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Rouhani, Omid

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# Public Policy: A science and/or a Field?

Omid M. Rouhani <sup>a</sup>,

<sup>a</sup> Independent researcher

## **Abstract**

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“The Public Policy Theory Primer” book, by Ken Smith and Chris Larimer, investigates public policy theories and examines a key question: Does this scientific field really exist? The book's answer is yes, but in a plural format. The book's conclusion is that public policy is more art/craft rather than science, at least not yet. Overall, the book is informative, especially for a person with limited knowledge regarding fundamental public policy theories.

*Keywords:* Public Policy; Political Science; Policy Analysis; Policy Process.

## Introduction

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In this book review, I summarize the fundamental concepts presented in the public policy theory primer- 3<sup>rd</sup> edition by Smith and Larimer (2018). The book begins and ends its discussion with the key question of whether a public policy field really exists. The first chapter defines public policy: a mood more than a science (Goodin et al., 2006). It studies whatever governments choose to do or not to do. The “public” side concerns with the choices by the coercive powers of the state. The word “policy” is derived from *polis*, a Greek word meaning city-state. In defence of politics in the modern context, Crick (1962) defines it as the solution choosing conciliation over violence. The book completes the definition with an unfortunate truth: the field is developed as a babel of tongues, talking past rather than promoting real politics or compromise.

The book continues with an overview of the field’s history (Chapter 1). Some scholars argue that the field originates with cost-benefit analysis in the 1930s (Fuguitt et al., 1999; Rouhani, 2016; Rouhani et al., 2016a). Nevertheless, Harold Lasswell first introduced “policy sciences” in the middle of twentieth century (Lasswell and Lerner, 1951; Laswell, 1968). Laswell’s expertise was in propaganda as the World War II British communication chief. His expertise can explain his ideology about politics. Moreover, he seemed overly optimistic as a result of winning the second world war. In one of his first manifestos, Lasswell and Lerner (1951) laid out the key characteristics of policy sciences: (1) problem-oriented, (2) multi-disciplinary, (3) methodologically-sophisticated, (4) theoretically-sophisticated, and (5) value-oriented. Let us begin with understanding these principles and their implications.

First, it seems hopeless to develop a new field by labelling it sophisticated rather than trying to explain its foundations. Moreover, as the book discusses, Laswell established a field that is inherently an oxymoron from its start, involving logical inconsistencies. One important dilemma is related to his quests for training a set of specialized experts (elitism) meanwhile asking for more egalitarian ethos of democracy (citizens’ participation). In Laswell’s vision, public policy is analogous to medicine; numerous subspecialties exist where they are not necessarily tied together within a universal framework. Such a conclusion causes further confusions rather than providing clarifications.

Over the years, the field has become even more complex acknowledging that no independent universal world exists, and that views are filtered and driven by perceptions, sometimes conflicting ones. However, such extreme differences could not justify "the intellectual jungle" we have in the political world (Wynne, 1992). According to the book, public-policy researchers work completely independent from each other, not only ignoring each other’s work, but also being unaware that it even exists.

The public policy oxymoron is further intensified by the existence of two opposite viewpoints (Chapter 6). The field faces a constant conflict between rationalists promoting the values of science/economics and post positivists emphasizing the values of democracy (Rouhani, 2021). On one hand, post positivists criticize rationalists’ promotion of efficiency while sacrificing democracy (Dryzek, 1989). For instance, they argue that rationalists’ approach has failed historically, e.g., the war in Vietnam (Erickson et. al., 2013). On the other hand, rationalists believe that post positivists’ approaches are inconsistent in terms of decision making and might leave us with inconclusive results (Smith and Larimer, 2018). These differences fuel the ever-increasing ideological clashes between rationalists and post positivists (Dryzek, 1989).

Such conflicts, however, led the rationalist camp to revisit some of its foundations, accepting that they cannot necessarily determine the ultimate solution, solely based on efficiency.

In the following, I briefly review the fundamental public policy concepts in the book. For a deeper understanding of those concepts, I suggest readers to refer to the references I cited for each concept.

