian Institute for Urban and Regional Research.
- Næss, P.; Mogridge, M. J. H. and Sandberg, S. L. (2001): "Wider Roads, More Cars." *Natural Resources Forum*, Vol. 25, No. 2, May 2001, pp. 147 – 155.
- Olsen, J. P. (1992): "Analysing Institutional Dynamics." *Statsvissensraften und Staatspraxis* 2: 247-71
- Olsson, N. O. E. (2004) *Hvordan trur vi at det blir? Effektvurdering av store offentlige prosjekter*. Concept-rapport 1050-3. Trondheim: NTNU/SINTEF.
- Opedal, S. & Stigen, I. M. (2002): *Statlige sykehus – kan styringseffektiviteten bedres?* Skriftserie 2002:12. Oslo: Universitetet i Oslo, Helseøkonomisk forskningsprogram.
- Owens, S. (1995): "From 'predict and provide' to 'predict and prevent'?: pricing and planning in transport policy." *Transport Policy*, Vol. 2, No 1, pp 43-99.
- Petersen, L. K. (2003): *Miljødiskursens utvikling. Om forskyninger i den offentlige bekyringshorisont*. Paper til Miljøsociologisk netvæk, august 2003. Risø: Danmarks Miljøundersøgelser.
- Politikens Forlag (1992): *Nudansk Ordbog*. København: Politikens Forlag
- Rasmussen, I.; Hansen, S. og Jespersen, P. F. (1997): *Bærekraftig produksjon og forbruk - Identifikasjon av kritiske ressurser og naturkvaliteter*. ProSus Rapport 2/97 Oslo: ProSus.
- Rekdal, J. (1999): *Transportmodeller for helhetlig samferdselsplanlegging. En kort oversikt over teori og metode*. TØI-notat 1126/1999. Oslo: Transportøkonomisk institutt. http://www.toi.no/attach/78/sam_1126_99.pdf
- Rittel, H. W. and Webber, M. M. (1973): "Dilemmas in a General Theory of Planning." *Policy Sciences*, 1973, pp. 155-169.
- Røe, P. G. & Stigen, I. M. (1995) *Kollektivtrafikken - velferds- eller miljøpolitikk?* NIBR-rapport 1995:9. Oslo: Norsk institutt for by- og regionforskning.
- Røsnes, A. E (1992): *Fysisk planlegging. Byer-tettsteder-spredtbygde områder*. Oslo: Kommuneforlaget.
- Sager, T. (1990): *Communicate or calculate. Planning theory and social science concepts in a contingency perspective*. Stockholm, Nordplan.
- Sager, T. (1991): *Planlegging med samfunnsperspektiv*. Analysemetode. Trondheim: Tapir forlag.
- Sager, T. (1992): "Why Plan? A Multi-Rationality Foundation for Planning" *Scandinavian Housing & Planning Research* , Vol. 9, pp 129–147. (19 p.)
- Sayer, A. (1992) *Method in Social Science. A Realist approach*, London: Routledge, 2. Ed.
- Scott, A. J. and Roweis, S. T. (1977): "Urban planning in theory and practice: a reappraisal." *Environment and planning A*, Vol. 9, pp. 1097-1119. (23 p.)
- Sehested, Karina (2002): *Netværksstyring i byer. Hvad med planlægningen og demokratiet?* København: Jurist og Økonomforbundets Forlag.

