From global ideas to local action
Building capacity to reshape urban transport policy
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CHAPTER 2

Learning to build strategic capacity for transportation policy change: An interdisciplinary exploration

Abstract | Realizing policy solutions needed to achieve ‘sustainable mobility’ is difficult because they require strategic capacity for “coordinated action” across multiple actors and organizations. Policy learning and policy transfer have been discussed for decades as a way for policy makers to acquire capacity to effect change. However, the process linking policy learning and transfer to the building of strategic capacity remains unclear. One possible reason for this gap is how learning is conceptualized and measured in contemporary transport policy studies. We turn to conceptual and empirical knowledge from education, organizational development, human resources, environmental sciences, and business strategy and management to expand our understanding of learning processes for strategic capacity building. The purpose of this paper is to tease out relevant implications for transportation planning by (1) building a theoretical and empirical database of learning for capacity building across disciplines; (2) examining how such learning is conceptualized and measured, with particular attention to how the literature links learning and strategic capacity building; and (3) reflecting on the implications for the transportation planning field. Findings demonstrate that learning is an integral part of a larger process (such as ‘innovation’), and conditions of the process drive learning and capacity-building, often accompanying each other. For example, an existing organizational culture that supports learning demonstrates matured practices of horizontal communication systems and relationship building (conditions). We end the paper with a discussion on implications for transportation planning, both in research and practice. Adding to the discourse on policy learning and transfer, we point to policy learning as a potentially valuable pathway for building a strategic capacity to coordinate action.

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2.1 Introduction

Policy solutions needed to achieve transformative change in the field of transport are difficult to realize. A key reason is that they require strategic capacity for “coordinated action” across actors representing different organizations and sectors (Banister, 2005, p. 71). One way to cope with the difficulty is learning from ‘successful’ policies implemented elsewhere. The policy transfer framework proposed by Dolowitz & Marsh (1996), often used to examine policy learning, also in transportation, offers a tidy, question-based method for assessing this process: why policies are transferred, who is involved, what is transferred, sources used, effectiveness, and barriers to implementation. However useful for reasons such as cataloguing policy transfer attempts, using the policy transfer framework to assess policy learning has clear limitations (Bennett & Howlett, 1992; James & Lodge, 2003; Rose, 1993), especially since, many argue, policy learning is a social or collective process (Sabatier, 1988; Stone, 2001) that occurs over time – key components absent from the policy transfer framework. We argue that strategic capacity is a third key component missing. Strategic capacity, as used in business management literature, is the ability of a network of actors to anticipate and influence change through planned, intelligent, and coordinated decisions and actions (Honadle, 1981, p. 577). Learning to build strategic capacity seems necessary for governments and diverse stakeholders to coordinate the abovementioned transformative actions; however, the concept, process, and role of this kind of learning is not well understood, especially as it relates to policy learning.

In a review of policy learning and transfer in transportation (Marsden & Stead, 2011), the authors, as others do, used the policy transfer framework to explain the process of transfer and learning. They concluded: “Remarkably little is understood ... about the precise role of learning from elsewhere and its influence on processes of policy reform since no studies have thoroughly linked policy outcomes to learning” (p. 499). What remains open is a clearer picture of what ‘policy outcomes’ entail; is successful policy learning measured by successful policy adoption or implementation? Since their conclusion, there has been some evidence of policy learning in transportation using policy implementation as an indicator for learning, for example, with bus rapid transit policies (Wood, 2014), bicycle share programs (Ma, 2017), and road pricing (Attard & Enoch, 2011).

It is acknowledged, albeit recently, that new perspectives, knowledge and approaches to transportation are needed to confront contemporary urban mobility challenges. Banister (2005) suggests a switch “from the physical dimensions to the
Willson (2001) argues for a creative, communicative approach centered around participation and discourse. Schwanen et al. (2011) contends that current transport planning models are limited; that actors, their power or agency, and the social practice of mobility are missing but central components. However, in all these and similar cases, an understanding for how actors might learn, or what conditions facilitate (or hamper) learning is missing. Marsden & Stead’s (2011) aforementioned conclusion therefore points to not only this specific challenge in transportation planning, but also a distinctive complication in transportation policy transfer research: how to capture and measure a highly social, collective process in a field that gravitates towards standardized toolboxes, procedures, and designs?

In other words, learning and learning to build strategic capacity are acknowledged as necessary ‘tools’ to achieve transformative change – the issue at hand is how to do it. How do we learn to build capacity to coordinate actions?

Since the field of policy transfer studies, and especially transportation, does not yet clearly conceptualize or operationalize learning, we turn to conceptual and empirical knowledge from other disciplines. How learning is conceptualized and measured in education, organizational development, human resources, environmental sciences, and business management might expand our understanding of complex learning processes required to work towards building strategic capacity to coordinate action. Although we use these fields to enhance our understanding, our focus remains on adding insights to the transportation planning field. Our aim is not to define and explain policy learning – plenty of past scholarship exists (i.e., Dunlop & Radaelli, 2013, p. 599-601 for a succinct overview) – but to seek ways to conceptualize and measure learning that specifically targets capacity building.

Using a literature review process with guidance from Wee & Banister (2016), the purpose of this paper is to: (1) build a unique database of learning concepts and dimensions from other disciplines; (2) examine how such learning is conceptualized and measured, with particular attention to how the literature links learning and strategic capacity building; and (3) reflect on the implications for the transportation planning field. The paper continues with a description of the methodology and analysis of findings, arranged by the research questions: (a) How does the literature conceptualize learning? (b)
How does the literature measure learning? And (c) How does the literature conceptualize the link between learning and building strategic capacity? We close with a discussion regarding implications for transportation planning and future research opportunities.