## **Content**

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### *Policy vs. politics*

As the first fundamental concept, the book describes the relationship between policy and politics (Chapter 2). Two frameworks serve as standard conceptual tools to describe the relationship between policy and politics: (i) the stages theory and (ii) policy typologies.

First, stages theory (Jones, 1970; Laswell, 1971), also called stages heuristic, hypothesizes policy process as linear (rationalist not normative). It begins with a problem to work on, follows by searching for solutions, and finally discusses the implementation of the most appropriate solution. The stages theory offers intuitive and practical means of conceptualizing public policy. Nevertheless, it is an untestable piecemeal theory that discounts the notion of feedback loops.

“Policy typologies” (Lowi, 1972), in contrary, claim that policies determine politics or government coerces. In fact, he assumes that public policy is an attempt to influence individual behavior. Using a 2x2 matrix, Lowi (1972) creates a typology of four public policy categories. These four categories are: (1) distributive policies (like tariffs, distributing benefits and costs on an individual basis, see Mishchuk, et al., 2019 or Rouhani and Beheshtian, 2016), (2) regulatory policies (like labor policies and competitive market regulations aiming at directly influencing the behavior, see Rouhani and Gao, 2016 or Beheshtian et al., 2020), (3) redistributive policies (like welfare and social security, targeting a broader group of people, see Doerrenberg and Peichl, 2014 or Rouhani, 2018), and (4) constituent policies (like reappointment and propaganda, which are low salience and result in consensual politics, see Tausanovitch and Warshaw, 2013 or Figueroa and Verma, 2023). His key observation is that “each kind of coercion may very well be associated with a quite distinctive political process.” The policy typologies theory was a bold attempt to redefine the policy process against the general acceptance that the president dominates the political process.

However, both stage and policy typology theories fall short of creating a scientific theory and are oversimplified. The stages model seems to fail empirical tests while scholars continue to use the typology framework despite its classification dilemma and static nature (Jann and Wegrich, 2007). Note that the policy typologies theory is more compatible with empirical tests, according to the book. The implication is that policy decisions are not linear and have been influenced by interest and entrepreneurial groups. This means that the process could be a by-product of weak public policy theories.

A stronger theory(ies), nonetheless, could mitigate political conflicts. The reality is unfortunately the opposite. As Helco (1978) argues two key groups could significantly impact political process: (1) "issue networks" or informal alliances among interest groups and (2) "technopoles" or specialized individuals with technical knowledge of the policy at hand. Political challenges arise mainly from conflicting perspectives among these key influencers (Madani et al., 2014). In addition in some cases, various technopoles and issues networks hold completely

opposite views compared to those of general stakeholders or citizens. This in turn might lead to undemocratic policies, where citizens' needs are ignored by issue networks or technopoles.

### *Policy process*

The second fundamental concept in the book is, policy process (Chapters 3 to 5), which examines who make public policy decisions and how. The first approach to policy process is based on the rational choice theory (Coleman and Fararo, 1992) or its alternative version the bounded rationality theory (Simon, 1990). The rational-choice theory is based on two key assumptions: (1) complete and perfect knowledge about future values and (2) complete understanding of all possible alternative policies (Lindblom, 1959). The bounded rationality theory modifies the rational-choice-theory assumptions of (1) complete and perfect knowledge about future values and (2) understanding all possible alternative policies (Quackenbush, 2004). It is impossible to reach such assumptions in reality.

In response, several scholars have tested the bounded rationality theory. They attempt to prove the theory consistent practically/ For instance, they show empirically that the U.S. budgetary decisions are made by small derivatives from previous year's budgets (Davis et al., 1966; Lewis and Hildreth, 2011).

As the second approach to policy process, post-positivists claim that governments should respond only to citizens' demands, rather than making "rational" decisions. In this regard, Tiebout (1956) pioneered the first theoretical policy-process framework, claiming that citizens express their preferences for certain localities over others. According to the theory, governments should respond to their citizens. The key to the Tiebout model's success is the assumption that citizens move away from the unwanted jurisdictions, where they do not agree with the political system. However, this assumption might not work in practice because of employment and other constraints (Lyons et al., 1992). Nevertheless, a few studies have shown that local factors such as employment are less important than non-outcome factors (see e.g., Schneider and Buckley, 2002).

