

DIPLOMARBEIT

Policy Learning in the Context of Sustainable Urban Mobility

An analysis of international study tours on sustainable urban mobility and
their contribution to organizational learning and policy change.

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Abstract

Due to rising environmental and spatial problems, cities aim to make their transportation systems more sustainable. In order to achieve this, they often look to other places, which seem to do it better. Also, in research one can recognize an emphasis on so-called best-practice examples. So far many studies cover the transfer of policies from one context into another; however these studies are limited in the field of urban transportation. Furthermore, studies so far mostly use a theoretical framework, which disconnects the learning outcome on the policy with the actual learning experience. For this reason, this research examined learning from international study tours on urban mobility and takes a closer look on *how* it is actually learned and what the impacts of it are for the “learning” city. To operationalize this I chose the best-practice example, the Netherlands, and examined how US organizations learned from it.

The research was conducted applying a mixed methods approach. A quantitative survey with former policy tour participants from the United States informs on organizational learning of the study tours. The case study on the US-city of Denver further enhances the survey results and links the findings on organizational learning to policy change in the “learning” city.

The results show that learning from international study tours is happening on an organizational and policy level, yet under certain important framework conditions. For enhanced organizational learning, the mixed-methods approach shows that the active experience in the peer-city, together with a structured approach to report the gained information back home, is essential. The direct influence on concrete policy outcomes, as focused in traditional policy transfer studies, can be summarized as rather ideational and physical development oriented. Looking at policy outcomes from a broader angle made it possible to recognize the role of study tour inputs in the overall policy development of Denver. Making explicit connections was difficult, as many factors influence and shape the policy process. However, international study tours did support the move towards more sustainable mobility in Denver. Generally, study tours can be seen as a tool of persuasion of important stakeholders in the already kicked-off process to further enhance sustainable mobility in the city. Through the application of this “tool,” new approaches to planning can be learned.

Zusammenfassung

Zunehmende Umweltprobleme und u.a. aus dem Individualverkehr resultierender Raummangel zwingen Städte vermehrt sich mit den Möglichkeiten einer nachhaltigen Verkehrsplanung auseinanderzusetzen. Dabei orientiert man sich oft an Städten, die besser mit dieser Herausforderung umzugehen scheinen. Auch in der Wissenschaft ist immer mehr die Rede von Best-Practice Beispielen. Studien beschäftigten sich bereits mit der Frage *Warum*, *Wer* und mit welchem Erfolg Lernen von Best-Practice Beispielen stattfindet. Jedoch die essentielle Frage nach dem *Wie* steht nicht im Fokus.

Diese Forschungsarbeit untersucht *Wie* nachhaltige Mobilitäts-Policies tatsächlich gelernt werden und zieht vermehrt „weiche“ Erfolge, wie ein erweitertes Verständnis, neue Perspektiven etc. in Betracht. Der Gegenstand dieser Forschung sind Policy Learning Touren („Study Tours“) in den Niederlanden. In einer quantitativen Umfrage mit ehemaligen Tour-Teilnehmenden aus den Vereinigten Staaten wird ermittelt was der Lernerfolg von diesen Studienreisen ist, welchen Einflussfaktoren das Lernen unterliegt und inwiefern Organisationen von diesen Touren profitieren. Besonders in den qualitativen Interviews in der Fallbeispiel-Stadt Denver wird auf den konkreten Einfluss des Lernprozesses auf Policies im Feld der Mobilitätsplanung eingegangen.

Die Ergebnisse dieser Arbeit zeigen, dass Study Tours positive Ergebnisse für die lernende Organisation, als auch für Policies bringen, jedoch unter gewissen, wichtigen Rahmenbedingungen. Der „Mixed-Methods“-Zugang zeigt, dass dabei u.a. das aktive Erleben in der besuchten Stadt und ein strukturierter Prozess das Gelernte zu Hause in der Organisation zu teilen eine wichtige Rolle spielt. Der direkte Einfluss auf konkrete Policy-Maßnahmen, wie in der „klassischen“ Policy Transfer Theorie fokussiert, beschränkt sich eher auf Inspiration und adressiert meist physische Entwicklungen. Der erweiterte theoretische Zugang durch die Social Learning Theorie ermöglichte es die Auswirkungen von Study Tours im gesamten Denver-Policy-Kontext zu betrachten. Explizite Zusammenhänge sind schwierig nachzuverfolgen, jedoch konnte durch eine detaillierte Analyse nachvollzogen werden, dass Study Tours den Policy Prozess positiv beeinflusst haben.

Zusammenfassend legt diese Arbeit dar, dass Study Tours als persuasives Planungsinstrument dienen können, um wichtige AkteurInnen davon zu überzeugen die Weichen für eine nachhaltigere Mobilitätsentwicklung zu legen. Ist dieser Schritt getan, können Study Tours darüber hinaus Input für konkrete Maßnahmen und Planungsdesigns geben, dabei spielen unterschiedliche lokale Gegebenheiten eine größere Rolle, als im Prozess der Inspiration.

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Abbreviations

DDP	Denver Downtown Partnership
DK	Denmark
ES	Spain
LTSI	Learning Transfer System Inventory Survey
NGO	Non-governmental organization
NL	The Netherlands
PFB	People for Bikes
Q#	Refers to the number of survey question
RNO	Residential Neighborhood Organizations
ROLE	Readiness for Organizational Learning and Evaluation Instrument
RQ	Research Question
RTD	Regional Transportation District
ST	Study Tour
US	United States

Table 1: Abbreviations

1. Introduction

How can our cities be better? How does change happen? What makes cities livable? How did we end up here? Planning for what? These are not my research questions; these questions and many more guided my search for a master thesis topic. My own standard for this thesis was high and every feasible topic seemed too irrelevant. In the end, I settled for a study which examines to some extent paradigm change. Specifically, a change in paradigm in urban mobility, which touches upon many, if not all, of the aforementioned questions. How we get around in cities is utterly connected with how our cities look, feel and are (see Mehta, 2013; von Schönfeld & Bertolini, 2017). This is sometimes forgotten in the disciplinary separations between planning, engineering, sociology, political science, urban design, law and others (see Cresswell, 2010). The studies of spatial planning allow an overarching approach. How we get around in cities is at the heart of urban planning and this research intends to shed light on how orientation towards more sustainable transport in cities happens. Regarding existing literature, one realizes the question of *how we learn* to enable change and its outcomes are often not addressed. The research at hand aims to fill this gap and examines how learning from international study tours on sustainable urban mobility can contribute to changing mobility policies.

My main research question is:

How does learning from international study tours on sustainable urban mobility happen and how does it contribute to changes in urban mobility policies?

This research considers sustainable mobility as walking, cycling and transit, with a specific focus on cycling. Bikes are affordable, healthy, and fast (Banister, 2005; Pucher & Buehler, 2008). Their use diminishes space usage, noise, pollution and consequently contributes to better public health and more public space freed for other uses than motorized individual transport (Banister, 2005; Reid, 2017). Recognizing the strength(s) of the bicycle, I do not want to “reduce” this research to cycling, as it is more than that. The bicycle (and walking) is the embodiment of sustainable mobility, and according to Banister (2005) the most sustainable of all sustainable mobilities. Furthermore, it is shown in many studies that innovations such as electric cars etc., shall not be taken blindly as positive and thus need further reflection on its social, economic as well as ecological sustainability aspects (see Banister, 2005, p. 38).

So far very little research explicitly examined the role of learning in the policy process, especially in the realm of sustainable mobility (see chapter *State of the Research & the Contribution to it*). Simultaneously the Netherlands, treated worldwide as the best-practice example for cycling (see

Montgomery, 2013; Pojani & Stead, 2015; Reid, 2017), has become increasingly popular as a destination for international study tours. About 150 international delegations visited the Netherlands in 2015 to learn from the city's experiences and practices (Glaser, 2017a). These learning trips are guided tours that can take from a couple of hours to several days and are in this work referred to as "study tours"¹. Despite the popularity of study tours, no scientific research has yet elaborated on their outcomes. Hence this research examines learning through international study tours on sustainable urban mobility with a focus on the Netherlands. The United States illustrate the "learner" country with a detailed case study on the city of Denver. The motive for this choice can be found in the chapters *Changing Planning Paradigms & Learning* and chapter *Case Study Selection*.

1.1. State of the Research & the Contribution to it

Researchers on policy learning and mobility planning often refer to the policy transfer theory and related theories such as cross-national learning or lesson-drawing (Marsden, Frick, May, & Deakin, 2011, 2012; Spaans & Louw, 2009). Within that theoretical framework many authors came to the conclusion that little research on policy transfer in spatial planning exists (Marsden & Stead, 2011; Spaans & Louw, 2009), and especially not in transportation planning (Thomas & Bertolini, 2015). Even fewer studies address the success(es) of policy transfer nor the outcome (Marsden & Stead, 2011). Most studies are rather policy process or action-based (Marsden & Stead, 2011; Thomas & Bertolini, 2015), possibly due to the widely used policy transfer approach given by Dolowitz and Marsh (2000). Their framework provides a normative approach and implies that transfer is possible. The concept of Dolowitz and Marsh (Dolowitz & Marsh, 2000) is based on six main questions, which should describe the policy transfer process:

1. Why do actors engage in policy transfer?
2. Who are the key actors involved in the policy transfer?
3. What is transferred?
4. From where are lessons drawn?
5. What restricts or facilitates the policy transfer process?
6. How is the process of policy transfer related to policy "success" or policy "failure"?

Regarding these key questions, many important aspects are covered, however, one major aspect is left aside; the question of *How is policy actually learned?* Seemingly, the "input factor" and the dynamics of learning do not play a role (Colomb, 2007, p. 350). Several authors state that measuring policy learning is difficult, and that there is no framework given so far to answer to the question of *How* and that it is especially difficult to answer whether learning has or has not taken place (Stone, 2001, p. 35). Colomb (2007) studied organizational and policy learning from the European INTERREG

¹ Study tours can also be called study visits, fact-finding trips, excursions, or scan tours.

Programmes, and argues that the framework from Dolowitz and Marsh (2000) eludes the dynamics of learning, hence she constructs a bottom-up theoretical framework strongly based on cooperation (Colomb, 2007).

Further critique of the model of Dolowitz and Marsh is its main focus on “hard” policy outcomes. In their theory, “soft” outcomes such as changes in thinking, new ideas, and new concepts are the “lowest” level of policy transfer and are otherwise not much regarded (Dolowitz & Marsh, 2000; Dolowitz & Medearis, 2009). Sometimes scholars using their concept describe these “soft” outcomes factors (Poiani & Stead, 2014, 2015; Stone, 2004), yet they are not focused upon. Banister (2005, p. 94f) argues that change can only happen if “hard” (formal organizational structure, laws, subsidies and taxation) *as well as* “soft” (social relations, informal networks/routines and professional culture) infrastructure changes. Therefore, my work emphasizes “soft” outcomes.

The approach of policy mobilities (see McCann, 2011; Wood, 2016) is more framed around “soft” outcomes and researches the “various ways humans are mobile” (McCann, 2011, p. 112). Although many conceptual descriptions exist (e.g. Wood, 2016), little empirical evidence is given. Regarding the general development of policy learning theories, policy change was often thought of as a consequence of social pressure, in which knowledge did not play a role and the government, driven by social forces and conflicts rather than by knowledge, was perceived as rather passive (Bennett & Howlett, 1992, p. 275). As Bennett and Howlett (1992, p.288) state, there is a “relative lack of empirical research” on the role of learning in policy making. One of the first that introduced this new thought that policy making is more than the game of power and pressure was Hecló (Hecló, 1974), he wrote:

“Tradition teaches that politics is about conflict and power [...] This is a blinkered view of politics and particularly blinding when applied to social policy. Politics finds its sources not only in power but also in uncertainty - men collectively wondering what to do [...] Policy-making is a form of collective puzzlement on society's behalf” (Hecló, 1974, p.305)

Although recognized already then, there are still no clear answers to the role of learning in the policy process (Bennett & Howlett, 1992, p. 276; Colomb, 2007). Regarding specifically the planning domain, von Löwis (2008) writes that there is no clear instrument to measure learning in planning organizations. Although some attempts have been made through the use and research of planning support systems, e.g. te Brömmelstroet (Brömmelstroet, 2013).

Von Löwis (2008) also shows in her research how organizational learning and policy making is intertwined. Especially in the realm of planning, which is in most places a public function, the border between the level of organizational learning and policy learning is unclear (see also Kemp & Weehuizen, 2005, p. 4). This gives the reason to investigate organizational learning as a possible doorstep or forerunner to policy learning. Further it must be connected to instruments that measure learning from other disciplines, as operationalization of concepts that consider learning in policy making are not given (Bennett & Howlett, 1992; von Löwis, 2008). This research addresses this lack by referring to different ways to measure learning given in other disciplines and connecting them to learning in urban mobility from international study tours.

Generally, the current state of research on the return of investment of international study tours is unsatisfying. Given the high number of such tours and the remarkable amount of money spend on it

by public organizations as well as private, a clearer understanding of its actual outputs is desirable (see Marsden & Stead, 2011, p. 498f). This research tries to contribute to this by building a clear framework to measure learning from international study tours from the organization to the policy and thereby considering “hard” as well as “soft” outcomes of learning.

1.2. Relevance for Planning

The shift from an authoritarian understanding toward a cooperative understanding of planning brought along the recognition that the planning process involves many stakeholders and needs an increased amount of corporation and collaboration (Selle, 2005, p. 122f). Thus besides “hard” steering instruments, such as building codes or nature conservation, “soft” steering instruments broaden the spectrum of measures planners can take (Selle, 2005, p. 124). The work at hand contributes to “hard” and “soft” planning instruments: On the one hand, the new knowledge gained on the study tour can be put into concrete action, influencing direct steering instruments such as the construction of new bicycle infrastructure, or influencing indirect regulative instruments such as establishing planning standards for bike ways (see Selle, 2005, p. 120f). On the other hand, the learning experience can be applied in other ways, for example, convincing others of a new (planning) idea. Referring to Selle (2005, p. 120ff), this can be categorized as an indirect persuasive/communicative planning instrument.

The hypothesis of this research is that study tours lead to organizational learning. One outcome of organizational learning processes could be organizational restructuring (see Nonaka & Takeuchi, 1995a) in order to better cope with changing mobility trends. After Selle (2005, p. 119ff), this would be described as a structuring instrument for enhanced process steering and organizational development. The outcomes of this research will show the extent to which planning instruments were influenced by study tours. Beyond the level of concrete planning instruments and outcomes, this work relates to a changed understanding in transportation planning. As Selle (2005, p. 124ff) writes, planning instruments are inherently connected to planning values and goals (see also Schindegger, 2015). This research aims to find out the extent to which underlying planning values and goals are impacted by study tours and the role study tours play in changing mobility paradigms.

In addition to providing direct support for city planners, the outcomes of this work are relevant for planning organizations from the local to the supranational level:

First, the majority of people participating in study tours discussed in this research are civil servants in a public department related to planning. Coinciding with the growing popularity of such study tours (see Bracic, 2017), of course there is a growing interest in the impacts of such tours. As described in the chapter *State of the Research & the Contribution to it*, there is so far not much knowledge of the actual learning taking place or resulting from the experience. From existing (non-scientific) literature one can read about the “amazing” experience people had (see Vanderkooy & Glaser, 2016), however, with tightening public budgets, this argument might not give enough reason to continue spending money on study tours. This work shall provide scientific evidence of the organizational and

policy impact of study tours on urban mobility. While conducting this research, I was in touch with several planning organizations of which all showed great interest in this work.

Second, spatial planning is literally flooded with good-and best-practice examples (e.g. URBACT, 2018). The European Union, especially, as well as America, take the approach that good solutions already exist and they simply need to be implemented in the next place (Marsden & Stead, 2011, p. 499). However, manifold studies exist on the transfer (and failure) of policies and it is widely agreed that the spread of best-practice examples is difficult and context dependent (Selle, 2005, p. 285; Wood, 2016). The most used approaches leave out the main question of this inquiry, which is *HOW*. *How does learning happen and to which outputs does it lead?* This research gives deeper insight for how learning from best-practice happens through the means of international study tours.