2.2 Methodology

Article search

Systematic literature reviews are conducted by: determining review question(s); developing search protocol; conducting search; applying inclusion/exclusion criteria; assessing, describing, mapping included literature; synthesizing findings; and conclusions or recommendations (Oliver et al., 2005, p. 230). This approach fits our research goals of examining diverse disciplines that cover the concept of learning for strategic capacity building, in order to uncover patterns and trends, and to extract relevant implications for transportation planning.

<table>
<thead>
<tr>
<th>Screening Phase</th>
<th>Criterion</th>
<th>Description</th>
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<tbody>
<tr>
<td>0</td>
<td>Search Term</td>
<td>(TITLE-ABS-KEY (empirical AND (learn*)) AND TITLE-ABS-KEY (capacity OR &quot;capacity building&quot;))</td>
</tr>
<tr>
<td></td>
<td>Database</td>
<td>SCOPUS</td>
</tr>
<tr>
<td>1</td>
<td>Publication date</td>
<td>1995-2017</td>
</tr>
<tr>
<td></td>
<td>Language</td>
<td>English</td>
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<td></td>
<td>Article type</td>
<td>Peer-reviewed journals</td>
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<tr>
<td></td>
<td>Subject areas chosen</td>
<td>Social sciences, business management, psychology, engineering, and environmental sciences</td>
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<td>2</td>
<td>Quality</td>
<td>Five most-cited articles</td>
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<td>Five most-recent articles</td>
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<td></td>
<td>Topic</td>
<td>Must relate directly to a research question</td>
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<td></td>
<td>Transparency</td>
<td>If empirical, methodology must be explicit</td>
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Source: compiled by author

We carried out the research in the following steps:

1. Develop search protocol: The search terms (see Table 2.1) were chosen in order to (a) include, but not limit to, empirical research; (b) maintain a broad, diverse search scope; and (c) include research linking learning to
capacity building. Theoretical articles were included in order to examine different conceptual frameworks of learning not yet empirically tested.

2. Conduct the search: Using the search terms, the initial inquiry results were saved on an Excel spreadsheet, and stratified by disciplines. The search was conducted on 17 October 2017, a date which fit the research timeline.

3. Apply criteria: The first set of criteria focused the scope (publication date, language, article type, and subject area). SCOPUS categorized the results into 10 ‘subject areas’ and five were then chosen by the researchers: social sciences, business management, psychology, engineering, and environmental sciences. The other subject areas (computer science, medicine, arts and humanities, economics, ‘undefined,’ and ‘other’) were not examined due to low representation or divergent understanding of the concepts or research questions (e.g., “neural capacity” in medicine). Due to the remaining large output, we devised an additional strategy to reduce the dataset to a manageable number of high-quality and up-to-date literature. The second screening phase included selecting the five most-cited articles and the five most-recently published articles per discipline. In the last round of screening duplicative and irrelevant articles were removed, or (if empirical) where the methodology lacked rigor. When removed, an article from the previous screening round was assessed and added.

4. Assess and describe literature: Using an Excel spreadsheet, we outlined several components of each article, including country of research origin, methodology, findings, and key characteristics related to each of the research questions. Each article was thoroughly read and annotated for themes, frameworks, conditions, and relationships.

5. Synthesize findings: Due to the varied nature of the articles (empirical and theoretical), we used a narrative approach to synthesize findings (Sniltveit et al., 2012), which may be more appropriate for assessing qualitative and theoretical research. Mapping the content provided an accessible way to understand the findings.

6. Conclusions: Based on the synthesis of findings, we summarize the answers to our research questions.
Limitations

Although this review sought to synthesize relevant findings on learning and capacity building from multiple disciplines, we are aware of its limitations. A considerable amount of research eluded our search protocol. The use of and dependence on one database (SCOPUS), lean search terms, and screening stages constrained the output of literature. This is inevitable in a bounded literature review. However, the richness of our findings suggests that the systematic process developed, including the search protocol, was not a hindrance. Furthermore, during analysis, key concepts were reiterated and no new ones added; this can be seen as an indication that a certain degree of theoretical saturation (Lewis-Beck et al., 2003) had been reached. Nevertheless, we acknowledge that our framework should remain open for integrations deriving from the analysis of entirely different sources.

2.3 Findings

SCOPUS identified 1289 articles published in peer-reviewed journals. After the first round of screening, 764 articles remained, divided into the five disciplines. After the second screening, ten articles from each discipline (50 total) represented the final database. See Appendix A for the list of references included in our analysis.

Learning and capacity building have been researched across a broad range of contexts, disciplines, journals, and countries. This topic has gained global interest; our database included papers based in the US, UK, Australia, Europe, Asia, and two from Iran. Of the most-cited papers (25), we see increased interest in the topic between 2000-2010. Nearly three-quarters were empirical studies (36 in total), 12 theoretical, and two literature reviews (one systematic review). The methodologies of the empirical studies were evenly split between quantitative (18), qualitative or mixed (18). The following discussion of findings are organized around the research questions.

How is learning conceptualized?