Ostrom (1998) argues for the last approach to policy process, called the "institutional rational choice" theory. He argues that that institutions allow for individuals to make "better than rational" decisions. The theory attempts to solve common-pooled-resource dilemmas using external sanctions.

The book's overall conclusion about policy process theories is that the Tiebout model lacks empirical support (Howell-Moroney, 2008), and that the bounded rationality theory is evident. Moreover, Ostrom's institutional analysis and development lacks predictive power. In fact, policy decisions are made by semi-rational actors. They may or may not change depending on the existing institutional rules.

### *Policy design*

As the next element of policy process, policy design is discussed in Chapter 4. Policy design is an umbrella term to analyze the public policy content. A fundamental concept is the language for justifying actions, which leads to a messy value-laden process (Edelman, 1990).

Although controversial, public policy is viewed as means of distributing values (Easton, 1953). The question is then whose values are questioned/considered by the coercive power.

Inappropriately, a few policy scholars look for “blue print” or an “architecture” of policy (Elmhirst, 1999). They follow an architect or individual leader, instead of identifying the appropriate political goal/philosophy supported by strong theories (Rouhani, 2022). Even in some cases, policy decisions, e.g., regarding the patriot act, are made by the symbolic and emotional freight of what they mean (Celik and Versavas, 2007). Instead to make robust decisions, political analysts should provide an objective analysis of expected and broad impacts of such decisions (Rouhani and Gao, 2014; Rouhani et al., 2015a; Do et al., 2021).

However, most policy-design contents are generally more rationalized than being rational (Jones and Baumgartner, 2005). Some scholars, e.g., see Helco (1978), argue that technopoles could pull the political process further away from ordinary citizens, similar to what issue networks could. In fact, in addition to policy content, stories and narratives could change public opinion (McBeth, 2010). A strong, though potentially deceiving, political policy usually includes tribalism, shame-fear, altruism, etc.

According to Stone (2002)’s policy paradox, the public policy design is often justified as adhering to one of 5 democratic values: equity, efficiency, security, liberty, and community. Ingram and Schneider (2005) argue that the degenerative nature of public policy is worsened by the path-dependent nature of social constructions. Such constructions have become embedded, but rarely questioned or judged. Providing more evidence on non-democratic directions of the existing policy-making designs, Hibbing and Theiss-Morse (2002) found that most citizens do not even wish to be involved in the policy process. Therefore, in many cases citizens even do not understand the policy process.

As the last element of policy process, agenda setting (Chapter 5) is “the process by which information is prioritized for actions, and attention allocated to some problems rather than others.” (Smith and Larimer, 2018). One groundwork agenda-setting framework is the “garbage-can model” (Kingdon, 1995). The model views the agenda-setting process chaotic. Ideas are jumbled together resulting in the disposal of both problems and solutions into the proverbial policy-making garbage can. Three different streams (problems, policies, politics) contribute to the garbage-can politics. The convergence of the three streams, however, creates a “policy window” or the opportunity for a rapid change.

Apart from the possibility for a rapid change using a policy window, “policy diffusion” could lead to minor changes. For instance, the U.S. states could learn from others (Walker, 1969). Although descriptive, the garbage-can model is not predictive. Moreover, governance has been increasingly characterized by a new approach, public-private partnerships (Rouhani and Niemeier, 2014; Rouhani et al., 2015b; Rouhani et al., 2018). Overall, the predictability power of the policy-process theories might continue to remain an elusive goal to accomplish.

### *Policy analysis*

The third fundamental concept is policy analysis (Chapters 6). Its task is to determine a set of actions facing a problem (Walker et al, 2001; Mirchi et al., 2012; Rouhani, 2019). There are two conflicting overarching approaches to policy analysis.

First, rationalists follow welfare economics’ fundamentals by prioritizing efficiency (Shulock, 1999; Rouhani et al., 2016b, Do et al., 2020). Rationalists’ assumption is that

individuals maximize their utilities. The rationalist approach is theoretically sound; however, it could be practically controversial. In fact, it is impossible to hold perfect rationality and utilities differ from one person to another. In addition, policy makers are “often explicitly value-driven and are uninterested in policy analyses that fail to support their preferred values.”