Third, the new European Urban Agenda demonstrates the European Union's interest to enhance knowledge and knowledge exchange between cities through its three main pillars (Karmann-Woessner, Hartig, Schwartz, & Vlcek, 2017):

- Better Regulation: increase the influence of cities in European policy making
- Better Funding: better access to European funds
- Better Knowledge Exchange: *increase the urban knowledge base by sharing best practice and cooperation*

Since, to my knowledge, no studies explicitly examine learning from study tours to best-practice cities on the organizational as well as policy level, this research is meaningful for the new European Urban Agenda. Albeit the examined country is the United States, there will be implications that are also valid for the EU and other states/cities that wish to learn effectively from other peer-cities.

1.3. Methodological Approach & Structure of the Work

The methodology and the structure of the work are as follows: to begin I present in more detail the underlying framework conditions for this research in the chapter *Changing Planning Paradigms & Learning*. Then, the theoretical framework, which draws to theories from *organizational learning*, *group learning*, *social learning* and *policy transfer* is laid out. From a thorough theoretical discussion, the main variables to measure learning and its influence on policies are derived and incorporated in the methodological approach taken. The methodology is discussed in the *Methodology* chapter. A mixed-methods approach combines a quantitative survey, qualitative interviews and a participatory observation. The survey was developed drawing to existing instruments measuring organizational learning and outcomes of group processes. Hence the survey has its emphasis on organizational learning and on the way the learning process from the individual to the organization took place. It was sent out to US-professionals that have participated in international study tours on the subject of sustainable urban mobility in the last ten years. In a case study on the city of Denver, interviews further inform the survey results and shed light on the impact of study tours on policies in the city. Furthermore, the participatory observation shall give a better comprehension of the Denver context. Methodological triangulation happens specifically on the overlap between the information gained in

the interviews and the survey, as both touch upon organizational learning. The gained quantitative data was analyzed applying descriptive statistical methods and regression analysis. The qualitative data was analyzed applying the summarizing content analysis after Mayring (1991). Following the detailed methodology is a description of the Denver case study context. From page 60 onward, the results will be displayed followed by the discussion which draws back to theory. The conclusion refers back to the opening introduction chapter and shall lead to the recommendations for planners and policy makers. In the Annex, more detailed background material, especially regarding the methodology, can be found.

2. Changing Planning Paradigms & Learning

2.1. Planning for Cars



Picture 1: New modern planning at the 1939 World's Fair in New York: General Motors pavilion; Source: Taylor (2013)

Henry Ford streamlined the mass production of the automobile in the late end of the 19th century (Montgomery, 2013, p. 70). The decade after the automobile it faced opposition in nearly all cities (in- and outside the United States) (Montgomery, 2013, p. 70ff). In the first decade of the car and in the US alone, more than 200 000 fatalities occurred, among them mostly pedestrians and many children. This gave good reason for opposition against the car (ibid.). Strong lobbying, however, from car owners, car manufacturers and car dealers² led to the movement called "Motordom". With the aim of gaining more space for cars and reducing barriers to drive faster, they lobbied under the pretense of "safety" and "freedom" for a change in perception of what streets are for (ibid.). They succeeded (ibid.). The urban historian Peter Norton calls this a "mental revolution, which had to take place before any physical changes to the street"³ (Montgomery, 2013, p. 71). The still standing American cliché of the automobile as a symbol of freedom was shaped in this period (Montgomery, 2013: 72f). Motordom campaigns were published in newspapers and city halls, and the movement hired own engineers to propose new designs for city streets that embraced the car as its priority user (ibid.). The modern city of the future was presented as a city of cars (see Picture 1). By the 1920s, jaywalking was declared as a crime and the major shift from the view to prevent accidents by controlling cars to the action of controlling pedestrians occurred (ibid.). Streets were redefined from being a place for people to being a place for cars, which ought to move around fast without much impediment (ibid.). The movement of pedestrians and other modes of transportation, such as bicycles, became restricted to certain regimented corners of the streets such as crosswalks

² Among others Shell Oil and General Motors strongly supported this (Montgomery, 2013, p.74).

³ I would like to draw specific attention to the importance of "mental revolution", as it can be directly related to "soft" learning outcomes.

and streetcar boarding areas (Montgomery, 2013, p. 73). With the publication of the first traffic regulations in 1928, and the “Manual on Uniform Traffic Control Devices” (MUTCD) first published in 1935 (see United States Department of Transportation - Federal Highway Administration, 2017) the car as the dominating mode of transportation was definitely set in stone (Montgomery, 2013, p. 73). Intent on keeping up with the modern world’s new ways of transportation, hundreds of cities around



Picture 2: Denver Larimer Street and 16th Street 1889; Source: Jackson, W.H. in McLeod (1986, p.173)

the world adopted such traffic planning regulations (ibid.). As described by Montgomery (2013, p. 76), the UK more or less copied the US model and published the planning guide “Traffic in Towns” by Colin Buchanan (1963), a blueprint for car-dominated planning. The transition to the automobile was a worldwide phenomenon and learning from other cities also took place. As an example, policy learning tours led planners to Germany to learn from the autobahn system, which was

built in the 1920s (Montgomery, 2013: 75f). In the 1930s the British Road Federation started a government education campaign, which undertook study tours to other countries (ibid.), and US planners helped to create a car-oriented vision for Amsterdam (which did however never get realized) (de Lange, 2018).

Subsequently, in 1956, the “US Federal-Aid Highway Act” invested billions of dollars into the construction of new highways that, in many cases, pushed right into the core of American cities (see Mohl, 2002; Montgomery, 2013, p. 75). Once the automobile fully arrived, new problems were solved by applying solutions that led to a self-perpetuating system. Car crashes were circumvented by building wider streets; streets were expanded to avoid traffic jams; and distractions such as pedestrians were banned to enhance safety (Montgomery, 2013, p. 99f). These processes led to even more streets being understood as solely the place of motorized movement (Montgomery, 2013, p. 70ff). Public transportation, which was in many American cities until the mid of the 20th century well developed (see Picture 2), got destroyed and left in a very bad shape or not existing at all anymore (Forney Museum of Transportation, 2018; Montgomery, 2013). Similarly, it happened to the bicycle, which used to be a popular and well represented mode of transport in many global cities (Reid, 2017, p. 5). In the pre-car-era-street, it coexisted on equal terms with tramways, pedestrians and horse carriages (see Picture 2). However, as described above, all non-motorized modes of transport got pushed aside and were no longer perceived as eligible to use the street on the same terms as motorized vehicles. When it came to the formulation of the MUTCD, a planning guide (published by the federal government and it is enforced by law) (see FHWA, 2009, 2018), a group of cyclists called “vehicular cyclists” lobbied for their notion of cycling, “that cyclists fare best when they act and are treated as drivers of vehicles” (Reid, 2017, p. 4), which implies mixing with cars and trucks on roads. Hence, when the MUTCD guide appeared, cycling infrastructure did not play a role and road builders did not consider cycling infrastructure. This decision regarding cycling infrastructure is present until

today. In 2007, the main American street planning guides, the MUTCD (described above), and the AASHTO (American Association of State Highway and Transportation Officials) guides (see AASHTO, 2018) on the design of highways and streets under federal control did not include actual planning regulations on protected bike lane infrastructure (Higashide, 2018). Only with the publication of the *NACTO Urban Bikeway Design Guide* in 2011 (see NACTO, 2011) did the gap become addressed (Higashide, 2018). Then in 2014, the MUTCD guide adopted some standards from the NACTO guide (Higashide, 2018). For the design of the NACTO guide, bike-lane designs from around the world were studied and especially consulted was the CROW design manual (see C.R.O.W., 1993), which sets the cycle design standards for the Netherlands (Higashide, 2018; NACTO, 2011).

Furthermore, once the automobile as an easy way to get around was established, together with federal home mortgage subsidies and zoning plans that created sprawl, the development of single house living suburbs accelerated (Montgomery, 2013, p. 75ff). Downtown became more and more abandoned and everyone who could afford to moved away into the suburbs (ibid.). This movement went hand in hand with spatial ethnic separation (ibid.), especially in the United States.

Summing up, the reviving concept of “shared space” is nothing new. As shown in Picture 2, streets in the end of the 19th century belonged to several different modes of transportation until the dominance of the automobile raised barriers and claimed the street as the place for cars (see Montgomery, 2013, p. 70ff). Today it takes a very critical mindset to even question why, when designing streets, one automatically puts the car first and active transportation second. Growing up in the absolute paradigm of cars, as a normal and belonging part of the city, makes this questioning difficult. As demonstrated, learning from other cities/countries played a role to this global paradigm change towards planning for cars. Albeit recognizing the strong lobbying of powerful enterprises due to material interests in this paradigm change, I refer to Hall (1993, p. 292), who claims that “we need to know much more than we now do about the role that ideas play in policymaking and in the process whereby policies change.” He also cautions “against positioning too rigid a distinction between “politics as social learning” and “politics as a struggle for power”” (1993, p. 292).

2.2. Today’s (Urban) Challenges and New Approaches to Mobility Planning

The automobile dominates many cities around the globe and the effects of this are well-documented. They include, among others, congestion, enormous space usage, transport inefficiency, loss of work productivity, fatalities, etc. Data show current unsustainable trends in cities, and yet the solution also lies in cities themselves, where today more than 50% of the world’s population lives (World Bank, 2016).

The US has been the forerunner in car-based urban planning, where 81% of all trips are made by car (ITF, 2017, p. 136), and as such, American cities and citizens have experienced perils. The road death rate in the United States was at 37 461 in 2016 (NHTSA, 2016). Further, in 2010 in the United States more than 1,7 million people died from ambient air pollution (OECD, 2014c). The average American urban commuter spends 42 hours per year stuck in traffic jams (Forsyth, 2015).

According to Banister (2005, 2008) a *clear and visionary leadership* with a *commitment to change* and an engagement of *all relevant stakeholders in a participatory debate* is key to arrive at that level of change necessary for more sustainable transport in cities. Moreover, and most related to a broad public engagement is the *need to overcome individualism* and increase the acceptance of *collective responsibility* in decisions related to transport (Banister, 2005, p. 79). Change regarding “hard” infrastructure (e.g. formal organizational structure, laws, subsidies and taxation) as well as “soft” infrastructure (e.g. social relations, informal networks/routines and professional cultures) equally should happen for real change to occur (Banister, 2005, p. 94f; Vigar, 2002). In Banister’s understanding (2005, p. 77), the sustainable city is a city that is of high quality, environmentally attractive and safe, and a place where people want to live. He states clearly that “in its true form, the sustainable city has no place for the car” (Banister, 2005, p. 249). He recognizes, however, that the “weak sustainability option”, which recognizes the car, reduced in its dominance, as one of many possible modes of transport might be the necessary transition phase needed (ibid.). This transition phase kicks off the process of reassessing and rethinking the current distribution of space and will help to change value systems (Banister, 2005, p. 249).

Banister argues “the debate is not really about what needs doing or even the range of measures available. It is more about *how* to facilitate implementation” (Banister, 2005, p. 84). Facilitating implementation is difficult, however, because it requires, as stated previously, *visionary leadership* and *participatory debate among all relevant stakeholders* (Banister, 2005). But how can city leaders and stakeholders accomplish these tasks and actually make change? One way to deal with these difficult tasks is to gain inspiration and learn from other cities. The method of learning from those other cities examined in this research is international study tours, with the intention to find out how learning from them influences urban mobility policies in the “learning” city. In my following work, the from Banister (2005, 2008) described shift away from the automobile-dependent transportation system will be referred to as a “paradigm shift/change”. A paradigm shift does not necessarily need to be big changes and it does not need to seem revolutionary (Kuhn, 1967, p. 192). Banister (2007, p. 73) argues that the sustainable mobility approach questions all of the main components of conventional transport planning, hence, for this work, I use the word “paradigm shift” . Table 2 shows the main differences in those two urban mobility planning paradigms:

The conventional approach to transport planning and engineering	The new sustainable mobility paradigm
Physical dimensions	Social dimensions
Mobility	Accessibility
Traffic focus, particularly on the car	People focus, either in (or on) a vehicle or on foot
Large in scale	Local in scale
Street as a road	Street as a space
Motorized transport	All modes of transport often in a hierarchy with pedestrian and cyclist at the top and car users at the bottom
Forecasting traffic	Visioning on cities
Modeling approaches	Scenario development and modeling
Economic evaluation	Multicriteria analysis to take account of environmental and social concerns
Travel as a derived demand	Travel as a valued activity as well as a derived demand
Demand-based	Management-based
Speeding up traffic	Slowing movement down
Travel time minimization	Reasonable travel times
Segregation of people and traffic	Integration of people and traffic

Table 2: Contrasting approaches to transport planning; Source: Banister (2005, p.238)

At this point it is also worth mentioning the shift from the traditional school of transport planning and research, based on calculations of traffic flow models and its focus in getting people fast from A to B, towards *mobility* which regards the action of being mobile itself. As Cresswell (2010, p. 18) states: “the ‘mobilities’ approach brings together a diverse array of forms of movement across scales ranging from the body [...] to the globe.”. Along with this shift, described as “mobilities turn” or “new mobilities paradigm” (see Sheller & Urry, 2006), is an attitude to overcome disciplinary boundaries for a more holistic understanding of mobility (Cresswell, 2010, p. 18). Also here it is discussed whether one could describe this turn as paradigm shift, as defined by Kuhn (Kuhn, 1962, p. 175). Although in this new approach towards mobility, notions such as landscape, territory, borders and place are not abandoned (Cresswell, 2010, p. 18), Cresswell (2010, p. 18) underlines the major differences from the “classical approach” towards mobility, such as transdisciplinarity and taking all kinds of movements from different scales into account.

2.3. Learning: Who Learns from Where?

Taking a global perspective on cities and urban mobility, one can hardly read about it without coming across the best-practice example of the Netherlands. After the “Copenhagenize Index” (see Copenhagenize Design Company, 2017), a ranking on the most advanced cycling cities in the world, the Netherlands, together with Denmark, are the world’s leading “cycling nations”. As Carlton Reid, the author of “Bike Boom” (2017, p. 5) puts it: “in cities around the world there is a deepening desire for a dense, Dutch-style grid of cycleways”. On the other end of the spectrum is the US, where the

car is the center of (urban) mobility and “freedom” (see Banister, 2005; Montgomery, 2013; Reid, 2017). The US can be regarded as an epicenter of car culture, where the ratio of motor vehicles 910 vehicles per 1 000 people (Capitol-Tires.com, 2018), whereas the EU average ratio is at 587 vehicles per 1 000 people (ACEA, 2016). The Netherlands beats this average with 543 cars per 1 000 people (ibid.).⁴ This work focuses specifically on the Netherlands, as I had the privilege to live and study there for six months (March to August 2018).

Referring back to the historical development as described before, the Netherlands took a different historical path than most other countries, this led to the Dutch’s 110-year-old history of being a cycling country (Reid, 2017, p. 4). Although the Netherlands are most known for their cycling culture, there are also other planning “export elements”, for example the reemerging shared space concept (it was founded in the 1970s in Delft (Montgomery, 2013, p. 217f)) and the multimodal transportation concept connecting all modes of transport from the local to the national level with the use of one single card (see Ministry of Infrastructure and Water Management, 2018). Generally, the

Fact box cycling in the Netherlands:

- **18 million bicycles** in the whole Netherlands
- **84%** of all Dutch residents **own** one or more bikes
- **35 000 km** of designated cycle paths
- Loads of bicycle parking facilities – e.g. Dutch **railway stations** accommodate up to **330 000 bicycles**
- Safe cycling – **4th safest place in Europe** regarding traffic casualties

Source: Scheepers, (2015):

Netherlands is highly regarded among academics and practitioners as a role model for sustainable transportation planning, and specifically, cycling infrastructure (Pojani & Stead, 2015; Roodbol-Mekkes, van der Valk, & Korthals Altes, 2012). In the 1970s, many people (including children) were killed in road crashes (Stoffers, 2012). These fatalities provided citizens a common reason to voice their concerns about the way their city was being shaped. Huge protests took place and, influenced by the oil crisis, many Dutch cities chose to invest in bike and walking facilities and restrict the development of car-based networks (Reid, 2017).

Since the 1980s, Amsterdam has been building out its cycling network and at the same time putting financial pressure and restrictions on cars (de Lange, 2018). It is fair to say that the Netherlands were already before the rise of the automobile a cycling nation, with even double the

cycling rate than today (Reid, 2017). However, the Netherlands managed to keep the level of cycling high and perceived as a “normal” mode of transport, which is not necessarily practiced by a specific group or subculture. The broad acceptance and practice of cycling in the Netherlands is also reflected by the fact that Dutch people themselves often find it irritating that people from abroad make such a fuss out of their most normal form of transportation, the bicycle (see Montgomery, 2013; Reid, 2017).