Whereas much research has focused on individual learning, this database (with a few exceptions) mostly conceptualizes learning as a group, collective, or organizational endeavor. The word “learn” is often used synonymously or in conjunction with, for example, innovate, evaluate, knowledge, and action, exemplifying a lack of common conceptual understanding. Thirty of 50 articles directly addressed this research question by placing learning into an existing theoretical framework. Remaining articles loosely or did not associate learning with an existing theory but
rather conceptualized it in other ways. For example, social learning is often referred to without citing any existing theoretical frameworks. We synthesized the evidence in Table 2.2.

**Most-cited learning theories**

Nearly two-thirds of the articles place learning into an existing theoretical framework, in two dominant areas: organizational learning and social learning. Due to the constraints of our search procedure, some very important learning theories have been excluded (i.e., organizational institutionalism, expansive learning theory, and learning theories in urban planning); however, we observe that our search delivered an impressively diverse collection of theories. Below we extract common variables in order to make distinctions between them.

*Communication systems* represent a common antecedent to learning; from shared language and symbols in Cohen & Levinthal's (1990) *absorptive capacity*, building shared visions in Senge's (1990) *learning organization* theory, to dialogue and collective reflective in Nonaka & Takeuchi’s (1995) *knowledge creation* theory, an organization’s ability to (systematically and interminably) encourage high-quality communication results in learning and innovation. Social interaction and collaboration are essential components of *situated social learning* (Lave & Wenger, 1991) and *Communities of Practice (CoP)* (Wenger, 1998). Similarly, reflective dialogue, collective focus on learning, and shared norms and values are crucial elements of *Professional Learning Communities* (Stoll & Seashore Louis, 2007).

Another common antecedent includes what Cohen & Levinthal (1990) call “cross-functional relationships” – a horizontally-focused staff who not only easily glide from team to team, but teams are formed across multiple functions or departments. In this way, groups more easily solve problems, also according to Senge (1990). Argyris (1993) characterizes this “problem-solving” learning process as error-detecting and correcting, occurring either without adjusting underlying governing variables (the “master program”) in single-loop learning, or changing the “master program” in double-loop learning. *Communities of Practice* also assesses organizational collaboration and participative processes.
Many acknowledge the significance of the context (i.e., organizational culture). In absorptive capacity, pre-existing knowledge and (capital) investment in research and development influence organizational learning (Cohen & Levinthal, 1990). In Transfer of Learning, organizational culture around learning predicates successful application of workplace trainings. Trainings in the workplace are often specifically designed, in the format of a course or program, for individuals (or groups) to acquire particular skills, skillset or knowledge (Nafukho et al., 2017). Trainings differentiate from education in that the latter represents a broader, theoretical and philosophical system of learning. In the set of literature we examined, various strands of social learning were observed. For example, Bandura’s (1977) social learning theory asserts that individual behavior is learned from the environment through observation and imitation. Situated social learning (Lave & Wenger, 1991) stresses that learning emerges from different conditions (activities, contexts, and cultures).

Experience, broadly speaking, and sharing experience are also repetitive themes. Hands-on experience (as an individual) or a history of experience (as an organization) with communicative factors such as dialogue and common language lay a foundation for learning. For Nonaka & Takeuchi (1995), tacit knowledge is gained through experience and becomes explicit through shared dialogue — that interaction is the key process to creating knowledge. Transfer of Learning explores how group/organizational performance is fostered through a specific intervention or experience – a workplace training (Holton & Baldwin, 2003).

Dominant conceptualizations of learning

Conceptually, all articles agree that learning constitutes a process. We systematically categorized each article as falling into one of three conceptualizations: part of a larger process, a continual and dynamic process, or the result of a process.

The dominating conceptualization (23 articles) is that learning is an integral part of a larger process, usually a precursor to an end goal. Innovation is, by far, the most commonly mentioned goal. For example, a firm’s ability to “master the innovation process” (Bougrain & Haudeville, 2002, p. 746) occurs over time through an interactive and social learning process. Entrepreneurship, problem solving, and leadership were conceptualized in this way. From a social-ecological systems theoretical perspective, social learning, adaptation and self-organization, are needed to manage and build complex, resilient, and adaptive forms of governance (Folke, 2006).
Table 2.2 Conceptualizations of learning

<table>
<thead>
<tr>
<th>Dimension (# of articles)</th>
<th>Characterized by</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning as part of a larger process or precursor to (23)</td>
<td>Innovation, Performance, Leadership, Productivity, Knowledge creation, Entrepreneurship, Conditions that shape change, Problem solving, Capacity building, Resilience</td>
<td>(Alavi &amp; Gill, 2017; Beckmann, 2017a; Bougrain &amp; Haudeville, 2002; Brown, 2007; Bruyat et al., 2000; Chen, 2004; Duysters &amp; Lokshin, 2011; Farhad et al., 2017; Folke, 2006; Hopkins, 2016; Hu, McNamara, &amp; Mcloughlin, 2014; Hurley et al., 1998; Jones et al., 2017; Koop et al., 2017; Lawrence, 2017; Mackinnon, Cumbers, &amp; Chapman, 2002; Macpherson &amp; Holt, 2007; Mirimoghadam &amp; Ghazinoory, 2017; Montes et al., 2005; Park et al., 2011; Pedler &amp; Brook, 2017; Ritala &amp; Hurmelinna-Laukkanen, 2013; Schmid et al., 2016)</td>
</tr>
<tr>
<td>Learning as a continual, dynamic process (15)</td>
<td>Regular interactions, Evaluation, Habituated searching for ideas, Emergence, Local knowledge transfer, Tension</td>
<td>(Baumgartner et al., 2003; Capello &amp; Faggian, 2005; Gentner, 2016; Kameda &amp; Nakanishi, 2003; Louis &amp; Murphy, 2017; Lyles &amp; Salk, 1996; Manley et al., 2015; Pahl-Wostl et al., 2010; Pelling et al., 2007; Preskill &amp; Boyle, 2008; Rhodes et al., 2008; Shiel et al., 2016; Swann, 2017; Tu et al., 2005)</td>
</tr>
<tr>
<td>Learning as the result of (9)</td>
<td>Training, Shared agency, Productive struggle, Participation, Information exchange, Experimentation, Uncertainty</td>
<td>(Clarke &amp; Hollingsworth, 2002; Damsa et al., 2010; Lee, 2017; Liu, Van Nederveen, &amp; Hertogh, 2016; Apgar et al., 2017; Nafukho et al., 2017; C. Pahl-Wostl, 2009; Sengupta-Irving T., 2017; Tsekoura, 2016)</td>
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Source: compiled by author