Emphasizing democracy as the second approach, post positivism is based upon face-to-face stakeholder surveys (Yanow, 2000; Daher et al., 2018). The goal is to understand different perspectives. The post positivist approach is inconsistent, labor intensive, and could offer inconclusive results. The book concludes that the rationalist approach continues to be the dominant policy analysis tool. Nevertheless, the rationalist-approach outputs provide only substances for political debates rather than the answers to end it.

### *Policy implementation*

As the next fundamental concept, policy implementation (Chapter 8) investigates the rules to specify actions, hearings, lobbying, bureaucracy, coordination issues, etc. The first generation of implementation studies explains that implementation is important. Their goal is to adopt a general plan, determine priorities, and share the same vision (Derthick, 1972). In practice, scholars have found empirical evidence against the first-generation models. For instance, Pressman and Wildavsk (1973) find that the chance of getting anything done is astonishingly low. For the job creation case, they determine the probability to be 0.000395, because of a dispersed decision-making system. Similar challenges prevent the implementation of any new fundamental policies.

The second generation focuses on developing theories to explain the practicalities of implementation (Bardach, 1977). In a seminal work, Mazmanian and Sabatier (1983) defined three basic parameters of implementation: (1) center: the initial policy maker(s); (2) periphery: bureaucrats translating the policy into action; and (3) target group: people at whom the policy is aimed at.

The third-generation models are developed by testing the second-generation theories. Empirical models generally prove the complexity of implementation rather than actually explaining it (Goggin et al., 1990), i.e., the second generation theories cannot explain, let alone predict, the political world.

A relatively new generation of implementation studies has emerged in the literature, called the regime approach (Jochim and May, 2010). It explains the governing arrangements using institutional structures, political interests, and their interplays. Overall, the implementation studies seem to move towards understanding the process with the help of the applied field(s) rather than developing political science theories. As a result, new policies are implemented regardless of theoretical models. For instance, the affordable care act has been advanced mainly with the knowledge of public health officials and medical doctors rather than a through public policy analysis (Smith and Larimer, 2018). This could be an unfortunate truth of the political world. In a perfect world, however, policy makers rely on their own strong public policy theories to determine/implement the appropriate policies.

### *Policy research*

Chapter 9 discusses the final fundamental concept, new policy research directions. As a new direction, “adaptive rationality” (Newell and Simon, 1972) explains humans’ decision making process through cognitive shortcuts that often result in sub-optimal decisions. According to McDermott (2004), material well-being or economic indicators cannot necessarily produce happiness while “social support” could be one of the missing factors since many process information through “emotional rationality”.

This vision seems narrow because it adds social aspects only. Nevertheless, it provides additional explanations about how humans make decisions. The implication of adoptive rationality is that governments should place less emphasis on income and more on employment/leisure. In this regard, Kuran (2010) expands on the utility theory claiming that people possess three different utility types: (1) intrinsic utility (true preferences), (2) reputational utility (resulting from social acceptability), (3) expressive utility (how to express true preferences). The book suggests that the experimental methodology developed by laboratories of democracy (Schwartz, 2023) could be integral to the future of public policy studies (Smith and Larimer, 2018).

### **Conclusion**

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Smith and Larimer (2018)’s book provides a thorough summary of public policy theories. Its final chapter returns to a key question: “Do the policy sciences really exist?” Their answer is yes, but plural. Traditionally, public policy studies act as a taker/user of theory from other scientific fields rather than as a producer. The book urges the need for a theory(ies) that explain/predict how people respond to policy images, arguing that such a theory is likely to be interdisciplinary in nature.

Economics have colonized the field (Hirschman and Berman, 2014). If the political science seeks freedom from economics and other fields, it needs stronger theoretical fundamentals. A sound theory, backed by understanding the interdisciplinary nature of politics, could be the solution. Such a theory is missing in the political science. As a result, the public policy is dominated by, not only economics, but also by technocrats and lobbyists seeking their own interests.

Unfortunately, where policy makers have made the fewest theoretical contribution is, ironically, the realm of public policy studies. The book claims that the sprawling subjects of public policy studies is the reason, in addition to its conceptual challenges and discrepancies in epistemology. The book’s overall conclusion is that public policy is more art or craft rather than science, certainly a field(s) and perhaps not yet a science.