- Senneset, K. (1999): *BAROK 2007: Trendframskrivninger av etterspørselen etter bygge- og anleggsprodukter, og arbeidskraftbehovet i B/A-næringene*. Oslo: BNL.
[www.ebanett.no/.../0/01df26f9f3a8f5ea412568d800556795/\\$FILE/BAROK-utvikling%20i%20prod.%20og%20syssels..doc](http://www.ebanett.no/.../0/01df26f9f3a8f5ea412568d800556795/$FILE/BAROK-utvikling%20i%20prod.%20og%20syssels..doc)
- St prp. nr 55 (2001-2002) *Gjennomføringsproposisjonen - utfyllende rammer for omleggingen av Forsvaret i perioden 2002-2005* <http://odin.dep.no/fd/norsk/publ/stprp/010001-030017/hov006-bn.html>
- St.meld. nr, 23 (2001-2002) *Bedre miljø i byer og tettsteder*. Oslo: Miljøverndepartementet.
<http://odin.dep.no/md/norsk/publ/stmeld/022001-040015/dok-bn.html>
- St.meld. nr. 26 (2001-2002) *Bedre kollektivtransport*. Oslo: Samferdselsdepartementet.
<http://odin.dep.no/sd/norsk/publ/stmeld/028001-040007/dok-bn.html>
- St.meld. nr. 46 (1997-98) *Olje- og gassvirksomheten*. Oslo: Olje- og energidepartementet.
<http://odin.dep.no/oed/norsk/publ/stmeld/026005-040001/dok-bn.html>
- Statens Vegvesen region vest (2004): Rv7/13 *Hardangerbrua med tilførselsvegar i kommunane Eidfjord, Ulvik og Ullensvang. Konsekvensutgreiing – hovudrapport*
http://www.vegvesen.no/region_vest/prosjekter/hardangerbrua/trafikkanalyse/03_transportmodeller.pdf
- Statsbygg (2004): *Statsbygg Årsrapport 2003*. <http://www.statsbygg.no/aarsberetning2003/>
- Stead, D. and Marshall, S. (2001): "The Relationships between Urban Form and Travel Patterns: An International Review and Evaluation." *European Journal of Transport and Infrastructure Research*, Vol. 1, No. 2, pp.113-141.
- Steen, P.; Dreborg, K.-H.; Henriksson, G.; Hunhammar, S.; Højer, M. Rignér, J. & Åkerman, J. (1997): *Färder i framtiden - Transporter i ett bärkraftigt samhälle*, KFB-Rapport 1997:7. Stockholm: Kommunikationsforskningsberedningen.
- Strand, A. & Moen, B. (2000): *Lokal samordning – finnes den?* Prosjektrapport 2000:18. Oslo: Norsk institutt for by- og regionforskning.
- Strand, A. (1992): "Evaluering av TP10-arbeidet: Miljøalternativene var best, men vegplanene vant!" *Samferdsel* 8/92.
- Tennøy, A. (2003): *Bidrar bruk av transportanalyser i byplanleggingen til vekst i biltrafikken?* Paper til Trafikdage på Aalborg universitet, 25. – 26. august 2003.
- Thomsen, J. P. F (2000): *Magt og indflydelse*. Århus : Magtudredningen.
- Thomson, J. M., 1977. *Great cities and their traffic*. Gollancz, London.
- Torp, O. & Johansen, A. (2003): *Oppstart og avslutning av prosjekter*. Trondheim: NTNU, Norsk senter for prosjektledelse.
- Transportministeriet (1993): *Trafik 2005: Problemstillinger, mål og strategier*. København: Transportministeriet.
- Vedung, E. (1991): *Utvärdering i politik och förvaltning*. Lund: Studentlitteratur
- Vegdirektoratet (1993): *Veg- og gateutforming*. Håndbok 017. Oslo: Vegdirektoratet.
- Vegdirektoratet (2002): *Stamvegutforming*. Oslo: Vegdirektoratet
- Verdensbanken (World Bank) (2003): *A User' Guide to Poverty and Social Impact Analysis. Demand Analysis: Estimating Demand Functions*.
http://poverty.worldbank.org/files/14530_14_Demand-Estim.pdf
- Wachs, M. (2001): "Forecasting versus Envisioning. A New Window on the Future." *Journal of American Planning Association*, Vol. 67, pp- 367-372.

- Wachs, M. (1989): "When Planners Lie With Numbers." *APA Journal*, Vol. 55, no. 4, pp. 476-479.
- Wikipedia (2004a): *Econometrics*. Wikipedia – The Free Encyclopedia.
<http://en.wikipedia.org/wiki/Econometrics>
- Wikipedia (2004b): *Neoclassical economics*.
http://en.wikipedia.org/wiki/Neoclassical_economics
- Wikipedia (2004c): *Strategi*. Wikipedia – den frie encyklopedi.
<http://no.wikipedia.org/wiki/Strategi>
- Wildavsky, A. (1973): "If Planning is Everything, Maybe it's Nothing." *Policy Sciences* 4 (1973), pp. 127-153. (26 p.)
- Yin, R. (1994): *Case Study Research: Design and Methods. Second Edition*. Series: Applied Social Research Methods, Vol. 5. Thousand Oaks/London/New Delhi: Sage Publications.
- Østerberg, D. (1973): *Behov*. Artikkel i Pax Leksikon.
<http://lotus.uib.no/norgeslexi/paxlex/alfabetet/b/b06.html>

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