Fifteen articles deemed learning as a *continual, dynamic process* – without reference to a goal. In this way, social learning opportunities are sought based on continually updated information about the environment (Kameda & Nakanishi, 2003). In Swann’s (2017) investigation of collaborative management tools, learning is conceptualized within a recurring collaboration cycle. From a theoretical perspective, Manley, Chen, & Le (2015) propose a ‘circular model of dynamic learning capability’ which incorporates complex, multi-level organizational learning, collaborative relationships, risk perception, and continuous knowledge flows.
Finally, nine of the articles emphasize learning as the result of a process or activity, especially an intervention. Participation, engagement, and separate physical space can initiate a learning process (Tsekoura, 2016). Collaborative learning also starts with opportunities to persist, or “productive struggle,” in problem solving (Sengupta-Irving & Agarwal, 2017). The learning process is also characterized as the result of a specific intervention, such as a workplace training, mediated by characteristics of the learner, the training, and the existing workplace environment. In other cases, the intervention is a change in leadership, a reward system, or a policy change. Learning is often conceptualized as the result of or reaction to uncertainty – either to reduce or prepare for uncertainty.

Moreover, the starting point for learning is emphasized at a social, group, or collective level (16 articles). For example, strategic alliance-building and professional networks facilitate learning. Another 12 articles emphasize the organization. Using the metaphor of bird flocking systems, Chen et al. (2017) argue that an organization’s learning capacity dynamically directs “the swarm towards the best solutions” (p. 2). Other papers (10) emphasize “individual improvement” or the “skills, behaviors, and achievements of individual leaders” (Jones et al., 2017) as drivers in the learning process. Finally, a handful of articles recognize learning as a continuum between the individual and the organization.

**How is learning measured?**

Learning is measured with various empirical approaches, at different scales, and using numerous constructs. Of the 36 empirical studies, 18 represented quantitative studies and 15 qualitative, with three mixed approaches. Within quantitative methods, cross-sectional retrospective surveys dominated (12 studies) and the most common methods of analyses were statistical modelling techniques (i.e., logistic/multiple regression). Experimental or longitudinal (prospective) methods were rare (one each). The most-recent literature base exhibited a noticeable increase in qualitative or mixed method research designs, including interviews, focus groups, document analysis, and case studies. Observational (video analysis) and Participatory Action Research represented one study each. Longitudinal studies (4) were also more prevalent in qualitative research.
### Table 2.3 How learning was measured

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Key construct of learning measured (# of articles appeared in)</th>
<th>Examples of operationalizations (with reference)</th>
</tr>
</thead>
</table>
| Process            | Collaborations (9)                                            | • Level of interaction between groups (Farhad et al., 2017)  
|                    |                                                               | • Number of alliances (Hu et al., 2014)  
|                    |                                                               | • Perception of companionship (Montes et al., 2005)  
|                    |                                                               | • Partnership assessment framework (Marina Apgar et al., 2017)  
|                    | Searching, assessing, assimilating information (9)             | • Level of company commitment to – (Simonin, 2004)  
|                    |                                                               | • Number (increase) of information sources (Ritala & Hurmelinna-Laukkanen, 2013)  
|                    |                                                               | • Company “knowledge scanning” practices (Tu et al., 2006)  
| Performance        | (9)                                                           | • Number of research & development projects (Hu et al., 2014)  
|                    |                                                               | • Manager evaluation of strategic foresight activities (Rohrbeck & Schwarz, 2013)  
|                    |                                                               | • Percentage increase of return on assets (ROA) (S. Chen et al., 2017)  
|                    |                                                               | • Evaluation of capacity building actions (Shiel et al., 2016)  
| Participation      | (7)                                                           | • Frequency of participation (in meetings) (Schmid et al., 2016)  
|                    |                                                               | • Assessment of participant involvement and social negotiation (Maria Tsekoura, 2016)  
|                    |                                                               | • Group model building over time (Marina Apgar et al., 2017)  
| Personnel          | Leadership (6)                                                | • Number of leadership roles (Bougrain & Haudeville, 2002b)  
|                    |                                                               | • Managerial knowledge of employee performance (Lyles & Salk, 1996)  
|                    | Personnel characteristics (5)                                 | • Motivation to participate (Nafukho et al., 2017)  
|                    |                                                               | • Dedicated personnel for specific knowledge (Bougrain & Haudeville, 2002)  
|                    |                                                               | • Level of talent (Simonin, 2004)  
|                    |                                                               | • Extent of organizational flexibility (Lyles & Salk, 1996)  