### **Copyright Note**

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The author certifies that he has the right to deposit the contribution with MPRA.

### **References**

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Bardach, Eugene. 1977. *The Implementation Game: What Happens After a Bill Becomes Law*. Cambridge, MA: MIT Press.

- Beheshtian, A., Geddes, R.R., Rouhani, O.M., Kockelman, K.M., Ockenfels, A., Cramton, P. and Do, W., 2020. Bringing the efficiency of electricity market mechanisms to multimodal mobility across congested transportation systems. *Transportation Research Part A: Policy and Practice*, 131, pp.58-69.
- Celik, A. and Versavas, F., 2007. Evaluation of the PATRIOT Act: Section 215. *NATO SECURITY THROUGH SCIENCE SERIES E HUMAN AND SOCIETAL DYNAMICS*, 22, p.221.
- Coleman, J.S. and Fararo, T.J., 1992. *Rational choice theory*. *Nueva York: Sage*.
- Crick, B., 1962. *In defence of politics*. A&C Black.
- Daher, N., Yasmin, F., Wang, M.R., Moradi, E. and Rouhani, O., 2018. Perceptions, preferences, and behavior regarding energy and environmental costs: the case of Montreal transport users. *Sustainability*, 10(2), p.514.
- Davis, Otto A., M. A. H. Dempster, and Aaron Wildavsky. 1966. A Theory of the Budgetary Process. *American Political Science Review* 60: 529–547.
- Derthick, Martha. 1972. *New Towns In-Town: Why a Federal Program Failed*. Washington, DC: The Urban Institute.
- Do, W., Rouhani, O.M., Geddes, R.R. and Beheshtian, A., 2020. A comprehensive welfare impact analysis for road expansion projects: A case study. *Case Studies on Transport Policy*, 8(3), pp.1053-1061.
- Do, W., Rouhani, O.M., Geddes, R.R. and Beheshtian, A., 2021. Social impact analysis of various road capacity expansion options: a case of managed highway lanes. *Journal of transportation engineering, Part A: Systems*, 147(7), p.04021033.
- Doerrenberg, P. and Peichl, A., 2014. The impact of redistributive policies on inequality in OECD countries. *Applied Economics*, 46(17), pp.2066-2086.
- Dryzek, J., 1989. Policy Sciences of Democracy. *Polity* 22: 97–118.
- Easton, David. 1953. *The Political System*. New York: Knopf
- Edelman, M. 1990. *Constructing the Political Spectacle*. Chicago: University of Chicago Press.
- Elmhirst, R., 1999. Space, identity politics and resource control in Indonesia's transmigration programme. *Political geography*, 18(7), pp. 813-835.
- Erickson, P., Klein, J.L., Daston, L., Lemov, R., Sturm, T. and Gordin, M.D., 2013. *How reason almost lost its mind: The strange career of Cold War rationality*. University of Chicago Press.
- Figuroa, R. and Verma, R., 2023. Constituent-driven health policy informed by policy advocacy literature. *Translational Behavioral Medicine*, 13(5), pp.338-342.
- Fuguitt, D., Fuguitt, D. J., & Wilcox, S. J. (1999). *Cost-benefit analysis for public sector decision makers*. Greenwood Publishing Group.
- Gigerenzer, Gerd, and Reinhard Selton. 2002. *Bounded Rationality: The Adaptive Toolbox*. Cambridge, MA: MIT Press.
- Goggin, Malcolm, Ann O'M. Bowman, James Lester, and Laurence O'Toole Jr. 1990. *Implementation Theory and Practice: Towards a Third Generation*. Glenview, IL: Scott, Foresman/Little, Brown.