⁴ Austria is above average with 665 cars per 1 000 capita (stand 2016) (ACEA, 2016).

One major step in Dutch transportation planning is the introduction of the principle of sustainable road safety for everyone (“sustainable and safe mobility for all”), protecting best the most vulnerable participants, like pedestrians and cyclists (Koornstra, 1998). Thereby this concept embraces not solely the most common perception of environmental sustainability, through the aspect “for all”, one can also see that also social and economic sustainability (Vallance, Perkins, Bowring, & Dixon, 2012) is addressed (Pucher & Buehler, 2008). Today, 26% of all trips in the Netherlands are done by bike (stand 2008), which is among the highest in the world (Pucher & Buehler, 2012). In Amsterdam, the modal split for cycling is at a rate of 53% and in the inner city even at 62% (City of Amsterdam Physical Planning Department, 2014, p. 9).

While being aware of all praise for the Dutch system and its achievements, I also would shortly like to call attention to criticism of this popular best-practice example. Jane Jacobs (1961, p. 347) wrote: “the most minimum pedestrian needs are gradually and steadily sacrificed. The problem of vehicular dominance, beyond toleration, is not exclusively a problem involving automobiles” – thereafter she refers to Amsterdam as one of those cities, where “bicycles in massive numbers become an appalling mixture with pedestrians”. Experiencing Amsterdam on a daily basis, one must agree, that cyclists dominate. However, compared to problems in other capital cities, one might just have to say – there is no perfect world. Furthermore, areas where this “appalling mixture” is most of all overwhelming, is the city center, which is dominated by tourism. Inhabitants of Amsterdam might see less of a problem with this “appalling mixture”, as more than 50% of people in the city center belong to the masses of cyclists and are also used to get around without being hit by a bicycle (City of Amsterdam Physical Planning Department, 2014). Tourists, on the other hand, coming from places in the world where the absolute dominance of the car not the bicycle is given, might have much more difficulties adapting to this environment. Nevertheless, it is a valid critique: the most vulnerable of all forms of mobilities is not on equal terms in everyday practice.

Furthermore, the Netherlands are not “all bicycle”. To give a current example, one roundabout which currently gives the right of way to cyclists will be transformed to giving the right of way to motorists (de Lange, 2018). Looking beyond the urban centers, one also finds in the Netherlands a grand network of motorways, highways and streets which are also gradually extended (e.g. highway A12 extension between Ede and Grijsoord (see Rijkswaterstaat Ministry of Infrastructure and the Environment, 2014)).

2.3.1. Policy Learning Tourism

As shown above, learning from other cities did always play a role in (modern) history and the exchange of best-practice examples is very popular in the realm of planning. One method to enable learning from such best-practice examples is the model of study tours. In order to elaborate on the question of *HOW* transition happens, the focus is on international study tours and their contribution to making change happen in the learning city. For this research, study tours are defined as follows:

Study tours are short visits in which a delegation of people travels to another place to experience something with potential to improve their organizations or places of origin. An expectation of learning from people, programs or organizations in the visited place is often the main justification of these tours. (Montero, 2016, p. 336)

Given the grand interest in learning from the Netherlands, a whole “policy tourism” industry has already been established, which brings international policy makers, practitioners and others in the country to learn about Dutch cycling policies (Pojani & Stead, 2015). As an example, delegations from major US cities, like Los Angeles, Denver, Pittsburgh, Memphis, Austin, Portland, and many others, have visited the Netherlands in order to learn from their knowledge and experience. The professional backgrounds of the visitors ranges from policymakers and practitioners in public and private sectors to advocacy organizations and NGOs (Bracic, 2017). Study tours can take place in a group setting or alone and can vary in their duration from only one day to several days or weeks. The setting of study tours varies, however, the main components are, according to Bracic (2017):

- Meeting with different local actors, such as planners, decision makers etc.
- Active learning through activities such as guided bike tours through the city and site visits
- Presentations and informal conversations.



Picture 3: International study tour in Amsterdam; Source: own picture (July 2018)

2.4. Sub-Research Questions

The above introduction provides an overview on the reasoning for this research. As it is not feasible to research on all aspects in depth within this work, the research at hand investigates deeper the question of *HOW*, examining the example of international study tours and their *impact* on the learning city. The overall research question is:

How does learning from international study tours on sustainable urban mobility happen and how does it contribute to changes in urban mobility policies?

Three additional sub questions are formulated to better operationalize the research:

1. *How do organizations learn from international study tours on sustainable urban mobility?*
2. *What are the outcomes on the individual, group, organizational, and policy level?*
3. *To what extent do the outcomes of the study tours influence social learning in Denver?*

The hypotheses that ought to be tested are:

1. International study tours lead to organizational learning.
2. Organizational learning from international study tours can influence policy making, through
 - a. Giving ideas and input of thought that consequently lead to an alteration of goals.
 - b. Policy transfer to a certain level.

3. Theoretical Framework: Learning on Different Levels

Learning is the starting point of the theoretical framework. Kemp & Weehuizen (2005, p. 11) describe learning through four different ways:

- Experience (learning-by-doing and learning-by using)
- Observation of others
- Systematic study
- Interaction

The study tours on urban cycling combine these ways of learning, through actively engaging participants in cycling and walking, which entails interaction with other cyclists and tour participants and observation, as well as through structured knowledge input by the tour guide(s) and professionals (Bracic, 2017). Through these tours, the learning of tacit and codified knowledge (later described) is made possible. This research sheds light on this learning process and its effects.

Three main distinctions exist between ways of learning (Colomb, 2007: 361; Kemp & Weehuizen, 2005: 4; Söpper, 2012: 41f; Tedesco, 2010: 185f).

- **Individual learning** defined after Argyris and Schön as the process of “detecting and correcting error” (Argyris, 1976, 1992, 2004; Argyris & Schön, 1978).
- **“Organizational learning** occurs when individuals within an organization experience a problematic situation and inquire it on the organization’s behalf. [...] In order to become organizational, the learning that results from organizational inquiry must become embedded in the images of the organization held by its members ‘minds and/or in the epistemological artifacts (the maps, memories, and programs) embedded in the organizational environment.” (Argyris & Schön, 1996, p. 16).
- **Social learning** addresses the policy level and is after Hall (1993, p. 278) “a deliberate attempt to adjust the goals and techniques of policy in response to past experience and new information”.

These forms of learning are interrelated and dependent on each other, as organizations consist of people who can contribute to the organizational learning by sharing their individual knowledge (Colomb, 2007, p. 361; Kemp & Weehuizen, 2005, p. 4; Nonaka & Takeuchi, 1995a, p. 13; Söpper, 2012, p. 42; Tedesco, 2010, p. 185f). Also, the transition between organizational learning and social learning is not a clear line, it happens somewhere where “collective learning extends individual companies” (Kemp & Weehuizen, 2005, p. 4). In terms of analysis, organizational learning takes the individual or the group as subject of study while policy sciences use the concept of social learning and focus on the scale of society (Vergragt & Brown, 2007, p. 1108). In order to talk about an organization, the following conditions need to be given according to Argyris and Schön (1978, p. 13): (1) decision making “in the name of the collectivity” (2) “delegating to individuals the authority to act for the collectivity” (3) “setting boundaries between the collectivity and the rest of the world”.

What is deeply connected with these forms of knowledge is the kind of knowledge we possess or transfer. It is differentiated between “codified knowledge” and “tacit knowledge”. Codified knowledge is explicit knowledge that can be written down and presented in some way, whereas tacit knowledge is “knowledge rooted in practice and experience that is hard to articulate or communicate in codified form” (Kemp & Weehuizen, 2005: 4). Concluding from that and the three types of learning stated above, tacit knowledge needs to be transferred in explicit knowledge in order to be transferred from the individual to the organization (Argyris, 1993; Nonaka & Takeuchi, 1995a, p. 11). Nonaka and Takeuchi (1995b) refer to this process as “knowledge externalization”. After them in order for tacit knowledge to become codified knowledge, or also called explicit knowledge, three main characteristics must be present (Nonaka & Takeuchi, 1995a, p. 12ff):

1. Figurative language and symbolism: The use of imagination and symbols, such as metaphors, supports common understanding and enforces direct commitment.
2. Individuals share knowledge with others: Sharing knowledge through dialogue, discussion, experience sharing, and observation. Groups play a key role in this knowledge-creation process.
3. Presence of ambiguity and redundancy: Ambiguity can serve as a trigger for the interpretation of alternative meanings and fresh thinking, and redundancy encourages dialogue and communication among people, maybe even across different organizational divisions.

Tacit Knowledge (Subjective)	Explicit Knowledge (Objective)
Knowledge of experience (body)	Knowledge of rationality (mind)
Simultaneous knowledge (here and now)	Sequential knowledge (there and then)
Analog knowledge (practice)	Digital knowledge (theory)

Table 3: Two Types of Knowledge after Nonaka & Takeuchi (1995, p. 61)

Kemp & Weehuizen (2005, p. 7) say that policy learning is a form of collective learning, as policy is designed and implemented by a range of organizations. They argue that policy learning is therefore rather related to organizational learning than to individual learning (Kemp & Weehuizen, 2005, p. 7). Banister (2005) also states that for collective learning requires a broad involvement of multiple organizations and coordination of different actors.

Learning is not always a given and does not necessarily happen (Moyson, Scholten, & Weible, 2017; Stone, 2001). As Moyson et al. (2017, p. 165) state, “individual learning does not necessarily lead to collective learning and change”. They identify two major factors that prevent learning from affecting policy change. “First, policy learning is one of many factors contributing to policy change.” (Moyson et al., 2017, p. 165). Second, policy learning itself is difficult to accomplish (ibid.). Summing up, the three levels of learning (individual, organizational, policy) are related to each other, but it is not a rule that one level must lead to the next. This research examines this process with the example of international study tours on sustainable urban mobility.

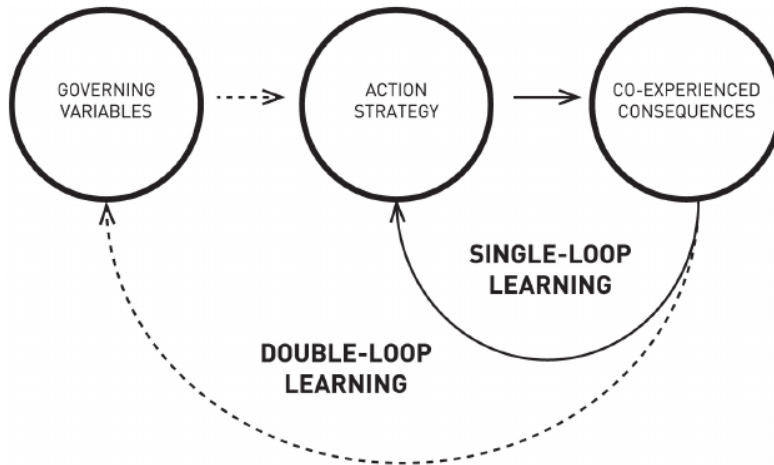
This as a theoretical introduction to the theory chapter should give a first understanding of how the below explained theories relate to each other. The theoretical discussion will start with learning on the smaller scale, the organization, thereby including the individual, and then extend this framework to the larger scale of policies. Concluding this chapter is a conceptual model. The operationalization of this research at hand will be based on the main variables derived from the theoretical framework.

3.1. Organizational Learning: Single-loop and Double-loop-learning

The learning process can be described through models called “single-loop” and “double-loop” learning models (Argyris, 1976, 1992, 2004; Argyris & Schön, 1978). The single-loop-model makes changes in actions, however, the underlying principal idea is not questioned. On the contrary, in double-loop learning, the given system is questioned. Inquiry, which in the single-loop system is seen quite negatively, is necessary for double-loop learning. According to Argyris and Schön (1978), double-loop learning can also be triggered through events of crisis. Learning is the process of detecting and correcting error (Argyris, 1976, 1992, 2004; Argyris & Schön, 1978). This framework includes individual, group, intergroup and organizational learning (Argyris, 1993, p. 49). After Argyris (1993, p. 53) “it should not be possible to change organizational routines without changing individual routines, and vice versa”. The underlying theories of the single and double-loop *model* are two kinds of theories of action; the “espoused theories of action” and the “theory-in-use” (Argyris, 1976, p. 367, 1993, p. 51; Argyris & Schön, 1978). Espoused theories of action are those that people believe is their basis of action and theories-in-use describes how people actually behave (Argyris, 1976, p. 367). It may be that people know double-loop action strategies, yet are unable to make use of them due to face-saving issues within the company, difficulty in overcoming organizational routines, such as rivalry between colleagues, mistrust and ineffectiveness (Argyris, 1993, p. 53).

In the double-loop learning process, espoused theories must be transformed “into theories-in-use by learning a ‘new’ set of skills and a ‘new’ set of governing values” (Argyris, 1993, p. 54). This process might begin by experiencing “some relatively directly observable data” (p. 57), which could in the case of this research be the experience of the study tour itself. Conditions to engage in a double-loop learning process are the development of a vision, tolerance to make mistakes and correct them (Lightfoot 1983 after Argyris, 1993, p. 30), learning in smaller groups and confrontation with their own beliefs and values (Argyris, 1993, p. 30). The received information to trigger double-loop-learning should be valid and good quality, as well as combine intellectual knowledge with emotion and action (Argyris, 1993, p. 55). The organization should offer a shared and dialogical leadership, which emphasizes common goals and encourages open communication within the organization (Argyris & Schön, 1978). The group process where learning takes place and to what extent it produces valid information are considered important (Argyris, 1976, p. 365). The result of double-loop learning could be the setting of new priorities and assessing of norms, or a restructuring of the norms, strategies and assumptions (Argyris & Schön, 1978, p. 18).

Beyond the organizational structure itself, the learner and the learning experience, researchers in the field also point out that bureaucratic political factors play a major role in the learning process (Allison, 1971). Examples of such are political competitiveness, bargaining, personal goals and interests, use of power and misunderstanding, -perception, -communication (ibid).



Picture 4: 'Double-loop' learning after Argyris and Schön (1974); Source: Detand (2013)

Von Löwis (2008) used the framework developed by Argyris and Schön in the context of planning processes on the level of values, changed processes, and norms with double-loop learning. Changed instruments and procedures that lead to higher efficiency or effectiveness she describes as single-loop learning, and changes based on learning processes happen continuously in the realm of planning (2008, p. 194,203). However, as she points out, thorough studies on this subject in planning are still missing (von Löwis, 2008, p. 200). Further, especially in the field of planning, the process of learning is dependent on the institutional setting and higher-level planning regulations (von Löwis, 2008, p. 199). Based on the complex issues and broad network of stakeholders, von Löwis (2008, p. 202f) points out that planning deals with the importance of networks of actors for double-loop learning processes. Because formal organizations are often slow to react to necessary changes, the importance of informal networks increases all the more. These networks can provide important impulses for change (ibid.).

3.1.1. Measuring Learning

In the following chapter the work of several scientists in the field of organizational learning is described (Bates & Holton, 2012b, 2012a; Holton, Bates, Noe, & Ruona, 2000; Nafukho, Alfred, Chakraborty, Johnson, & Cherrstrom, 2017; Preskill & Torres, 1999). These studies focus on the role of the organization in the learning process (following Argyris and Schön) and each developed an instrument to measure organizational learning. The theoretical and methodological approach in the development of these instruments guided the design of the survey used for this research. Following the approaches of these rather "classical" surveys on organizational learning, the theory is broadened towards group learning processes. As these are not, or only to a limited extent, considered in the aforementioned instruments to measure organizational learning. For Argyris (1976, p. 365), an important variable is the group process and the degree to which it produces valid information; therefore theories relating to group dynamics (Greenlee & Karanxha, 2010; Schulz, Israel, & Lantz, 2003) and group model building (Rouwette, 2003; Vennix, Akkermans, & Rouwette, 1996) are discussed.