From Global Ideas to Local Action
<table>
<thead>
<tr>
<th>Dimension</th>
<th>Key construct of learning measured (# of articles appeared in)</th>
<th>Examples of operationalizations (with reference)</th>
</tr>
</thead>
</table>
| Culture                   | Workplace characteristics (5)                                | • Work complexity, work variability, work empowerment (Nafukho et al., 2017)  
• Stimulation of innovative culture (Liu et al., 2017) |
| Opportunities for individual development (4) | • Workplace training relevance and efficiency (Nafukho et al., 2017)  
• Presence of social referencing (Kameda & Nakanishi, 2003) |
| Shared decisions (3)      | • Benchmark description, qualitatively assessed (Beckmann, 2017)  
• Mapping group decision-making processes (Maria Tsekoura, 2016) |
| Shared responsibilities (3) | • Level of commitment to improving coordination (Hurley et al., 1998)  
• Description of collective actions (Swann, 2017) |

Source: compiled by author

Authors of eight non-longitudinal articles explicitly suggest that longitudinal, qualitative approaches are needed for analyzing learning and capacity building – due to, for example, the dynamics of relationships, the time it takes “to capture the essence” of growth and impact (Hairon et al., 2017, p. 84), and the “evolution” of variables through time (Montes et al., 2005). Four articles suggest using ethnography to conduct “intimate, intensive, and prolonged fieldwork” (Hairon et al., 2017, p. 82), to have “direct contact with individuals, firms, and organizations engaged in the processes of learning” (Mackinnon et al., 2002, p. 305), and to study the “emerging patterns of dynamic behaviour” (Macpherson & Holt, 2007, p. 186).

Among empirical articles, learning was operationalized using multiple constructs. We extracted these verbatim or through an inductive process and synthesized into three broad dimensions: process, personnel, and culture. Table 2.3 outlines these dimensions, key constructs, and examples. In many cases, the construct was described; however, sometimes it was not explicit. For example, Kameda & Nakanishi (2003) examine social learning and its effect on adaptability. Using a
computer simulation game, 120 participants played the game in anonymous groups where social referencing opportunities (individuals learning from others) was possible for some but not all. The constructs were identified as “searching, assessing, assimilating information” and “opportunities for individual development.”

How does the literature link learning and building strategic capacity?

Many articles use ‘capacity building’ to identify a range of activities that develop technical and personal skills for the benefit of an organization, team or group. Brown (2007) offers the most comprehensive definition for institutional capacity building, which includes “human resource development, intra- and inter-organizational strengthening, and institutional reform” (p. 222). Most agree that capacity building activities occur among top management or among stakeholders and requires “active feedback” among those involved (Park et al., 2011, p. 231). Many suggest that the process of building capacity is continuous, part of long-term, strategic change, and demands resources towards competence building. The learning process can be formal (trainings) or informal (networking). Brown (2007) concludes that a “philosophy of learning” is a key attribute for building capacity (p. 231), and this learning is underpinned by strategic management decisions that document a process of and commitment to change.

The role of the context in learning for capacity building (LCB)

Many articles agree that if learning is a key attribute of building capacity, then the setting or context either facilitates or hampers it. For some, institutional forces determine (and often constrain) learning because of, for example, the infrastructure of systems, rules, routines in place or the character of the governing actions of organizations and individuals. For example, institutional “lock-in” constrains the innovation process (Mirimoghadam & Ghazinoory, 2017, p. 271) and a lack of institutional commitment is a major obstacle to capacity building activities (Shiel et al., 2016).

The workplace itself is a learning context – the physical setting and place for group processes to form and cultivate. An existing organizational culture which encourages learning through values and norms are reflected in: decision making and implementation processes; the quality and influence of its leaders;
and firm growth. To understand organizational growth, researchers need a deep analysis of the organization’s “prevailing rules and norms” and intentions that frame its goals (Macpherson & Holt (2007, p. 187). However, norms and values are difficult to capture due to their affective and “intangible” qualities (Pedler & Brook, 2017). For example, trust, confidence, and respect appear to be a characteristic and a product of an environment that encourages LCB.

Other aspects of the workplace setting drive the LCB process and suggest the importance of a deep-rooted organizational culture that values learning. Autonomy and flexibility in the workplace predict learning transfer from a training (Nafukho et al., 2017) and promote collaboration and performance (Lyles & Salk, 1996). When organizations recognize the need for new ideas and action, the “capacity to innovate” increases (Hurley et al., 1998). Finally, by providing a separate physical space for groups to cultivate relationships and “deep reflection,” pathways for social learning widen (Apgar et al., 2017). These conditions shape the organization’s value systems, and in turn, employee’s perceptions of those values.

The character of the individuals present in LCB also plays a role. Personal belief in the learning process and motivation to learn are associated with greater group collaboration and efficacy and application of learning into the workplace. In one study, group agency was mediated by individual agency – the “deliberate attempt and shared efforts to understand” (Damsa et al., 2010, p. 163). This intent or will to learn (Simonin, 2004) was not only an important characteristic among learners, but also found important among facilitators of a learning experience (Apgar et al., 2017).

**Conditions that foster learning for capacity building (LCB)**

With the learning context as a larger factor in the learning process, we now summarize the key conditions identified by the literature that foster learning for capacity building (LCB).