- Goodin, R. E., Moran, M., & Rein, M. 2006. *The Oxford handbook of public policy* (Vol. 6). Oxford Handbooks of Political.
- Helco, Hugh. 1978. Issue Networks and the Executive Establishment. In *The New American Political System*, ed. Anthony King, 87–124. Washington, DC: American Enterprise Institute
- Hibbing, J. and Theiss-Morse, E. (2002) *Stealth Democracy: Americans' Belief About How Government Should Work*. Cambridge, MA: Cambridge University Press.
- Hirschman, D. and Berman, E.P., 2014. Do economists make policies? On the political effects of economics. *Socio-economic review*, 12(4), pp.779-811.
- Howell-Moroney, Michael. 2008. The Tiebout Hypothesis 50 Years Later: Lessons and Lingering Challenges for Metropolitan Governance in the 21st Century. *Public Administration Review* January/February: 97–109.
- Ingram, Helen M., and Anne L. Schneider. 2005a. *Deserving and Entitled: Social Constructions and Target Populations*. Albany, NY: SUNY Press.
- Jann, W. and Wegrich, K., 2007. Theories of the policy cycle. *Handbook of public policy analysis: Theory, politics, and methods*, 125, pp.43-62.
- Jochim, A.E. and May, P.J., 2010. Beyond subsystems: Policy regimes and governance. *Policy Studies Journal*, 38(2), pp.303-327.
- Jones, Bryan D., and Frank R. Baumgartner. 2005. *The Politics of Attention: How Government Prioritizes Problems*. Chicago: University of Chicago Press.
- Jones, Charles O. 1970. *An Introduction to the Study of Public Policy*. Belmont, CA: Wadsworth.
- Kingdon, John W. 1995. *Agendas, Alternatives, and Public Policies*, 2nd ed. Boston: Little, Brown.
- Kuran, T. 1995. *Private Truths, Public Lies: The Social Consequences of Preference Falsification*. Cambridge, MA: Harvard University Press.
- Lasswell, H. D. 1968. *The policy sciences*. Stanford University Press.
- Lasswell, H., & Lerner, D. 1951. The policy orientation. *Communication Researchers and Policy-Making*.
- Lewis, C.W. and Hildreth, W.B., 2011. *Budgeting: Politics and power*. New York: Oxford University Press.
- Lindbolm, C.E. 1959 The Science of Muddling Through. *Public Administration Review* 19: 79–88.
- Lowi, T.J. 1972 Four Systems of Policy, Politics, and Choice. *Public Administration Review* 33 (July–August): 298–310.
- Lyons, W. E., David Lowery, and Ruth Hoogland DeHoog. 1992. *The Politics of Dissatisfaction: Citizens, Services, and Urban Institutions*. New York: M. E. Sharpe
- Madani, K., Rouhani, O.M., Mirchi, A. and Gholizadeh, S., 2014. A negotiation support system for resolving an international trans-boundary natural resource conflict. *Environmental modelling & software*, 51, pp.240-249.