3.1.1.1. Studies on Organizational Learning

According to the organizational learning literature, one form of organizational learning is employee or workplace trainings (Holton, Bates, Noe, et al., 2000; Nafukho et al., 2017). This research interprets international study tours as a form of workplace training. Holton et al. (2000) developed a survey on the transfer of learning to the workplace from a workplace training (Learning Transfer System Inventory – LTSI). Holton et al. (2000) describe the outcomes of workplace trainings as “a function of ability, motivation, and environmental influences at three outcome levels: learning, individual performance and organizational performance” (Holton, Bates, & Ruona, 2000, p. 339). The transfer factors they uncovered in their research (and which were used and adapted in this research) are displayed in Table 4 below.

Factors affecting the particular training program:	Learner readiness, motivation to transfer, positive personal outcomes, negative personal outcomes, personal capacity for transfer, peer support, supervisor support, supervisor sanctions, perceived content validity, transfer design, opportunity to use;
General factors	Transfer effort-performance, performance-outcomes, openness to change, performance self-efficacy, feedback-performance coaching;

Table 4: Learning Transfer factors, after Holton et al. (2000: 340)

Holton and Bates (2000) describe important aspects that enable organizational learning. For example, organizations should have an open attitude and allow their employees to make mistakes (ibid.). This encourages people to actually apply the learned knowledge in their work context. Another crucial aspect is that workers are encouraged to use their acquired knowledge and receive the time to apply it in the job (Holton, Bates, Noe, et al., 2000). Generally, in the field of organizational learning, much research focuses on the role of the organization in enabling the learning process. This refers also to Table 4 above, some of the factors in the table, although not appearing like that, refer actually to the organizational and not to the individual learning experience. As an example, the factor “positive personal outcomes” are measured with the Likert-scale survey item “Employees in this organization receive various ‘perks’ when they utilize newly learned skills on the job” (Holton, Bates, Noe, et al., 2000, p. 344). Preskill and Torres (Preskill & Torres, 1999) also emphasized organizational learning culture with their “Readiness for Organizational Learning and Evaluation Instrument (ROLE)”. The main factors they measure are culture, leadership, systems and structures, communication, teams and evaluation (Preskill & Torres, 1999).

Organizational preconditions and culture is also important for this research; however, since the subject of this research is international study tours, the actual input and experience of the study tour (ie, workplace training) needs to be considered. With this reasoning, the theory expands from the LTSI (Bates & Holton, 2012b) and ROLE (Preskill & Torres, 1999) towards others explaining and examining organizational learning from a broader perspective. Nafukho et al. (2017) conducted a study about the transfer of learning to the workplace in order to increase the organizational capacity. They based their survey on measuring the success of adult learning on Renta-Davids et al.’s (2014) survey, which was grounded in Baldwin and Ford’s (1988) classical framework on the transfer of

training. The main focus in this research was on these main factors: transfer of learning, trainee's motivation, training design, and learning conducive work environment including work variability or flexibility (Nafukho et al., 2017, p. 337).

Compared to Holton and Bates (2012b), Nafukho et al. (2017) focus on changes in personal perceptions, visions and behavior as well as the content of the actual training. Especially the change in personal behavior, work autonomy and complexity, and gain in procedural knowledge are additional factors that the previously named approaches did not cover. As stated above, Holton and Bates (2012) put a strong emphasis on the organizational learning conditions, as after them this is an aspect yet to be sufficiently researched (Holton, Bates, Noe, et al., 2000). For the purpose of this research, it is important to consider the organizational preconditions for learning, nevertheless the subject of this research is the international study tours as a facilitator for learning. In order to obtain further insight into what is learned through these tours, it is highly necessary to consider this variable. The broadened approach by Nafukho et al. (2017) allows this to a greater extent. On the one hand, the content of the tour is regarded as an important factor. On the other hand, personal learning outcomes are more considered. As Kemp & Weehuizen as well as other describe, individual learning can lead to organizational learning (Colomb, 2007: 361; Kemp & Weehuizen, 2005: 4; Söpper, 2012: 42; Tedesco, 2010: 185f). The results of the survey conducted by Nafukho et al. (2017) showed that the factors "training efficiency and relevancy", "trainee's motivation for participating" and "workplace environment" stand in a significant positive relationship with each other (2017, p. 347).

3.1.1.2. Group Dynamics

Since study tours occur in a group dynamic, theories of group model building might also be useful. Rouwette et al. (Rouwette, Vennix, & Mullekom, 2002) analyzed more than 100 group model building processes and drew conclusions on characteristics of group model building processes and the effectiveness of such processes (Rouwette et al., 2002). The common characteristics of group building processes are:

- The duration of these interventions varies widely, between two days to five years. Mostly it is in the form of two to four workshop sessions (Rouwette et al., 2002, p. 13).
- Problems discussed in these sessions are mostly perceived as not very important by the participants and mostly there is no expectation of implementation (Rouwette et al., 2002, p. 10f). When there is the focus on specific implementation, it is mostly aimed at changes in the organizational environment, policies or with the intention of a pilot for assessment of a specific method (Rouwette et al., 2002, p. 11).
- The group model building intervention itself most often represents three tasks: elicitation of information, exploring courses of action or convergent talks, and evaluation (Vennix, Andersen, Richardson, & Rohrbaugh, 1992).
- In the process techniques such as interviews, nominal group technique, workbooks or cognitive mapping are used (Rouwette et al., 2002, p. 12).
- The group working process mostly happens through confrontation of opinions, and face-to-face discussion, and, depending on the size, it is either in one group of five to a maximum of 20

people. In case the group is bigger, it is divided into smaller subgroups (Rouwette et al., 2002, p. 12f).

Generally, there is a very wide variety of approaches in group building processes as shown in the summarizing study by Rouwette et al. (2002). However, many of these aspects relate to the characteristics of international study tours.

In the developed score sheet to build a common framework for group model building interventions, Rouwette et al. (2002, p. 24f) start with the framework from Pawson and Tilley (1997) regarding “context, mechanism, and outcome”. “Context” refers rather broadly to the context of the intervention, including type of organization, culture and geography, and problem characteristics. The type of organization refers to the structure of it in the way things are organized e.g. functional, team-based or network-based and regarding which type of organization it is, e.g. profit, non-profit, governmental and how big it is (Rouwette et al., 2002, p. 25). The problem characteristics are distinguished between analytical (e.g. number and diversity of interests involved) and social (e.g. pressure of influence) dimensions (Rouwette et al., 2002, p. 26). “Mechanism” refers to all aspects which happen as part of the intervention itself and after Andersen et al. (1997) one can distinguish between three stages: pre-meeting activities, actual meetings, and follow-up activities. “Outcomes” refer to effects on the level of individuals, the group or the larger organization (Rouwette et al., 2002, p. 25). The following Table 5 shows the most important factors per stage in more detail:

Mechanism – pre-meeting activities	Initiation of the contact Expectations and goals of the intervention Composition & characteristics of the team Level of top management support Gatekeepers Number of persons & roles of persons Type of questions addressed
Mechanism – actual meetings	Time investment (participants, modeler, total time span) Amount of work off-site and within the group Modeling procedure Elicitation of mental models Sources of information Facilitation Role of the facilitator (seen as skilled?) Logistics (Where, Materials etc.)
Mechanism – follow-up activities	Did any take place? Reporting?
Outcomes – individuals	Ownership, discomfort, trust (reaction) Learning (insights) Decision or commitment to results Changes in individual behavior or implementation of conclusions
Outcomes – group	Exchange of viewpoints (communication) Shared view of problems or actions (consensus) Understanding of other participants (shared language)
Outcomes – organization	Organizational or physical changes (system changes) Results of system changes

Table 5: Factors for group model building after Rouwette et al. (2002)

Further important studies on group dynamics were undertaken by Schulz et al. (2003). They developed an instrument for the evaluation of dimensions of group dynamics in the realm of community based, public health partnerships. This research by Schulz et al. gave valuable insight into the methodology and approach to measuring this in the form of a survey. The methodology will be discussed in further detail in the *Methodology* chapter. Theoretically, they focus on the group process and group dynamics. Their theoretical framework derives to a big part from the theory of effective groups developed by Johnson and Johnson (1991). Schulz et al. (2003, p. 251) define the following important factors for group dynamics: shared leadership, two-way open communication, recognition of conflicts and constructive conflict resolution, cooperative development of goals and a shared vision, participatory decision making processes based consensus, shared power and resources, development of mutual trust, collaborative evaluation, and good management.

Moreover, Karanxha and Greenlee (2010) conducted a study on group dynamics of education leadership students in cohorts. They also applied the method of a survey and based it on design and indicators given by Schulz et al. (2003). After adaptation, the study of Karanxha and Greenlee (2010,

p. 365) included the following factors: participation, communication, collaboration, influence, trust, cohesiveness, empowerment, and satisfaction.

3.2. Policy Learning

As a general starting point to this chapter, the word “policy” itself is defined and put in context. The political process can be divided into three main dimensions:

1. The political-institutional system – “**polity**”. It sets the foundations of the political systems and political order; examples would be: the constitution, human rights, the state, and political culture. (see Meyer, 2000)
2. The political process – “**politics**”. It is the process of the development and execution of political agendas. Examples would be: interests, conflicts, debates, consensus, and power. (ibid.)
3. Public actions, the content – “**policy**”. It is the content side of politics and defines political agendas. It can have the form of laws, budgets, plans, strategic programs etc. (ibid.) Measures taken in transportation planning, as in the case discussed here, are in their realized form of plans, strategies, etc. always a form of space related policies (ibid.).

This work at hand has the focus on policies in the field of sustainable mobility. Regarding those three dimensions of the political system, it has to be recognized that the three dimensions mutually influence each other and hence policy is always the expression of the other two dimensions (see Meyer, 2000). In the following theoretical framework on social learning, the role of politics as a play of power and its influence for this research will be described. When elaborating the case study context (see chapter *Case Study Context*) I will describe the political-administrative framework given framing the process.

Regarding studies on the policy learning process in transportation planning (Marsden et al., 2012; Marsden & Stead, 2011; Pojani & Stead, 2014; Spaans & Louw, 2009; Thomas & Bertolini, 2015), it was mostly conducted drawing to policy transfer literature and thereby especially regarding the theories by Dolowitz and Marsh (2000), who describe the policy transfer theory along six main factors:

1. Agents of policy transfer
2. Direction of policy transfer
3. Motivations for policy transfer
4. Objects of policy transfer
5. Results of policy transfer
6. Barriers to policy learning and transfer

For many researchers in the field of policy transfer, the given framework from Dolowitz and Marsh (2000) is still the most favorable framework (Benson & Jordan, 2011). It gives a clear structure and a (comparable) clear methodological approach. However, in this research at hand, this framework alone is for several reasons not appropriate. As laid out in the introduction to this thesis, the question of *HOW* policies are actually learned in order to lead to transfer is not paid attention to.

Further, as this study at hand has a focus on “soft outcomes” of international study tours, it is not appropriate to work with a framework that rather regards these outcomes as a side product.

In order to reframe this third step of the learning process from the individual, to organization, to policy, I come back to the framework introduced at the beginning of the theory chapter. Researching deeper on the term “social learning”, one comes quickly upon the “social learning theory” introduced by Hall (1993). As described in literature, social learning addresses the “preponderance to positivism” and “inadequate conceptualization of the role of subjective perception and judgment” (D. Dolowitz & Marsh, 1996, p. 357 after Stone, 2001, p. 35).

Social learning can be regarded as one level above policy transfer. Consequently, policy transfer can be an outcome of a social learning process (Stone, 2001, p. 35). Therefore the concept of social learning does not necessarily exclude ideas from policy transfer theory; it takes a broader framework of learning into consideration. Stone (2001) conducted a comprehensive research on policy learning concepts and points out that the concept of social learning “helps to account for when transfer is effective or not” (Stone, 2001, p. 1).

The major difference between the framework of social learning and the aforementioned policy transfer concepts is that social learning is more directly connected to learning as such and takes ideas as an important factor into account. However, this brings the constraint that this theory is difficult to operationalize (Bennett & Howlett, 1992). As Hall (1993, p. 290) put it “like subatomic particles, ideas do not leave much of a trail when they shift”. Policy transfer studies, on the other hand, look at more concrete outcomes of this learning process in form of policies, legislation etc. The approach from Dolowitz & Marsh (Dolowitz & Marsh, 2000) gives a clear structure on how to analyze this process. As this research wants to understand the influence of study tours on policy change, the social learning theory is employed to analyze changing policies in the case study city Denver and the role of ideas derived from study tours in this process. Authors like May (1992) and Bennett and Howlett (1992) name in their works indicators, which give insight into how to operationalize this concept. The methodology and its limitations will be discussed in further detail in the *Methodology* chapter. Policy transfer then gives a framework to analyze and understand more direct outputs of study tours like policies, legislation, design etc.

3.2.1. Social Learning and Related Theories

Individual learning and policy learning are related to each other. As Stone (2001, p. 10) states, “Learning occurs when policy-makers adjust their cognitive understanding of policy development”. In literature policy learning is described as happening out of the experience from past policies and their failure or success (ibid). However, with increasing policy complexity and policy failures, a search for alternative ways of learning appeared and policy makers seek inspiration and ideas from elsewhere (Hall, 1990 after Stone, 2001, p. 10f). The resulting definition from Hall (1988, p.6) for policy learning is: “Learning is a ‘deliberate attempt to adjust the goals or techniques of policy in the light of the consequences of past policy and new information so as to better attain the ultimate objects of governance.’” (P. A. Hall, 1988, p. 6 after Bennett & Howlett, 1992, p. 276).

There are many different terms and subcategories within policy learning. However, the whole field of policy learning does differ from political learning. Political learning after May (1992, p. 340) “is concerned with lessons about maneuvering within and manipulation of policy processes in order to advance an idea or problem” and it takes place within advocacy coalitions. Policy learning, on the other hand, “is concerned with lessons about policy content – problems, goals, instruments, and implementation designs” and it “entails learning across multiple advocacy coalitions, leading to shared understandings of the viability of policy interventions and goals” (May, 1992, p. 340).

In the further differentiation from social learning compared to other policy learning theories, Bennett and Howlett (1992) give a comprehensive overview. In their study, they compare three types of policy learning: government learning (see Etheredge & Short, 1983), lesson-drawing (see Rose, 2005) and social learning (Hall, 1988, see 1989). In Table 6 a summarized overview is given:

Learning Type	Who learns	Learns what	To what effect
Government Learning	State Officials	Process-Related	Organizational Change
Lesson Drawing	Policy Networks	Instruments	Program Change
Social Learning	Policy Communities	Ideas	Paradigm Shift

Table 6: Three types of learning and policy change after Bennett and Howlett (1992, p.289)

Summing up, policy learning clearly differs from political learning. Within policy learning, social learning is after Bennett and Howlett (1992, p. 285) the only theory that extends its scope as far as policy goals and policy implementation. Regarding the aim of this research, which is to shed light on the influence of international study tours on future policies, especially taking into account “soft outcomes” such as ideas and inspiration; it becomes clear that the theory of social learning is the appropriate framework of analysis. Social learning addresses the change in fundamental belief systems and values, on which public policy is based (Bennett & Howlett, 1992, p. 285).

Hall (1993) divided the learning process in three orders. First order learning “involves ‘satisficing’ and minor adjustments in the precise setting of policy instruments” (Hall, 1993, p. 284) . Second order learning involves “re-tooling, limited experimentation and introduction of new policy techniques” (ibid.). It involves more political and strategic factors (ibid.). Third order learning according to Hall (1993, p. 284) encompasses a radical shift in “the hierarchy of goals and set of instruments employed to guide policy”. Third order learning is the rarest form of learning and implies a shift in the paradigm behind the policy itself or a shift in the dominant set of policy ideas (ibid.). This highest form of learning takes place in a much broader setting than within a group of policy makers (Hall, 1993, p. 288). As Howlett and Bennett (1992, p.285) conclude, key players in the social learning process are very broadly based knowledge-oriented policy communities. Influences from society and the broader politics impact learning as there is a flow of ideas between the state and society, which influences policy outcomes (Hall, 1993, p. 290).

Organized interests, political parties, and policy experts do not simply ‘exert power’; they acquire power in party by trying to influence the political discourse of their day. To the degree they are able to do so, they may have a major impact on policy without necessarily acquiring the formal trappings of influence. The resultant flow of ideas is an important dimension of the process in which policy is made. (Hall, 1993, p. 290)

One could relate these three orders of learning to the differentiation described by Peter J. May (1992). He differentiates between instrumental and social learning. According to him, instrumental learning has foremost the goal of a change in policy instruments or implementation designs, whereas social learning is evident through policy redefinition through a change in target groups, in rights given by a policy, or redefinition of policy goals (May, 1992, p. 351). It seems that the first two orders of learning relate after May (1992) to instrumental learning rather than to social learning. Only once the third order of learning is reached, one could speak about a social learning process. However, May (1992, p. 340) stated that “neither form of policy learning is a necessary precursor of the other”.