**Relationships.** The strength of relationships or the ability to build relationships, especially among influential group members (Pedler & Brook, 2017), strongly predicts an organization’s capacity to learn. From “deep and active relationships” (Ritala & Hurmelinna-Laukkanen, 2013), to local relationships embedded in the community (Shiel et al., 2016), to informal networks with regular meetings, relationships are critical for LCB. However, more relationships do not produce more knowledge transfer (Duysters & Lokshin, 2011); firms have a “cognitive limit.”
**Communication systems.** Combinations of horizontal and vertical communication channels create “overlapping knowledge” from which group learning can readily emerge (Bougrain & Haudeville, 2002). Articulating learning goals within the group directly impacts knowledge acquisition and participant engagement. Group dialogue, negotiating, reaching collective consensus, and group problem solving are critical aspects of group learning. Furthermore, ease of communication and understanding accelerates knowledge transfer.

**Available organizational resources.** Dedicating staff responsible for the learning process is a way to foster collaboration which stimulates a learning environment and, in turn, builds “administrative capacity” (Swann, 2017). Dedication of (financial) investment towards “in-house capabilities for research and development” (Bougrain & Haudeville, 2002) communicates to staff that the organization takes learning seriously (Koop et al., 2017). Furthermore, a reward system for learning is also linked to building capacity.

**Leadership styles and support from leadership.** Numerous articles cite collaborative leadership or management as critical for LCB. Hurley et al. (1998) nicely summarize this condition: “Leaders cannot simply select an organization’s culture; they must shape it” (p.52). For example, “distributed leadership”, focusing on engagement, action, and process rather than position or title, was shown to enhance “concertive actions” in groups (Beckmann, 2017; Jones et al., 2017). Trusting relationships between managers and employees influence employee commitment to organizational change and was found to be a predictor of employees searching and using new information.

### 2.4 Discussion: Implications for transportation planning

The traditional technical-rational foundations of transportation planning (Schwanen, Banister, & Anable, 2011) generate specific challenges around learning and the transfer of ideas and policies. Transportation planning is a field in which communicative processes are not center stage (Willson, 2001), where social elements are “poorly accounted for” (Vigar, 2017, p. 40), and in which complexities (e.g., of behaviors and institutions) are starting to be acknowledged only relatively recently (Bertolini, 2007; Salet, Bertolini, & Giezen, 2013). Other fields are equally complex but often seem more
advanced in their awareness, conceptualizations, and operationalizations of these complexities. We see this as the main reason it is so interesting and relevant to expand the current ways we research policy learning and transfer in this field. Exploring concepts and operationalizations of learning can help us understand ways to research and also generate potential solutions for practice triggered by experiences in other contexts. Here we discuss implications of our findings, first for transportation policy learning in practice, and then for research (summarized in Table 2.4).

Towards a new approach to transportation policy transfer practice

Our findings suggest an incongruity between research and practice of policy transfer. Transportation policy transfer activities are now often “city to city visiting” (Marsden et al., 2011), also called study tours, scan tours or excursions – implying group, or collective learning activities. While the goal of these activities appears to be policy transfer, adoption or implementation, our findings suggest these activities could also be viewed as other group processes occurring in a learning setting, such as professional development ‘trainings’. We have little understanding of what unfolds within these learning settings nor how they could help policy makers, transportation planners and relevant stakeholders build strategic capacity – which may or may not involve policy outcomes. Our findings demonstrate that the policy learning process, including policy tourism activities, may not demand policy outcomes at all, but rather may offer potential pathways for building strategic capacity to coordinate actions among the diverse organizations and networks that govern transportation-related activities.

The most-supported conditions that link learning and capacity building in this review were: relationships, communication systems, available (organizational) resources for learning and capacity building, and leadership. In practice, policy transfer activities that aim to build capacity would benefit from incorporating these conditions as a part of a long-term, strategic process. For example, in addition to a U.S. delegation visiting Amsterdam, The Netherlands, on a study tour to “learn” about cycling policies, the delegation may also benefit from practicing other LCB elements identified in this review – such as collaboration, relationship-building, and problem-solving. At the same time, that visit could be used as an intervention (or training) to not only study a new idea or policy, but to build relationships and galvanize leadership and support around a project or issue from home. These activities need to be bracketed by institutional and organizational culture of learning and resources to do so.
Towards a new approach for transportation policy transfer research

Findings from our review expand on critiques of the policy transfer framework (Evans, 2009; James & Lodge, 2003): it is not sophisticated enough to study learning, and especially learning for capacity building (LCB). Our findings indicate that learning is an integral part of a larger process (such as “innovation”) and may not bound by pre-determined outcomes or products (i.e., policy reform), but rather involve a constellation of complex, social and organizational conditions that shape each other. Understanding and studying policy learning and transfer as organizational learning phenomena may shed light on how groups of individuals shape transportation policy outcomes and how those outcomes feed further structural, organizational, or systemic changes. While adult education theory has been used to study policy learning (Dunlop, 2009), our findings suggest that organizational learning frameworks might benefit future research in this area, following Wolman & Page (2002).

Additionally, disentangling policy learning from policy transfer might provide researchers an opportunity to gain a deeper understanding for how transportation policies evolve, and for how the actors involved collectively build capacity to marshal those changes. Our findings address shifting the focus from what is learned in transportation policy learning to how it is learned and, with this, we point to the need to more explicitly orient policy learning and transfer methodologies towards social, group and collective learning processes and emergent dynamics. One possible pathway for assessing learning is to use or adapt the most-cited theories and frameworks identified in this review. To continue with the example of study tours, Holton & Baldwin’s (2003) Transfer of Learning theory could be used to analyze how the study tour, in this case a type of training or intervention, impacts knowledge transfer.