- Mazmanian, Daniel, and Paul Sabatier. 1983. *Implementation and Public Policy*. Glendale, IL: Scott, Foresman.
- McBeth, M.K., Shanahan, E.A., Hathaway, P.L., Tigert, L.E. and Sampson, L.J., 2010. Buffalo tales: interest group policy stories in Greater Yellowstone. *Policy Sciences*, 43(4), pp.391-409.
- McDermott, R. 2004. The Feeling of Rationality: The Meaning of Neuroscientific Advances for Political Science. *Perspectives on Politics* 2: 691–706.
- Mirchi, A., Hadian, S., Madani, K., Rouhani, O.M. and Rouhani, A.M., 2012. World energy balance outlook and OPEC production capacity: implications for global oil security. *Energies*, 5(8), pp.2626-2651.
- Mishchuk, H., Samoliuk, N. and Bilan, Y., 2019. Measuring social justice in the light of effectiveness of public distributive policy. *Administratie si Management Public*.
- Newell, Allen, and Herbert A. Simon. 1972. *Human Problem Solving*. Englewood Cliffs, NJ: Prentice Hall.
- Ostrom, Elinor. 1998. A Behavioral Approach to the Rational Theory of Collective Action, Presidential Address, American Political Science Association, 1997. *American Political Science Review* 92(1): 1–22
- Pressman, Jeffrey, and Aaron Wildavsky. 1973. *Implementation: How Great Expectations in Washington Are Dashed in Oakland*. Berkeley: University of California Press.
- Quackenbush, S., 2004. The rationality of rational choice theory. *International interactions*, 30(2), pp.87-107.
- Rouhani, O.M. and Gao, H.O., 2014. An advanced traveler general information system for Fresno, California. *Transportation Research Part A: Policy and Practice*, 67, pp.254-267.
- Rouhani, O.M. and Niemeier, D., 2014. Resolving the property right of transportation emissions through public–private partnerships. *Transportation Research Part D: Transport and Environment*, 31, pp.48-60.
- Rouhani, O.M., Gao, H.O. and Geddes, R.R., 2015a. Policy lessons for regulating public–private partnership tolling schemes in urban environments. *Transport Policy*, 41, pp.68-79.
- Rouhani, O.M., Gao, H.O., Zarei, H. and Beheshtian, A., 2015b, January. Implications of fuel and emissions externalities, spillovers to the outside, and temporal variations on zonal congestion pricing schemes. In *Transportation Research Board 94th Annual Meeting* (No. 15-0905).
- Rouhani, O.M., 2016. Next generations of road pricing: Social welfare enhancing. *Sustainability*, 8(3), p.265.
- Rouhani, O. M., and A. Beheshtian. 2016 *Energy Management*. Book chapter in Multi Vol. Set on *Energy Science and Technology*.
- Rouhani, O.M. and Gao, H.O., 2016. Evaluating various road ownership structures and potential competition on an urban road network. *Networks and Spatial Economics*, 16, pp.1019-1042.
- Rouhani, O.M., Niemeier, D., Gao, H.O. and Bel, G., 2016a. Cost-benefit analysis of various California renewable portfolio standard targets: Is a 33% RPS optimal?. *Renewable and Sustainable Energy Reviews*, 62, pp.1122-1132.

- Rouhani, O.M., Geddes, R.R., Gao, H.O. and Bel, G., 2016b. Social welfare analysis of investment public–private partnership approaches for transportation projects. *Transportation Research Part A: Policy and Practice*, 88, pp.86-103.
- Rouhani, O.M., 2018. Beyond standard zonal congestion pricing: A detailed impact analysis. *Journal of Transportation Engineering, Part A: Systems*, 144(9), p.04018052.
- Rouhani, O.M., Geddes, R.R., Do, W., Gao, H.O. and Beheshtian, A., 2018. Revenue-risk-sharing approaches for public-private partnership provision of highway facilities. *Case Studies on Transport Policy*, 6(4), pp.439-448.
- Rouhani, O.M., 2019. *Transportation Project Evaluation Methods/Approaches*. MPRA\_paper\_91451.
- Rouhani, O.M., 2021. Public policy theories for transportation project evaluations: A book review. *Case Studies on Transport Policy* 9(2), pp. 497-499.
- Rouhani, O.M., 2022. Road pricing versus political philosophies: A book review. *Case Studies on Transport Policy* 10(2), pp. 1453-1456
- Schneider, Mark, and Jack Buckley. 2002. What Do Parents Want From Schools? Evidence from the Internet. *Educational Evaluation and Policy Analysis* 24(2): 133–144.
- Schwartz, A.J., 2023. Laboratories of Democracy. *JAMA Network Open*, 6(6), pp.e2315584-e2315584.
- Shulock, Nancy. 1997. The Paradox of Policy Analysis: If It Is Not Used, Why Do We Produce So Much of It? *Journal of Policy Analysis and Management* 18: 226–244
- Simon, H.A., 1990. Bounded rationality. *Utility and probability*, pp.15-18.
- Smith, K. B. and Larimer, C. 2018. *The public policy theory primer*. Routledge.
- Stone, D. 2002. *Policy Paradox: The Art of Political Decision Making*. New York: W. W. Norton.
- Tausanovitch, C. and Warshaw, C., 2013. Measuring constituent policy preferences in congress, state legislatures, and cities. *The Journal of Politics*, 75(2), pp.330-342.
- Tiebout, Charles M. 1956. A Pure Theory of Local Expenditures. *The Journal of Political Economy* 64: 416–424.
- Walker, J.L., 1969. The diffusion of innovations among the American states. *American political science review*, 63(3), pp.880-899.
- Wynne, B., 1992. Carving out science (and politics) in the regulatory jungle. *Social studies of science*, 22(4), pp.745-758.