Another important aspect of the concept of social learning is “policy paradigm”. Hall (1993) based his understanding of policy paradigm change on the previously described Kuhnian definition of paradigm change and describes the role of policy paradigms as follows:

Policy paradigms can be seen as one feature of the overall terms of political discourse. They suggest that the policymaking process can be structured by a particular set of ideas, just as it can be structured by a set of institutions. The two often reinforce each other since the routines of policy making are usually designed to reflect a particular set of ideas about what can and should be done in a sphere of policy. But the ideas embodied in a policy paradigm have a status somewhat independent of institutions that can be used, as in the case of monetarism, to bolster or induce changes in institutional routines. (Hall, 1993, p. 290)

Virtually all fields of policymaking are based and biased by a certain set of paradigms underlying the principal policy making process (Hall, 1993). Relating this to this study at hand, and historical background given in the introduction, it becomes clear, that the car-dominated city is a result of the prevailing car-oriented paradigm in planning. The international study tours on sustainable urban mobility present a model of transportation, which refrains from this paradigm, and presents another approach of urban transportation planning, away from planning for individual motorized transportation (albeit, one has to acknowledge that the car does also play a dominant role in cycling best-practice cities). Relating this back to the double- and single-loop learning by Argyris and Schön (1978), one can say that study tours could have the power to start questioning one’s own given beliefs and value systems and therefore engaging in a double-loop learning process.

The main indicators for social learning are summarized in Table 8.

3.2.1.1. Constraints and Barriers of the Social Learning Theory

In the literature on social learning, several shortcomings of the theory are pointed out. Most importantly, the role of power is a factor in policy making which cannot be denied (Hall, 1993, p. 292). As Stone (2001, p. 12f) states, learning doesn’t necessarily manifest in policies and program. There are several powerful factors which might hinder or influence the effect of the learned on the policy process. Economic and bureaucratic interests, as well as political opportunism, interests and power entail negotiation, compromise and persuasion and influence the policy outcome (Bennett & Howlett, 1992, p. 290f; Stone, 2001, pp. 13, 35). Further, policy adoption might not happen out of learning but rather out of force through pressure from international organizations, e.g. international aid by the World Bank (Stone, 2001, p. 13). In fact, already the choice *where* one learns from and

what is very much dependent on the existence of a “common value system”, and does not necessarily depend on innovative ideas (Stone, 2001, p. 35). This “mobilization of bias” refers to these predefining factors which influence why some ideas are considered, while other are systematically ignored (Stone, 2001, p. 35). Further influential factors are the actual capacity of the learners themselves, what their intentions are and also how they interpret the learned material (ibid.). Most learned ideas have a wide range of possible interpretations and can be enacted in many different ways (ibid.). Last but not least, the learned material needs to be adapted to the local context of the given power relations, institutional structures and political culture (ibid.) – and, in the case of this research, the given planning culture (see Knieling & Othengrafen, 2009; Othengrafen, 2010; Othengrafen & Reimer, 2013). To express it with the words of Stone (2001, p. 35), “knowledge is not apolitical”.

However, as Hecló (Hecló, 1974), one of the first to consider the role of ideas in policy making, put it, “politics finds its sources not only in power but also in uncertainty – men collectively wondering what to do”. This paper takes the theoretical lens of social learning, which says that that the role of power and knowledge are equally important (Bennett & Howlett, 1992, p. 290f; Hall, 1993, pp. 289, 292). Hall himself reminds in his paper, that one should not distinguish too rigidly between “politics as social learning” and “politics as a struggle for power”, as these are often intertwined (Hall, 1993, p. 292). He concluded that in his study the play of ideas was equally important as the contest for power (Hall, 1993, p. 289).

Connecting this to the research at hand, it is to point out that I am aware of the influential role of power and power relations, as well as other influential factors mentioned above. However, the role of learning is regarded as equally important. This research focuses on the role of learning and its resulting ideas. The scope of this research is too small to regard the important role of power (-relations) and the role of knowledge at the same time in its full theoretical and methodological backgrounds. The focus here is on knowledge and learning. However, I am aware of this important factor and I will regard the results of this research keeping this in mind.

3.2.2. Policy Transfer and Related Theories

As explained above, policy transfer and social learning are related to each other and policy transfer can be an outcome of (social) learning (Stone, 2001, p. 9). Both, policy transfer and social learning provide frameworks whose subjects is policy change (Greener, 2002).

Besides the framework of policy transfer, which is most often used in the analysis of transportation policy, there are several other frameworks that discuss the transfer of policies from one context to another. “Lesson drawing” by Richard Rose (2005 after Stone, 2001, p. 8) tries to understand “*the conditions under which policies or practices operate in exporter jurisdictions and whether and how the conditions which might make them work in a similar way can be created in importer jurisdiction*”. He tries to describe the emulation of policies and programs and how they are diffused throughout the world (Rose, 2005). Another quite recent approach is described by Eugene McCann (see McCann, 2011; McCann & Ward, 2011, 2012) as the theory of *policy mobilities*. This theory has a transdisciplinary origin from anthropology, geography, heterodox political science, comparative political economy, science studies, sociology and urban planning (Peck, 2011, p. 775). In contrast

from the positivist approach of policy transfer, it rather follows a postpositive/constructivist approach (ibid.). The subject of research of *policy mobilities* is generally policies in motion and their continuous transformation and mutation (ibid.). It also actively problematizes politics and its influence on knowledge sharing (ibid.). Generally, this approach by McCann is very interesting because it takes a more critically approach which differs from other policy transfer theories. However, regarding these concepts, for this research it will only be considered parts of the theoretical framework given by Dolowitz and Marsh (Dolowitz & Marsh, 2000). This is due to several reasons:

- It offers a methodological framework that is clear and simple to understand and follow.
- It is one subcategory of social learning and gives a framework to analyze concrete policy outcomes related to study tours.
- So far, this framework has been most used in the analysis of transportation policy transfer, therefore a good basis of literature is available.

As stated, the policy transfer approach of Dolowitz and Marsh (Dolowitz & Marsh, 2000) has a very clear structure and is organized around six main questions as stated in the chapter *State of the Research & the Contribution to it*. For the aim of this research, not all of these points are relevant. I focus on question number 3. *What is transferred?* And question number 5. *What restricts or facilitates the policy transfer process?*. Question nr. 5 is subdivided into the *degrees* of transfer and the *constraints* of transfer.

Table 7 gives a comprehensive overview of the main facets underlying each question:

What is transferred	Degrees of transfer	Constraints of transfer
Policies (goals, content, instruments) Programs Institutions Ideologies Attitudes/Cultural values Negative lessons	Copying Emulation Mixtures Inspiration	Policy complexity Past policies Structural institutional Feasibility (ideology, cultural proximity, technology, economic, bureaucratic) Language

Table 7: Adapted policy transfer framework after Marsden and Stead (2011) and Dolowitz and Marsh (2000)

According to Stead et al. (2008), the transfer is positively affected through conditions like administrative stability, presence of forward-looking policymakers and civil servants, and a closely cooperating network of participating actors. Marsden et al. (2012) state that networks of actors are crucial to maintain and promote the exchange of policies. Given networks for cities to exchange would be for example joint research activities and projects, conferences, and professional committees and groupings (Spaans & Louw, 2009). In this research, specifically the role of international study tours is examined. It is also drawn to organizational learning. According to Marsden et al. (Marsden et al., 2011), an outward looking organizational culture provides a “greater chance of accessing and exchanging with trusted peers”. They identify key individuals in senior management, which are encouraging learning, as key factors. Spontaneous mentioning of other cities where they learn from is a positive indicator for learning (Marsden et al., 2011). Further, Marsden

and Stead (2011) state that the success of policy transfer depends also on the hybridization of the policy because different contexts demand different policy responses and policies need to be tailored to the conditions and framework at the place of implementation (Marsden & Stead, 2011; Pojani & Stead, 2015). This aspect is also recognized by the social learning approach. Policy transfer literature comes to the conclusion, that policy transfer is more easily achievable when given conditions are more similar to each other (Spaans & Louw, 2009). These conditions regard mostly the barriers stated above. However, Bertolini and Thomas (2015) discovered in their study about the policy transfer in transit orientated development that, once one unbinds the policy from its cultural context (“decontextualized” lessons which participants of the study then “recontextualize” to their planning context), a global transfer of policies is easier because planners cannot dismiss the context as too dissimilar to the one of the “donor” city/state.

Marsden et al. (Marsden et al., 2011) conclude that policy learning is a “social process built around curiosity, exchange and trust”. Informal networks and information sharing are the most dominant methods of initial knowledge transfer and organizational openness towards learning and providing the necessary structures, such as financial support and time, are key factors for successful policy transfer (Marsden et al., 2011). Studies on policy transfer so far show that little physical transfer is happening (Pojani & Stead, 2015; Thomas & Bertolini, 2015). However, Stead and Pojani (2015) recognize inspiration as a valuable aspect of policy transfer process.

As policy learning is a subform of social learning, aspects discussed in social learning can be retraced in policy transfer. The content of all three columns in Table 7 (above) can be related to social learning. The questions on *What* and the *degree* of transfer show the narrower focus of policy transfer compared to social learning. The big focus on values and paradigm given in social learning is not apparent here. However, the policy transfer framework still provides useful categories of possible stages and forms of transfers. The constraints of transfer can be summarized from several papers on policy transfer in transportation as cultural⁵, legal and political barriers (Dolowitz & Marsh, 2000; Marsden & Stead, 2011; Pojani & Stead, 2015; Spaans & Louw, 2009; Thomas & Bertolini, 2015)⁶. Regarding the constraints and barriers in social learning, one can see that those three terms (cultural, legal, political) summarize the local context specific attributes of the learning city well. Factors, which influence the policy transfer positively, relate back to previous theories discussed, such as organizational learning as well as to social learning. Nevertheless, the major input factor, learning itself, does not play a role in policy transfer. It is seen as a given and the question of how is

⁵ The term “culture” is here defined after Harris (1999, p. 25) as “practical tool to explain the invisible and taken-for-granted values and assumptions as well as to identify how actions and behaviors are controlled or influenced by these values, meanings, and intentions.”

⁶ In these studies the barriers named are sometimes varying in wording, e.g. after Dolowitz and Marsh (2000: 17) it is “economic”, “social”, “political” and “ideological” barriers; after Thomas & Bertolini (2015) it is “historical”, “cultural” or “legal” context; in Spaans & Louw (2009) it is referred to “cultural”, “legal” and “political” contexts and in Marsden & Stead (2011) it is named “policy”, “past policies”, “structural institutional feasibility (ideology, cultural proximity, technology, economic, bureaucratic”, “language”. To sum all these aspects up I use the two main terms of “cultural”, “legal” and “political”, when referring to the barriers.

actually learned is left aside. Therefore this research broadens the scope not only towards the social learning theory, but also towards organizational and group learning in order to understand policy learning in urban transportation from the beginning to “the end”.

4. Methodology

4.1. Operationalization

As guidance for the operationalization the handbook by Jonker and Pennink (2010) was used. Therein they define operationalization as “the process of changing a theoretical construct into a concept that can be ‘seen’ in the empirical reality” (Jonker & Pennink, 2010). The handbook (Jonker & Pennink, 2010) lays out the way to a conceptual model in three main steps:

1. Definition of the concept
2. Translation into indicators
3. Translation of each of the indicators into questions

Following these steps, one can regard **step one** as covered in the theoretical framework laid out in the previous chapter. **Step two**, the translation into indicators is shown in Table 8 below⁷. The table shows the underlying theoretical concept (step one), its main variables, the object of analysis, and the main indicators for measurement (step two). **Step three**, the translation into questions, is too extensive to include here. As laid out in the following chapter in detail, the main approach was a quantitative survey and qualitative interviews in a case study on the US city of Denver. Participatory observation further informed the case study. The survey (see *Annex 1: Urban Mobility Study Tour Survey – Design*) and interview guide (see *Annex 2: Interview Guide Denver Case Study*), as well as coding structure was thoroughly built upon the theoretical framework. *Annex 3: Interview Coding Structure* displays the extended Table 8 including the codes used (based on theory) and the survey questions allocated to the theory they address and are based on. Table 8 shows the theoretical concepts already in the same order as they will be analyzed in the results chapter. To better understand the local context in which the learning process from international study tours is embedded, social learning in Denver is analyzed in the first results chapter (see *Social Learning in Denver*). As the structure of the table shows, the second results chapter (see *Organizational Learning & Group Learning*) addresses organizational and group learning and the third results chapter (see *Learning Outcomes*) describes the learning outcomes.

⁷ These indicators are summarized from the theoretical discussion in the previous chapter.

Theoretical Concept	Main Variables of Theoretical Concept	Object of Analysis in this Research	Indicators from Theoretical Literature
Social Learning	Level of policy change over time	Transportation policies Denver	<ul style="list-style-type: none"> Goals/ policies/ procedures/ ideas/ fundamental believes/ paradigms – change over time
		Policy instruments Denver	<ul style="list-style-type: none"> Design Strategy documents
	Policy community/network	Policy community/ network Denver	<ul style="list-style-type: none"> Level of collaboration Important stakeholders Who is involved Change over time Trust
	Consensus	Denver community	<ul style="list-style-type: none"> Consensus on goals/measures/funding etc. in and outside the government Opinion of general public
	Underlying idea / goal	Transportation policies Denver	<ul style="list-style-type: none"> Reason for change
Organizational learning & Group dynamic / Group model building	Learner readiness & Motivation	Learner	<ul style="list-style-type: none"> General learner characteristics Study tour preparation & motivation
	Organizational characteristics & role of individuals in organization	Organization / Learner	<ul style="list-style-type: none"> Power and tasks of individuals in organization
	Org. openness & culture	Organization	<ul style="list-style-type: none"> Supervisor support Opportunity to use in job Climate of trust and courage Collaboration, communication, cooperation (1) within the organization (2) outside the organization Encouraging environment to learn & try new <ul style="list-style-type: none"> Ways of gaining knowledge & exchange

Methodology

	Group dynamic on ST	Study tour / Study tour group	<ul style="list-style-type: none"> • ST Agenda, location, Guide • study tour group <ul style="list-style-type: none"> ○ Group composition ○ Characteristics of tour participants ○ Top management involvement
	Communication on study tour back home	Communication	<ul style="list-style-type: none"> • Informal reporting back • Formal reporting back • Methods used
	Personal outcomes	Learner	<ul style="list-style-type: none"> • Change of personal behavior • Change of perception/vision • Gain in knowledge
	Group outcomes	Study tour group	<ul style="list-style-type: none"> • Commitment to results • Shared view on problems • Atmosphere of trust and open communication • Shared vision • Development of personal relationships/network
	Org. outcomes	Organization/ Learner	<ul style="list-style-type: none"> • Change in doing something work related due to study tour • Organizational changes due to study tour
Policy transfer	Policy outcomes	Policy – What was transferred	<ul style="list-style-type: none"> • Goals/ policies/ procedures/ ideas/...
		Policy – Degree of transfer	<ul style="list-style-type: none"> • Copying • Emulation • Mixtures • Inspiration
		Denver context – Constraints on transfer	<ul style="list-style-type: none"> • Ideology • Culture • Planning culture • Public protest • Government protest • ...

Table 8: Summary of concepts, main variables and indicators, based on theoretical discussion

4.2. Mixed-methods Approach

For this research a mixed method approach is chosen using three sources of data:

1. Quantitative online survey
2. Qualitative face-to-face semi-structured interviews
3. Qualitative participatory observation

Table 9 shows the theoretical and methodological approach per research question:

Research Questions	Theoretical Concept	Methodology	Form of mixing
<i>How do organizations learn from international study tours on sustainable urban mobility?</i>	<ul style="list-style-type: none"> • Organizational Learning • Group Dynamic / Group Model Building 	The survey is the main source of information, the interviews give further insight.	The survey is the main source of information, yet the data from the interviews further enhance the results. Acc.to Bryman (2016, p. 655f) this form of mixing can be described as “ enhancement ”.
<i>What are the outcomes on the individual, group, organizational and policy level?</i>	<ul style="list-style-type: none"> • Organizational Learning • Group Dynamic / Group Model Building • Policy Transfer 	The interview is the main source of information and the survey further informs the study.	Data “ triangulation ” (see Bryman, 2016, p. 643) is given for the outcomes on the individual, group and organizational level. On the policy level the only source of information are the interviews.
<i>To what extent do the outcomes of the study tours influence social learning in Denver?</i>	<ul style="list-style-type: none"> • Social Learning 	The interview is the main source of information. The participatory observation informs the results to a small part.	