To more thoroughly address the how, researchers need access to direct and observable experiences of practitioners undergoing policy transfer activities. “Following” the people, materials, meetings, and narratives (see Wood, 2016) attends to these processes. Here, we build on the work in policy mobilities, which strives to expand the tradition understanding of policy transfer to include “the various ways humans are mobile” (McCann, 2010 p. 112) by calling attention to qualitative methods (Cook, 2008; McCann & Ward,
2012b, 2012a; Peck & Theodore, 2010; Wolman & Page, 2002) and unpacking mobility as social practice and embodied experience (Jensen, 2013). This perspective is extremely valuable, however, to our knowledge, studies on policy mobilities have not yet addressed capacity building. The specific variables suggested here which link learning to capacity building could augment this work. Although existing methods in urban planning can be used to analyze LCB variables like collaboration and performance (i.e., CIMO-logic from Straatemeier et al., 2010), we suggest experimenting with (longitudinal) methods new to transportation but prevalent in mobilities and other social science fields (i.e., using ethnography) to assess dimensions of LCB synthesized here, namely process, personnel characteristics and (organizational) culture.

Finally, a deep understanding of group, organizational, and institutional dynamics whilst undergoing policy transfer – and where they are in this process of continuous, long-term, strategic change – is crucial (by “organizations” we draw on the broadest meaning to those directly and indirectly involved in transportation governance, public or private). Further research could, for example, experiment with policy transfer learning settings (like study tours) as an intervention to test various learning (and teaching) methods that enhance LCB conditions marked in this review. Additionally, further research could unravel systems in place that inhibit learning or “lock-in” the innovation process specific to the field of transportation.

2.5 Conclusions

Using a literature review process, we turned to conceptual and empirical knowledge from other disciplines to explore learning and how learning contributes to building strategic capacity to coordinate actions. We examined how learning is conceptualized and measured, and how the literature links learning and strategic capacity building. Our main findings from the literature are:

• Learning is most often conceptualized as part of a larger process, usually a precursor to a goal (i.e., innovation). The collective level is the primary starting point.
• Process, personnel characteristics, and (organizational) culture were the most common constructs for measuring learning.
• Learning is explicitly part of a capacity building process.
• The learning context is a condition that fosters learning for capacity Building (LCB), specifically: organizational flexibility, recognizing the
Learning conceptualized as...
- As part of a larger process (i.e., innovation); a continual, dynamic process; or result of a process (i.e., intervention)
- Interventions come in various forms; i.e., new leadership, reward system, workplace training
- Starts at the group level

Table 2.4 Key findings and implications for transportation policy transfer and research

<table>
<thead>
<tr>
<th>Finding</th>
<th>Implications for transport policy transfer practice</th>
<th>Implications for research on policy transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning conceptualized as...</td>
<td>A. Policy transfer activities (conferences, scan tours, study visits, etc.) are a part of a larger strategy of learning for capacity building (LCB)</td>
<td>A. Orient research methodologies towards social, emergent processes rather than individual experiences or too-broadly defined “city learning”¹</td>
</tr>
<tr>
<td>• Interventions come in various forms; i.e., new leadership, reward system, workplace training</td>
<td>B. Policy transfer activities can also be interventions or trainings, but along with evaluation and a focus on learning for capacity building.</td>
<td>B. Interventions (i.e., training or reward system) could be staged and used as experimental methodology to assess learning for capacity building. Activities that involve collaboration, communication, relationship- and alliance building should be included as measurable variables²</td>
</tr>
<tr>
<td>• Starts at the group level</td>
<td>C. Policy transfer activities addressing only technical or “best-practice” solutions limit the extent and depth of capacity building.</td>
<td>C. More attention/emphasis on group learning in the policy transfer process, rather than a singular (limited) focus on a specific policy</td>
</tr>
</tbody>
</table>

¹ From Global Ideas to Local Action
² Table 2.4 Key findings and implications for transportation policy transfer and research

need for new ideas and action, and physical space for group development.
- Antecedents to LCB include relationships, communication systems, available resources, leadership and support.
<table>
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<td>Learning measured by/with...</td>
<td>• Using an even distribution of quantitative and qualitative research methods, and longitudinal studies</td>
<td>- E. Incorporate qualitative methodologies in internal evaluations of projects and deliverables; include assessments of process, personnel and organizational culture (examples of operationalizations in Table 2.3); provide data and results to organizational leaders and use as a reference point for future evaluations.</td>
</tr>
<tr>
<td></td>
<td>- Key constructs are process-related (collaboration, performance, participation, and searching, assessing, assimilating information), but also personnel and (organizational) culture</td>
<td>- F. Policy transfer activities/interventions include active dialogue engagement from/between participants</td>
</tr>
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<td></td>
<td>- Time and experience important learning variables, but not directly measured</td>
<td>- G. Policy transfer activities should be sensitive to time (i.e., duration of visit, tours, speakers, etc.) and experience (i.e., using the transport mode under investigation)</td>
</tr>
<tr>
<td>Learning is a key attribute of capacity building (CB)</td>
<td>• CB activities occur among top management and among/between stakeholders</td>
<td>- H. For policy transfer activities to impact CB, activities should convene curated groups (which may take time, research, and input from networks or outside organizations).</td>
</tr>
<tr>
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<td>• CB is continuous, part of long-term strategic change</td>
<td></td>
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<tr>
<td></td>
<td>• CB involves directing resources towards competence building</td>
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### Finding

Capacity building (CB) conditioned by learning context through...