Table 9: Research design

Following the classification from Bryman (see Bryman, 2016, p. 639) on the different types of mixed methods approaches, the research design of this work can be described as an “embedded design”. The typical characteristics of this type of mixed methods is that the sequence of data collection of the two research approaches does not matter (compared to the “explanatory sequential design”) and that the different methodologies draw on each other to enhance the results (Bryman, 2016, p. 640). For the first research question, the survey gives a generalizable idea on how organizations learn from international study tours and the qualitative interviews give deeper insight on this process. Following Bryman’s categorizations of mixing data (see Bryman, 2016, p. 641ff), this can be described as “enhancement” (Bryman, 2016, p. 655f). For the second research question, the interviews are the main source of information, however, the survey also gives insight on outcomes on the individual (Q38, 39, 76) , group (Q32, 51) and organizational level (Q38,51,56), hence one can speak of data

“triangulation” (see Bryman, 2016, p. 643). Policy outcomes from the second research question and the entire third research question is solely addressed with the qualitative case study. The combination of these research methods is necessary due to the complexity of the topic and the resulting limitations if only one research method were used (see Lockyer, 2006 after Bryman, 2016, p. 645). Designing the whole process as a quantitative survey, would have reached its limit because the survey’s length would simply have been far too long in order to cover all necessary aspects from the organization to the policy. Also, the complexity of policy processes is difficult to grasp, or not in such detail, through a quantitative survey alone, as policy processes are complex social processes that are influenced by many factors (Marsden et al., 2011). On the contrary, solely a qualitative approach would not allow for drawing precise conclusions on how organizations learn through international study tours because interviewees that were on a study tour were all on study tours organized by the same organization (the US-base NGO People for Bikes), hence following a similar tour design. Drawing on the different forms of combining quantitative and qualitative research after Bryman (2016, p. 641ff), the overall form of mixing both methods can be described as design based on “completeness” (see Bryman, 2016, p. 644f), as only through both methods can the main research question be answered.

Although, as described above, the different research methods are related to each other and one draws on the other, the different methods are discussed in separate chapters. This should provide structure and help to clearly outline the details of each approach.

4.3. Quantitative Survey

The survey foremost provides the results for the first research question, which is:

How do organizations learn from international study tours on sustainable urban mobility?

4.3.1. Survey Design

The focus group of this research is people that went on international study tours on urban mobility, preferably the Netherlands, as part of their work. As described above, this research interprets international study tours as a form of workplace training. Relating to that, the LTSI (Learning Transfer System Inventory) survey from Holton et al. (2000) was used as a starting point for the design of this survey. The LTSI survey is a very well developed instrument, which has been translated into 17 languages and has undergone several revisions (Bates & Holton, 2012a, p. 551). The most recent version, fourth, of the survey (Bates & Holton, 2012b) was used as guideline. As explained in the theory chapter, solely this survey was not sufficient for the purpose of this research; therefore it is combined with other learning measurement instruments. Specifically, a broader focus on group learning dynamics was set. Also partly incorporated was the Velo-city survey (Glaser, 2017b). This survey was conducted by Meredith Glaser, PhD student at the Urban Cycling Institute of the University Amsterdam. Velo-City is an international planning conference on cycling held by the European Cyclists Federation (Velo-city, 2017). In 2017 it took place in Nijmegen, the Netherlands,

and a part of this conference was also an urban exploration tour with bicycles. The survey aimed at measuring the learning output from this conference.

Furthermore, as laid out in the theory, an important alteration of the survey was the inclusion of some questions of Nafukho et al.'s (2017) survey design. It focused more on the variable of the study tour itself and the learning person. Table 10 gives an overview on which existing measurement instruments were used to develop the survey design for this research:

Survey name	Authors	Sub-topics for survey
Learning Transfer System Inventory (LTSI)	R. A. Bates & Holton, 2012	Organizational readiness, knowledge externalization
The Readiness for Organizational Learning and Evaluation Instrument (ROLE)	Preskill & Torres, 1999	Organizational readiness
Predicting workplace transfer of learning	Nafukho, Alfred, Chakraborty, Johnson, & Cherrstrom, 2016	Learner readiness & motivation, training design, individual outcomes (which effect on the job), work autonomy
Velo-city 2017 Evaluation	Glaser, 2017b	Study tour agenda, demographic information
Instrument for evaluating dimensions of group dynamics within community-based participatory research partnerships	Schulz et al., 2003	Study tour agenda, group dynamics
A study of group dynamics in educational leadership cohort and non-cohort groups	Greenlee & Karanxha, 2010	Group dynamics

Table 10: Overview of existing survey instruments used for the development of this survey

Questions deriving from these given survey instruments as shown in Table 10 only had to be slightly adapted in wording (e.g. changing “training” to “study tour”) in order to use them for the focus of this research. However, for some important aspects, no fitting and already existing questions could be found. In these cases, I did formulate the question based on the literature discussed in the theory chapter. Thus, for organizational outcomes and partly for individual learner outcomes, I did formulate the questions based on Argyris and Schön (Argyris & Schön, 1978), Schulz et al. (Schulz et al., 2003) and Rouwette et al. (Rouwette et al., 2002).

Questions asking about opinions and estimations are 5-point Likert-scale type (1 – strongly disagree; 5 – strongly agree) as based on the questions used in the guiding surveys mentioned above. Likert-scale questions are a simple to understand question format that enable measurement of broader attitudes and values (Johns, 2010). These Likert-questions were weighted in points from strongly

disagree – 1 point to strongly agree – 5 points. This was necessary for the better analysis of the survey results. Questions that did not ask about an opinion and were rather fact based questions were asked in multiple-choice/multiple-response⁸ format. From these multiple choice/response questions, four were also weighted through giving points according to the answer choice given. This step was also done for better analysis of the results. The remaining multiple choice/response questions are non-metric. Three items were open questions. For five survey questions respondents had to rank the choices given by level of importance. The finalized survey, which was sent out, can be found in *Annex 1: Urban Mobility Study Tour Survey – Design*.

4.3.2. Target Group

The survey aimed at people that have been on an international study tour with a focus on urban mobility at least once in the last 10 years. Further, the target group is all US-based professionals. This makes the results more coherent, as actors in the United States are situated in similar conditions regarding the regulative framework, urban development and cultural context. I am aware, however, that within the United States differences between the 50 states and many cities exist. In the face of the given complexity of this research, the focus on one country is seen as necessary and enhancing of the quality of the result. Also, in terms of one common language, having been given good connections to US-based study tour participants through the University of Amsterdam and the incentives for respondents explained below, only one target country is reasonable.

The research has a specific interest in study tours to the Netherlands, however, in order to have more respondents, people that were on study tours in other countries were also included. Further, the respondents should be professionals, working, currently or at the time of the study tour, in the very broadly defined fields of planning, public policy, politics, consulting, and non-governmental organizations. Albeit not exactly the target group, people working in academia or retail/industry were also invited to take the survey. Students were explicitly excluded. The choice of this target group is reasoned with the goal of the research at hand. As it is of interest of the first research question to understand how organizations learn, people in the target group should be part of some kind of organization, which is definitely not applicable to students.

4.3.3. Survey Distribution

The database of contacts to whom to send the survey was generated with the help of organizations that organize such trips. Collaborating with Meredith Glaser (PhD student at the University of Amsterdam), who once herself organized such study tours for the US-based organization People for Bikes, a well filled list, with at its final stage 321 contacts could be compiled. Through the close

⁸ Multiple choice means that only one choice could be selected; multiple response means that more than one choice could be selected.

connection to the People for Bikes organization, the majority of the contacts was provided from them. Other organizations that helped to collect survey respondents were the following Netherlands-based organizations: Dutch Cycling Embassy, Fietserbond, and Velo Mondial. In order to early inform possible survey respondents, one survey announcement e-mail was sent out about one week before the survey distribution. This step also allowed deleting and double-checking wrong e-mail addresses, as well as excluding people that informed us that they do not meet the target group. Finally 321 survey invitations could be sent out. From those, nine e-mails could not be delivered. Consequently, the survey reached 312 people all over the United States, when sent out on April 19th at 8am MDT time via the Qualtrics survey software. The survey remained open for exactly two months, until June 18th 2018. Altogether, four reminders were sent out to unfinished respondents in order to obtain a better response rate. On closing day, June 18th the survey had 132 recorded respondents.

In order to enhance the response rate of the survey an incentive was offered to survey respondents. Through the collaboration with the University of Amsterdam, a \$15 Amazon voucher could be offered.

4.3.4. Survey Analysis

At the time of the survey closing 132 responses were collected, out of 312 potential respondents – a response rate of 42%. Out of these 132 collected responses seven were invalid answers which were excluded from the analysis. Hence, the scope of analyzed responses was 128. Of these 128 eleven respondents did not finish the survey, however as far as their response was recorded it was used for the analysis. 8 out of those 128 valid responses were from Denver. As this is too few to give any relevant quantitative information, survey results will not be manipulated to display only Denver results.

The survey data was analyzed using the MS Excel software. In the first step (see *Organizational Learning & Group Learning*), a descriptive analysis of the raw data from the survey responses is displayed together with the results of the interviews (data “enhancement” (see Bryman, 2016, p. 655f)). In a second data processing step, the survey results from the measured indicators are regarded concerning their influence **on the organizational learning outcome measured in survey question 56**. Two ways to measure these correlations were applied:

1. For all questions in the Likert-scale format and multiple choice answers whose choices were weighted (metric scale), the correlation between the independent variable and the organizational learning outcome (Q56, dependent variable) was calculated using regression analysis. The summarized weighted outcomes per respondent from the survey question on the outcomes of organizational learning (Q56) were the dependent variable. The independent variables were the different survey items (Survey questions: 6, 9, 19, 25, 28, 29, 32, 35, 39, 46, 52). The P-test (probability value) proves or disproves the null hypothesis and indicates if the result is significant. The null hypothesis can be rejected when $\alpha < 0,05$, this means that the result is significant.
2. Multiple choice or multiple response questions, which are non-metric, were analyzed to determine the average weighted outcomes per respondent from question 56 (organizational learning outcomes). The question of the independent variable x (Survey items: 4, 10, 15, 20,

21, 49) was manipulated to only show one answer choice and the respective result for Q56. The average weighted outcomes from Q56 per answer choice were then compared to the average weighted outcome for all respondents. This result is indicated as a percentage above or below the average of all respondents' outcomes of Q56.

4.4. Case Study

A case study approach was chosen, as it allows testing the constructed theoretical concept in a specific local context. Regarding the wide range of context specific influence factors, a case study offers the best approach in order to obtain the fullest picture possible of this complex process. According to Yin (1994, p. 23), a case study is "an empirical inquiry that investigates a contemporary phenomenon within its real life context; when boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used". The case study examines the contemporary phenomenon of policy change through international study tours and thereby builds the bridge between the first research question--how organizations learn--to the second research question--what are the outcomes--and the third research question.

4.4.1. Case Study Selection

The objects of this study (case) are policies and how the learning from international study tours influenced them. The case study city of this research is the US city of Denver, Colorado. The choice was made after a case screening on this city for several reasons. Denver was in 2014 one of the *Green Lane Project* focus cities of the US bicycle advocacy group People for Bikes (PFB) (see People for Bikes, n.d.-b). This project supported US cities in their installation of protected bike lanes. As part of this support, international study tours were organized. Denver did also apply for the next major project from PFB, the Big Jump Project (see People for Bikes, n.d.-a). Although Denver was not chosen to be one of the ten participating cities in that program, it still shows the city's ambition to improve urban cycling, which also is reflected by the comparable high number of people that were on international study tours. The initial contact list of people that were on international study tours contained 28 people from Colorado (therein 20 from Denver). All of those were on study tours organized by PFB. No other city in the database had as high a number of people that were on international study tours. The second highest count was Portland with 27 people. However, Portland is already very well researched in regard to its cycling development (see Dill & Voros, 2007; Pelzer, 2010; Pucher, Buehler, & Seinen, 2011), as it is regarded as a best-practice American cycling city. Obviously, the high number of people that had already been on a study tour was a clear advantage, and therefore the choice of people to interview was much higher, and also the people responding the survey from Denver can be assumed to be higher. Hence, better data for methodological triangulation is given. Furthermore, the indication that the city is interested in improving its cycling infrastructure is a helpful precondition for people's response to talk with me about it in an interview. This proved correct when requesting for interviews, the response was relatively prompt and mostly positive. In addition to these favorable preconditions, the size of the city of Denver, 600 158 (year 2010) (US Census Bureau, n.d.), is appropriate to cover in the given timeframe of this research.

Summing up, after Flyvbjerg's case study selection strategies (Flyvbjerg, 2006) this case study is an information based selection on a critical case. As the given preconditions in Denver are more advantageous to learn (more people went on study tours; already improvements in cycling infrastructure are visible) compared to other cities, it can be said that "if learning is not valid for this case, then it is not valid for any (or only few) cases" (Flyvbjerg, 2006). Yin (1994) argues that a single case study is appropriate when there is a clear theory and the selected case meets all preconditions given in theory. With this underlying argument, it was decided to do a single-case research on the city of Denver, as this is a deductive process accurately based on theory and Denver fulfills all necessary preconditions for a single-case study design (see Yin, 1994). Furthermore, conducting a comparative case study, with each case in well-enough detail, would have trespassed the framework of this research.

4.4.2. Qualitative Interviews

The main method of research in the case study was the semi-structured qualitative interview. Compared to other methods, interviews worked best to cover the complex topic of this research and gave enough flexibility to react on individual interview partners (see Edwards & Holland, 2013). Supporting the interviews, a participatory observation was conducted in the two week field trip to Denver. The interviews, however, are the main source of information. The method of interviews is "a social and potentially learning event for both participants" (Edwards & Holland, 2013, p. 3). The underlying ideas of reflexive construction, position the researcher, me, not as a neutral interviewer with the aim of standardization and exclusion of bias (compared to positivist approaches) (see Edwards & Holland, 2013, p. 5). On the contrary, I am aware that my presence influences the interview and it is the interaction between me and the interview partners that brings about knowledge, learning and understanding (Edwards & Holland, 2013, p. 17). In the interview analysis, I reflect on which emotional, cognitive and action background I bring into the analysis of the interview (Mayring, 1991).

4.4.2.1. Interview Partners

Altogether, 15 interviews were conducted in the timeframe from April 23rd to May 4th 2018. The choice of interview partners was foremost directed by who was on a study tour. However, in order to have a control group, people that were not on a study tour, yet work in the field of urban transportation and specifically cycling were also chosen. According to the research question and its intention to find out about the change of public policies, the main focus was on people working as civil servants and elected officials. Also, from the list I had at hand of Denverites that were on study tours the biggest group was civil servants. However, solely referring to this group would contradict with social learning theory, which says that the broader based society is a key player in bringing about change (Bennett & Howlett, 1992; Hall, 1993). Therefore also people working in NGOs, as representatives of civic society advocacy groups in the field of urban mobility, were interviewed. Furthermore, private enterprises play a major role in today's urban development (see Harvey, 1989; Selle, 2005), consequently also private enterprises were approached for interviews. A general overview of interview partners per category is displayed in Table 11.

Methodology

	Position / Title	Organization	Job category	Study Tour
1A	Leading position ⁹	Denver Public Works, Transportation	Civil servant	NL 15, ES 18
2A	Leading position	Denver Public Works Engineering	Civil servant	NL 15
3A	Managing position	Denver Public Works, Street Maintenance	Civil servant	NL 15
4A	Senior City Planner	Denver Public Works, Transportation	Civil servant	Control Group
5A	Engineer	Denver Public Works, Transportation	Civil servant	Control Group
6B	Coordinator	Denver Department of Public Health and Environment	Civil servant	Control Group
7C	Leading position	Mayor's Office	Civil servant	NL 15
8C	Leading position	Mayor's Office	Civil servant	ES 18
9C	Leading position	Mayor's Office	Civil servant	Control Group
10D	City Council Member	Denver city council	Elected official	NL 15, ES 18
11E	Leading position	Bike advocacy group	Advocacy Group	Control Group
12E	Leading position	Pedestrian advocacy group	Advocacy Group	Control Group
13E	Voluntary (unpaid) member	Bike advocacy group	Regarded as advocacy group ¹⁰	Control Group
14F	Leading position	Private Consulting Firm	Private enterprise	DK 16
15F	Leading position	Downtown Denver Partnership ¹¹	Regarded as private enterprise	NL 15

Table 11: Interview partner overview

⁹ Due to privacy reasons the job title got changed, "leading positions" describes all positions with a high number (in relation to the size of the organization) of employees working under his/her supervision.

¹⁰ "Regarded as" means the enterprise does not exactly fall into this categorization from its legal status, but for this research it counted to this group, as organizational characteristics most fit into this category.

¹¹ The Denver Downtown Partnership is in its form unique for the US and can be compared to the European Chambers of Commerce, however representing only the downtown Denver business community.

4.4.2.2. Interview Guide Design and Execution

The design of the interview guide followed the guideline by Jacob and Furgerson (2012). They describe the design of a successful interview guide in the following steps¹² (Jacob & Furgerson, 2012, pp. 2–5):

1. Research should guide your questions
2. Use a script for the beginning and end of your interview
3. Questions should be open ended
4. Start with the basics
5. Start with easy to answer questions and then move towards the more difficult ones
6. The phrase “tell me about...” is a great way to start a question
7. Write big, expansive questions
8. Use prompts
9. Be willing to make “on the spot” revisions to your interview protocol
10. Don’t make the interview too long
11. Practice with a friend

I did follow all these steps in my design and execution of the interviews. The principal interview guide used can be found in *Annex 2: Interview Guide Denver Case Study*. According to the method of semi-structured interviews and point nine (see above) after Jacob and Furgerson (2012), this guide was adapted to the situation in the interviews and some questions might have been added, skipped or annotated. Also as stated in step one after Jacob and Furgerson (2012), my theoretical framework and its indicators were used as a basis for the design of the interview guide. The intention was to bring about information on the undertaken study tour (in case the person belongs to the group that was on a study tour) without directly asking about it. This refers to Marsden et al. (Marsden et al., 2011) who describe the spontaneous mentioning of learning lessons from somewhere else as an indicator for learning and organizational openness. Also in the introduction to the interview, the specific focus on study tours was not explicitly mentioned, as it was assumed that this would bias the interview. However, it has to be considered, that all the interview partners that were on a study tour did receive the invitation for the survey, which had a very explicit focus on study tours, about one week before the interview.

The planned length of every interview was between one and 1,5 hours. All interviews stayed in about this timeframe. The setting of the interviews was, with the exception of one that was in a cafe, in the offices of my interview partners. All interviews were with prior agreement audiotaped and transcribed, with the exception of one. In that case hand written notes were done. Where additional clarification was necessary, I sent out e-mails after the interviews.

¹² Step 1, 13 and 14 in the order of Jacob and Furgerson (2012) was dismissed, as it is not relevant for this research.

4.4.2.3. Interview Analysis

The analysis of the interviews was conducted based on the Mayrings' model of the qualitative content analysis (see Mayring, 1991). This approach is based on building categories, grounded in theory. As this is a deductive research process, my categories are the main variables derived from theory as shown in Table 8. The coding was based on deductive pre-defined codes and, through the process, inductive codes were added (the list of used codes is displayed in *Annex 3: Interview Coding Structure*). Using Mayring's analysis, this is possible because the procedure is not strictly linear and a circular process of revision of previous steps is part of it (see Mayring, 1991). The coding was done using the Atlas.ti software. This coding and categorization building process also makes the qualitative content analysis a useful instrument for a mixed methods approach (see Mayring, 2012). Qualitative data can be quantified by counting how often codes or one category was mentioned and can thereby draw conclusions on its importance (also compared to other codes or categories). This possibility was sometimes used for additional explanation. However, what is most important for this research is that the categorization building processes in the interview analysis supported the better triangulation process between the survey and the interviews. Each question in the survey was designed to provide data on one or more specific categories (named indicator in this research see Table 8). These categories overlap with categories used in the qualitative interview analysis. This provides greater validity through a pointed triangulation process. Furthermore, the survey also included open questions, whose answers were analyzed with the same coding structure as the interviews.

Mayring (1991) describes three different approaches for the qualitative content analysis:

- Summarizing content analysis
- Explicit content analysis
- Structured content analysis

For this research, I choose the summarizing content analysis because the main interest in the interviews is on the content. Compression in a manageable summary offers a good way to work with the large amount of material (see Mayring, 1991).

4.4.3. Participatory Observation

In my two week field trip to Denver, I wrote a diary reflecting on my transportation experience. I saw it as part of my research to try to use all modes of transportation (bike, walk, light rail, bus, taxi and Uber) and tried to make informal conversation with Uber and taxi drivers and other random people I met during my stay. Especially, the fact that I had for the time of my stay a cargo bike, which is rather exceptional in Denver, entangled me in many casual talks along my ways through the city. Furthermore, I participated in a Denver Group Bike Ride organized by the cycling NGO BikeDenver and thereby informally talked with people on the tour. I consider these insights as important to better understand the context of my research.



Picture 5: Me and my cargo bike; Source: own picture (Denver May 2018)



Picture 6: Denver Group Bike Ride; Source: own picture (April 2018)

In scientifically correct terms, the methodology used was a “participatory observation”, as Schensul et al (1999, p. 91) describe, a participatory observation is “the process of learning through exposure to or involvement in the day-to-day or routine activities of participants in the researcher setting”. This methodology originates in anthropology and is more and more used in other studies including urban research (Dangschat & Kogler, 2013). The fieldwork is conducted by active looking, informal interviewing and taking detailed notes (DeWalt & DeWalt, 2002). The main components of a (participatory) observation are after Friedrichs (1990):

1. The field of observation – this was the city of Denver with a focus on transportation related space.
2. Units of observation – the focus was on people living and experiencing the city and its transportation in their everyday life, as well as people working in urban transportation themselves (subject oriented). Further, the physical city structure, regarding its street design, urban fabric, modes of transportation etc. were objects of my observation (object oriented).
3. Observer (me) – I was actively engaged in my field of research by informally talking to people, and using transportation myself. This makes this research a participatory observation, as I actively participated. Due to the fact that I “lived” in Denver for two weeks and therefore my

strong direct engagement in the city, I describe my own role in this process as a “participant as observer” (see Dangschat & Kogler, 2013, p. 6). Furthermore, the observation was both self-observing as well as the observation of others. However, a focus was put on others.

4. The observed – people I engaged with did not know that they were subject of my observations, however, when it came up, I talked openly about the topic of my research and the reason why I was in the city. I am aware that this knowledge might have influenced people; however, I held my personal opinions back and let them talk to me about their experiences in the city freely.

The participatory observation process is a methodology, which is always (consciously and unconsciously) selective and “reality” is a production in our brains (Lahninger 2000, p.21 after Dangschat & Kogler, 2013, p. 7). Out of this argumentation, the Denver diary is regarded as an additional source of information to better and fully understand this case study research. Methodological triangulation shall lead to better informed outcomes. The intention was to especially generate a better understanding of the social learning happening in Denver, which is regarded as a societal process, that includes broader groups than the group of policy makers (Bennett & Howlett, 1992, p. 285; Hall, 1993, p. 288).

4.5. Structure of the Results

In the first step, the context of the case study is thoroughly described through the analysis of **social learning** in Denver. This part of the research is essential to be able to answer the third research question (*to what extent do the outcomes of the study tours influence social learning in Denver?*) in the succeeding discussion (see chapter *Answering the Research Questions & Discussion of the Results*). To better comprehend in which local context the process of learning from study tours and the outcomes of the study tours are embedded, the social learning chapter will be the first discussed in the results. In that respect, it is drawn to the social learning theory (see indicators Table 8 section social learning). The development of urban mobility policies in Denver will be elaborated based on the information given in the interviews. Processes and relations over time were asked in the interviews. An additional source of information, which was used to enhance the results on the current situation in Denver, is the participatory observation, conducted over the two weeks in Denver (see *Methodology* chapter). (As a reminder, the survey explicitly does not inform social learning in Denver.)

The second step in the analysis of the interviews is on the aspect of **organizational learning**. For this, the same indicators as in the design of the survey (see Table 8 section organizational learning and group learning) are used. Referring back to Bryman (2016, p. 655f), this process can be described as “enhancement”. The survey was the main source of information and the insights from the interviews further enhance the outcome (see Bryman, 2016, p. 655f). Sections that refer to both methods (survey and interviews, hence the chapter *Organizational Learning & Group Learning* and chapter *Learning Outcomes*) display, according to the advice from Bryman (2016, p. 677), the results of both methodological approaches together.

In the third step, **outcomes of the study tour** are analyzed in terms of the survey results (only for results on the individual, group and organizational level) and the interviews (all levels), hence for the individual, group and organizational level the data is “triangulated” (see Bryman, 2016, p. 643). For the analysis of policy transfer outcomes, it is also drawn to the policy transfer theory, as described in the theory chapter (see indicators Table 8 section policy transfer).

Secondary data only informs the results in case additional clarification was necessary, e.g. specific dates of events and references to policy documents. It is specifically pointed out that the Denver “policy timeline” (see chapter *Level of Policy Change over Time*) only describes those events in the process, which were laid out by my interviewees; hence it does not claim to be complete. It reflects events and processes that were mentioned by my interviewees and hence seen as relevant for this research. In the whole results chapter (see *Results*), all information is derived from the survey or interviews. Secondary data was used only where additional sources are given. These documents additionally inform the research, however, do not constitute a separate research method. Additionally, data from the contact database for the survey distribution (see chapter *Survey Distribution*) was used to further inform certain points.

The *Results* chapter clearly has the aim to lay out the **results** (without discussion) as gained in my research. **Discussion** follows in the chapter *Answering the Research Questions & Discussion of the Results* along the three posed sub-research questions. Thereby, it pulls all strings from the results together to answer the research questions and also discusses the results in the light of the previous theory laid out.

4.6. Limitations

I am aware of several limitations to this study. Regarding the survey, the limitations are given in the reach of former study tour participants. First, the participant collection was biased through the given contacts and possibilities available, which resulted in a higher representation of people that were on study tours organized by People for Bikes. In the analysis of the results, this has to be considered. On the Second, it has to be considered that most of the surveys taken as a guideline to design this one (see Bates & Holton, 2012b; Greenlee & Karanxha, 2010; Nafukho et al., 2017; Preskill & Torres, 1999; Schulz et al., 2003) are directed at people whose experience lies within the last year. In the research at hand, the study tour might be dated up to ten years old. This was accepted in order to get a higher response rate. Furthermore, as it is the nature of self-reports in surveys, the response could be biased because participants may wrongly estimate their self-performance. Especially using the Likert-scale, people tend to rate themselves higher, which is connected to the “Hawthorn Effect”. Last, another limitation of the survey is the small number of respondents, which makes generalizing tenuous.

Concerning the interviews, there are two main limitations given. Firstly, the social learning theory is conceptually unclear and the measuring of social learning remains difficult (Bennett & Howlett, 1992, p. 276; Colomb, 2007, p. 364). To operationalize this research, I used literature from social learning theory and there derived indicators. The summary from May (1992, p. 344) on “prima facie”

evidence on policy learning and therein social learning was especially helpful. Secondly, the interviews can be biased by people that want to present their work in a good light and/or exaggerate the impact of study tours, leaving away negative aspects or other major influence factors on outcomes. In order to address this possible shortcoming, the interview partners include a “control group”, which, on the one hand, control learning outcomes and, on the other hand, control the picture given for the social learning process of Denver. The “control group” consists of civil servants and advocates. Additionally it will be drawn to secondary information from online sources available to confirm certain data given in the interviews.

Finally I am aware that time is an important factor in this study. Organizational and policy learning from the study tours might not be identified due to the relatively little time passed between this research and the study tour (see Colomb, 2007, p. 362).

5. Case Study Context

5.1. Legal Context

5.1.1. United States National and Colorado State Legal Context

The US as a federal country has four levels of government: the national level, 50 federal states, 3 031 counties and 35 879 local authorities (OECD, 2017a, p. 220). It is a much decentralized system with most constitutional power regarding land-use planning on the state level (ibid.). Yet, most states delegate the bulk of power to the local level through statutes and state constitutions (ibid.). Also, Colorado is a “local control” state concerning land use planning, which means that most planning legislative power is on the local level. The enabling acts from the State of Colorado are:

- Local Government Land Use Control Enabling Act (C.R.S. § 29-20-101, et. seq.)
- Home Rule Powers (Articles XX and XIV of the Colorado Constitution)
- Master Plans (C.R.S. § 30-28-106 and § 31-23-206)
- Zoning (C.R.S. § 30-28-111 and § 31-23-301)
- Areas and Activities of State Interest (C.R.S. § 24-65.1-101)

Regarding specifically transportation planning, the following powers are on the national level (State of Colorado, 2018a):

- Location selection of rapid or mass transit terminals, fixed guideways and stations
- Location selection of principal highways and interchanges, as well as collector highways

The most important national planning documents and guidelines for transportation planning are:

- Manual on Uniform Traffic Control Devices (MUTCD): published by the federal government and enforced by law (see FHWA, 2009, 2018).
- There are several guidelines by the American Association of State Highway and Transportation Officials (see AASHTO, 2018).
- NATCO: Urban Bikeway Design Guide (see NACTO, 2011) – a non-binding document with the ambition to guide design which improves the city’s public spaces along streets, by making them “safer, more liveable, and economically vibrant” (NACTO, n.d.).

5.1.2. Denver Legal Context

Table 12 summarizes the most important community and development plans and instruments, with indication on the respective instrument and legislation in Denver:

Case Study Context

Instrument	Instrument description	Denver
<p>Master Plans, referred to as “comprehensive plans” (C.R.S. § 30-28-106 and § 31-23-206)</p>	<p>Elements addressed may include: <i>“Recreation and tourism (required by state statutes), transportation, land use, economic development, affordable housing, environment, parks and open space, natural and cultural resources, hazards, capital improvements, water supply and conservation, efficiency in government, sustainability, energy, and urban design.”</i> (State of Colorado, 2018b)</p>	<p>Comprehensive plan is in revision. It is to be approved in 2019 (see City and County of Denver, 2018j).</p> <p>Denver legislation: Denver Code of Ordinances, Chapter 12, Art. II, Div.3.</p>
<p>Land Use Codes (C.R.S. § 30-28-111 and § 31-23-301)</p>	<p><i>“They are an implementation tool for the comprehensive plan. The land use code can include zoning regulations, subdivision regulations, annexation policy, impact fees, public hearing processes, fence and sign permitting, and more. For example, a land use code may prescribe how tall a single-family home can be, the density of a planned community, the minimum parking requirements for a retail complex, or the allowed uses within a commercial building.”</i> (State of Colorado, 2018d)</p>	<p>A comprehensive update of the Denver Zoning Code was done in 2010 and revised in 2018 (see City and County of Denver, 2018i).</p> <p>Denver legislation: Denver Code of Ordinances, Chapter 59.</p>
<p>Three-Mile Plans (C.R.S. § 31-12-105)</p>	<p>Plans to regulate municipal annexations <i>“to no more than three miles beyond the current municipal boundary in any given year”</i> (State of Colorado, 2018g)</p>	<p>A specific Three-Mile Plan for Denver could not be found. However the “Poundstone Amendment” of the Colorado Constitution (Colo. Const. art. XX, Sec.1) (1974) restricts Denver to annex more land (Leonard & Noel, 1990). The Three-Mile Plan can be included in the comprehensive plan.</p>
<p>Sustainability Planning</p>	<p>Voluntary plans to integrate sustainability into the comprehensive plans (State of Colorado, 2018f)</p>	<p>Denver set sustainability goals in 2013 (see City and County of Denver, 2013). Further it has an “Environmental Land Use and Planning section” (ELUP) that works together with other city agencies (see City and County of Denver, 2018k).</p>
<p>Hazard Planning</p>	<p>Voluntary plans to prepare and mitigate hazards. (State of Colorado, 2018e)</p>	<p>Denver has a Regional Natural Hazard Mitigation Plan (see Denver Regional Council of Governments, 2010) and the DenverREADY initiative (see City and County of Denver, 2018h). Emergency Preparedness is regulated by law (Denver Code of Ordinances, Chapter 16.), as well as Flood risk Management (Denver Code of Ordinances, Art. V).</p>

1041 Regulations (C.R.S. § 24-65.1-101)	<i>“The general intention of these powers is to allow for local governments to maintain their control over particular development projects even where the development project has statewide impacts.”</i> (State of Colorado, 2018a)	Denver makes use of this regulation e.g. in the field of water supply (see Northwestern University, 1988).
Intergovernmental Agreements (IGAs)	<i>“An intergovernmental agreement (IGA) is any agreement that involves or is made between two or more governments in cooperation to solve problems of mutual concern.”</i> (State of Colorado, 2018c)	Denver has Intergovernmental Agreements e.g. with the Colorado Department of Transportation on the I-70 highway expansion project (see City and County of Denver, 2015b).