- Institutional forces (systems, rules, routines; lock-in, lack of commitment)
- Organizational culture (values, norms)
- Intangible qualities of organizational culture (trust, confidence, respect)

### Conditions that foster learning for capacity building...

- Relationships (strength of and the ability to build)
- Communication systems (group dialogue, reaching collective consensus, articulating goals)
- Workplace conditions (organizational flexibility, recognizing the need for new ideas and action, physical space for individual/group development)
- Character of individuals present in the learning process (personal belief in learning, group agency)

### Implications for transport policy transfer practice

K. Policy transfer activities for CB should be sensitive to these conditions and respond with activities that allow participants some level of freedom from institutional forces, organizational culture, and workplace conditions that may hamper trust, confidence, and respect.

L. A physical space or setting/location for these activities might stimulate individual and group development.

M. Be aware of, cater for the diversity of individuals.

N. Policy transfer activities for CB can address conditions not necessarily as skill-building activities, but as fostering and supporting the emergence and practice of these skills.

O. Internal and external communication systems need to more deeply understand stakeholders, work towards building coalitions, and framing the issues from multiple perspectives.

Q. Funding and staff should be dedicated to LCB activities where policy learning is included and perhaps a (secondary) goal.

R. Leadership present and engaged during LCB activities.

### Implications for research on policy transfer

K. Essential is a comprehensive understanding of group, organizational, network and institutional dynamics of those undergoing policy learning activities. See also above: A – E

L. See above: D, E, G

M. Measure individual characteristics and their relations with learning strategies and outcomes⁵

N. See above: A, F, K, M

O. See above: C, D, H, M

P. See above: J

Q. See above: C, F, H, M

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From Global Ideas to Local Action

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<td>Character of individuals present in the learning process (personal belief in learning, group agency)</td>
<td>M. Be aware of, cater for the diversity of individuals.</td>
<td>M. Measure individual characteristics and their relations with learning strategies and outcomes⁵</td>
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<td>Conditions that foster learning for capacity building...</td>
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<td>Relationships (strength of and the ability to build)</td>
<td>O. Internal and external communication systems need to more deeply understand stakeholders, work towards building coalitions, and framing the issues from multiple perspectives. P. See above: N</td>
<td>O. See above: C, D, H, M</td>
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<tr>
<td>Communication systems (group dialogue, reaching collective consensus, articulating goals)</td>
<td>Q. Funding and staff should be dedicated to LCB activities where policy learning is included and perhaps a (secondary) goal.</td>
<td>P. See above: J</td>
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<td>Available organizational resources (dedicated staff, funding)</td>
<td>R. Leadership present and engaged during LCB activities.</td>
<td>Q. See above: C, F, H, M</td>
</tr>
<tr>
<td>Support from leadership (collaboration, commitment, cohesion)</td>
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In sum, learning and capacity building seem to be mutually conditional: learning needs strategic capacity and strategy capacity is strengthened through learning. Capacity building involves a host of intentional activities (i.e., interventions) coordinated between a select group of individuals—often leaders—who are interconnected by a learning process that, over time, produces ‘change.’ The ability of these leaders to establish and strengthen relationships with other relevant, influential stakeholders is just as important as these leaders partaking in learning themselves. Building capacity involves a chain of incremental and transformative actions, facilitated by strategic management decisions and embedded in an environment that continuously encourages learning, including acting on long-term, proactive plans documenting a process of and commitment to change.

We aimed to tease out relevant implications for transportation planning research and practice regarding policy learning and transfer. For research, our findings point to a need to advance our awareness of and experience with qualitative research methods that incorporate collective dynamics and experience in policy transfer, especially with ‘policy tourism’ on the rise. Questions for future research include: How and where are current transportation ‘organizations’ learning about sustainable mobility policies? What results from that learning? How are they using that learning to build capacity to coordinate actions? In practice, we urge those involved in policy transfer activities to consider incorporating capacity building conditions and to use them as a part of continuous, long-term, strategic process. Although measuring the width of a “best practice” cycle path in The Netherlands can be useful, “best practices” oversimplify the practice practitioners may actually need: relationship-building, communication, and resources to continue learning.
References*


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*References included in the review are not listed; please see Appendix A.*


Notes

¹See Wood (2016) for a conceptual and methodological framework for conducting policy mobilities research, which by “following the people”, “materials”, and “meetings” the research is more “sensitive to the ephemeral, ethereal and experiential assemblages” that constitute modern policy making.

²See Thomas & Bertolini (2015) for an effective communicative workshop on policy transfer with planning stakeholders.

³See te Brommelstroet & Bertolini (2008) for a conceptual and applied framework “Mediated Planning Support” systems which combines principles of knowledge management, system dynamics, and software innovation. Intermediate steps in the process are grounded in participation and mutual, social learning.

⁴See Dunlop (2009) for a typology of decision–maker learning in the policy transfer process, one potential variable in policy learning activities.

⁵See Straatemeier et. al (2010) for CIMO-logic framework, which identifies and assesses a given context (C), the potential of interventions (I) and mechanisms (M) to deliver expected outcomes or effects (O).