Table 12: Community Planning and Development Instruments in Denver

According to Denver law are bicycles considered as “vehicles under all portions of this Code which govern right-of-way.” (Denver Code of Ordinances, Art. IX, Div.1, Sec.54-571).

5.2. Planning Context

5.2.1. Planning Context - US

To give a better understanding of the US planning context, it is here compared to the European context. I am aware that Europe is not one single entity and that within Europe different planning cultures are present (see Knieling & Othengrafen, 2009), however it is also underlined that “many planning systems [in Europe] are undergoing similar types of changes” (Stead & Nadin, 2009, p. 283). Moreover, the “model’ of spatial planning and the prevailing planning culture is likely to be interconnected with the model of society” (ibid.).

In a scientific paper, Hannemann and Mettenberger (2011) compare, based on other authors (see Bagnasco & Le Gales, 2000; Häußermann, 1999, 2001; Jessen, 2000; Lanz, 2002; Lenger, 2006), US and European cities and elaborate on the differences and convergences in development. Their approach is structured after three main spatial characteristics as shown in Table 13:

Main indicators of Hannemann and Mettenberger (2011, p. 57ff)	Difference according to cited authors in Hannemann and Mettenberger (2011, p. 57ff)
Material-spatial differences	
The age of the cities	US cities are a lot younger than EU cities
Suburbanization	US has higher suburbanization rates and higher space usage
Function of the city centers	US city centers are concentrated on economic purposes – CBD=Central Business District
Geometry of settlement structures and street grids	US cities have the typical grid structure and EU cities are mostly organically grown
Transportation systems	US cities are more car-centered, and EU cities have advanced transit infrastructure
Socio-spatial differences	
Segregation	US cities are more segregated than European cities
Urban policy differences	
Public urban policy	Public urban planning measures and policies have less influence on urban development in the US compared to Europe
Urban property ownership	In US cities property owners are more likely private actors compared to EU cities
Past policies	Past policies led to the advancement of EU cities in providing public transport
Welfare state system	Compared to the US, the EU has an extended welfare state system, which leads in the US to more vast socio-economical polarization processes and less urban programs to address segregation in cities.

Table 13: Differences between the European and US planning context from Hannemann and Mettenberger (2011, p. 57ff)

Albeit these differences between US and European cities, the authors point out that there are convergent developments in all three categories where the European city is moving more towards the American city (Hannemann & Mettenberger, 2011, p. 62ff). The same is also true regarding planning and general developments in the Netherlands (see Gerrits, Rauws, & de Roo, 2012). According to Gerrits et al. (2012), in the Netherlands “an ideological reorientation toward neoliberalism and decentralization” (Gerrits et al., 2012; after Pojani & Stead, 2014, p. 360) is also happening. Nevertheless, the Dutch planning system is based on spatial cohesion, spatial justice, concentration of urbanization, spatial diversity and hierarchy (see Hajer & Zonneveld, 2000).

In the specific field of transportation planning, Banister (2005, p. 80) describes the following main differences between the US and Europe:

	Europe	USA
Use of taxation to address sustainability problems	Intensive	Not intensive
Stimulation of public transport	High	Low
Role of rail for passenger transport	Large	Small
Deregulation of transport markets	Slow	Fast
Emphasis on equity versus efficiency in policy-making	Equity	Efficiency
Land-use policies	Strong	Weak

Table 14: Differences in institutional priorities between Europe and the United States; Source: Rietveld and Stough (2005) after (Banister, 2005, p.80)

The following chapter will elaborate further on the general and urban transportation system development in Denver and in the chapter *Level of Policy Change over Time* in the *Results* part of this work, the most current mobility trends in the city are presented from data gained in the empirical work.

5.2.2. Denver from its Origins until Today

Denver is the capital of the US state of Colorado. The city has 600 158 (year 2010) (US Census Bureau, n.d.) and is the largest in the state of Colorado. Geographically it is positioned at the foothills of the Front Range of the Rocky Mountains and at the edge of the High Plains, a high plateau which is part of the Great Plains. The area has low moisture and high elevation. Water shortage is a problem the city is facing (Leonard & Noel, 1990, p. 478).



Picture 7: Denver's Location in the US; Source: worldatlas (2018)

The city's origin goes back to **1858**, when white settlers found gold and later on silver. These natural resources shaped Denver's identity as a "**mining city**" (Leonard & Noel, 1990) and people coming to

find such precious resources increased all the more once the **Union Pacific Railroad** opened in 1880 (Building America, n.d.). Through the opening of this line, Denver was established as the **leading mining metropolis of the region** (Leonard & Noel, 1990). However, in 1893 the first economic crisis (“**Denver Depression of 1893**”), which was due to the vast drop of silver prices, hit the city (Leonard & Noel, 1990) and caused the rapid population growth to come to a halt. In this period many towns throughout the area (mostly present-day Colorado and Wyoming) became deserted and are today known as “**ghost towns**” (Larson, 2016). In this early history of Denver also Native Americans inhabited the area, yet in a massacre in 1864 many of them were killed and the remaining band was put into reservation camps (U-S-History.com, n.d.).

In the 20th century population growth picked up again through trade in other goods such as livestock, leather, rubber, etc. (U-S-History.com, n.d.). Denver was able to keep its position as an important trading city, thanks to its position along the important trans-continental east – west rail connection. By 1914 the Denver Union Station handled up to 200 trains per day (U-S-History.com, n.d.). Urban transportation was also shaped by **streetcar lines, bikes and pedestrians** (Forney Museum of Transportation, 2018). At the beginning of the 20th century Denver even boasted having the most bikes per capita, and the bicycle played a specifically powerful role in the women suffragette movement (History Colorado Center, 2018).

However, already then the time of private car ownership developed in Denver. Following the trajectory of most of the United States, as described in chapter *Planning for Cars*, Denver also became a **car-dependent city**. Figure 1 shows the rising vehicle registration rates in Denver County:

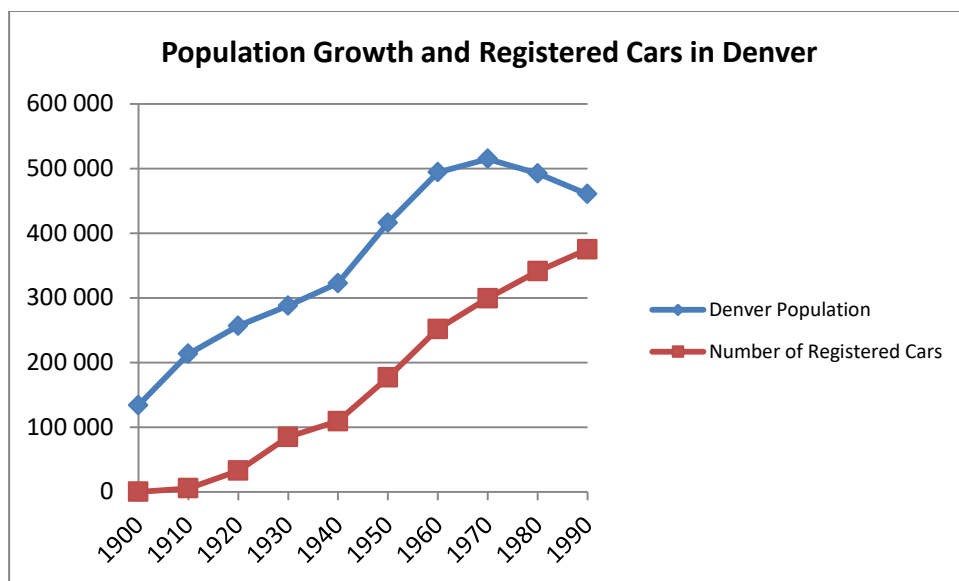


Figure 1: Population growth and Registered Cars in Denver; Source: Leonard & Noel (1990, p.257)

A Denver region-specific development was **auto tourism**, encouraged through marketing of the “the world’s highest auto road” completed in the 1930s (Leonard & Noel, 1990, p. 262). Also to encourage car tourism, Denver was one of the first cities to open auto camps within its city boundaries (Leonard & Noel, 1990). At the time, the automobile “sport” was still conceived of as for the rich (ibid.). This changed with the financial crisis of 1929 when auto camps became more and more filled with poor clients (ibid.). As this was an unwanted development, public auto camps closed and later on were

replaced by privately owned motels and camps (ibid.). As shown in Figure 1 the 1929 crisis caused only a slight decrease in the rising car registration per capita. Already in 1931 the use of the **car** (75% of the total Denver population) **overtook public transport** (53% of the total Denver population) (Leonard & Noel, 1990, p. 265). Urban planners already recognized the upcoming challenges brought on by suburbanization and pollution, however little changed in planning (Leonard & Noel, 1990). By 1950, streetcars vanished entirely from Denver's streets and were replaced by electric trolley busses (Forney Museum of Transportation, 2018).

In the 1930s, Denver was once again reminded of its difficult geographical position when the worst "Dust Bowl" hit the city and especially the rural areas (History Colorado Center, 2018). These storms are mostly caused by farming practices that cleared native grasslands by crops (ibid.).

After the Second World War many enterprises from the **gas and oil industry** moved to Denver, which further enhanced the growth of the city (Leonard & Noel, 1990). The Denver Basin is a geologic structural basin extending across parts of Colorado, Wyoming, Nebraska, and Kansas. Its natural resources are petroleum, coal, groundwater, cement, gold and uranium. Not all of them are still extracted today (USGS, 2002).

According to Leonard and Noel (1990, p. 253), the post war city was privatized and shaped first by skyscrapers, residential enclaves, shopping malls, and freeways. **Suburbanization** was seen as a "wholesome alternative to crowded, unhealthy urban living" (Leonard & Noel, 1990, p. 265). In the 1950s Denver established its Traffic Engineering Department and hired **Henry A. Barnes**, who shaped much of Denver's transportation system as it is today (Leonard & Noel, 1990, p. 269ff). Streets were converted to one-ways as well as widened, and traffic lights were installed. Barnes planned for getting in and out of town faster and **speeding up traffic** (ibid.). In 1958 the **I-25 opened as Denver's first official interstate highway** (ibid.). Many more highways followed later on. The federal state and its respective funds was majorly involved in the funding of highways (ibid.).

The energy crisis in the 1970s was economically beneficial for Denver and led to a **boom of the oil industry** that benefited from the high prices (ibid.). Between 1969 and 1974, federally financed "**urban renewal**" **demolitions** made space for factories, shops, education centers and residential buildings. This changed the cityscape tremendously (Leonard & Noel, 1990, p. 448f) and left "unlandscaped parking lots for a decade" (Leonard & Noel, 1990, p. 450) as shown in Picture 8:



Picture 8: Denver 1976, almost ten years after the start of urban renewal;
Source: Zimmer (2015, p. 7)

As shown in Picture 8 urban preservation efforts could not save much more than the D&F Tower (small thin tower in the middle of Picture 8) and Larimer Square (History Colorado Center, 2018).

With the drop of oil prices in the 1980s, Denver's economy underwent a **depression** and many people left the city (U-S-History.com, n.d.). The crisis led to changes in urban development, recreation and parks, and citizen participation through Residential Neighborhood Organizations (RNO) was more emphasized (Leonard & Noel, 1990). Also, historic center preservation became stronger (ibid.). At the same time, the city became a "speculative playground for potential commercial, industrial, and high-rise residential uses" (Leonard & Noel, 1990, p. 454). The protection of some core city areas led to further development in bordering urban areas, supported by the building out of the highway and street system (Leonard & Noel, 1990, p. 454f;). The main argument employed was to boost the flat economy of the 1980s through public works (ibid.). Also in this period, many public facilities were financed to produce jobs (Leonard & Noel, 1990, p. 476).

By the start of the 1990s the **outskirts were flourishing** while the inner city had trouble maintaining its population (Leonard & Noel, 1990, p. 276). Compared to most other larger US cities, Denver has very high rates of single-housing-home ownership (Leonard & Noel, 1990, p. 475ff). Further, in 1994 **Denver International Airport (DIA)** opened as important new "gate to the city" (U-S-History.com, n.d.).

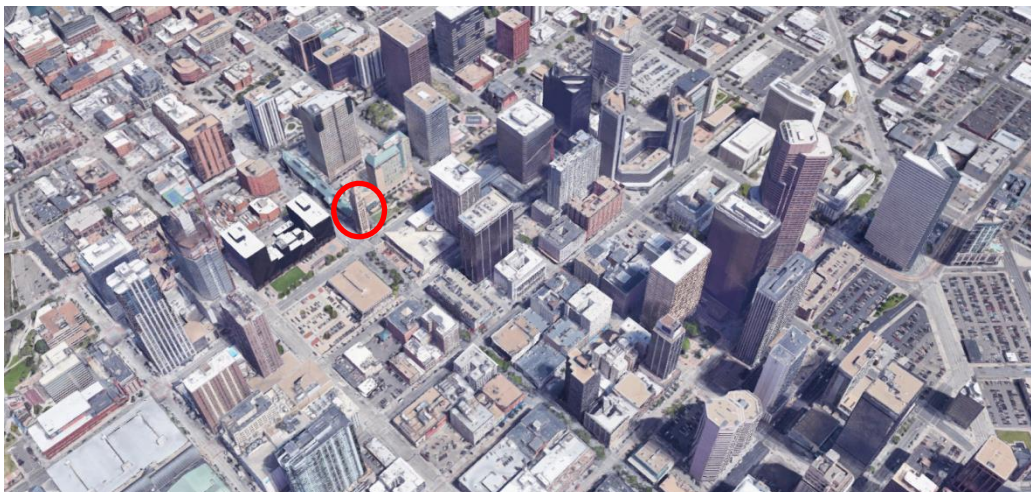
Leonard and Noel (1990, p. 475f) conclude that in the beginning of the 1990s, Denver had many problems ranging from tensions between ethnic groups, congestion, drugs, gangs, and homelessness. Nevertheless, Denver has developed "better" than other big American cities due to early historic district zoning and protection and anti-air-pollution-measures (Leonard & Noel, 1990, p. 475ff). Denver did not have, according to Leonard and Noel (1990), major race riots (ibid.). In 1991

Denverites voted for their first African-American mayor (History Colorado Center, 2018) and today's mayor is the second African-American in this position.

Leonard and Noel (1990) display Denver as an example of the “**western US city**” with an open, integrative attitude but also major freeways and neglected mass transit. Exploitive motives from the mining days carry on and individualism is, according to Leonard and Noel (1990), connected with Denver's mining history and isolated position (Leonard & Noel, 1990, pp. 253, 477).

In summary, one can say that Denver's development had vast ups and downs due to reason the New York Times newspaper wrote in 1991 about Denver “Traumas of the boom-and-bust rollercoaster” (D. Johnson, 1991). Since the 1990s, Denver has tried to broaden its economic bases and create jobs in more diverse sectors (ibid.). Transportation did always play a key role in Denver's development. Also, from my two-week field trip to Denver, I learned that transportation is a constant topic in the city. But, more on that in the following *Results* chapter. This historical background had the aim to lay out the story behind current developments. As a major part of my empirical research was to investigate policy changes in Denver, the most current policy developments in the city are lined out in detail in the chapter *Current Situation and Achievements in Denver* and will not be repeated here. At this point only a few more facts shall be given regarding Denver's development from roughly 2000 to the present.

Denver is vastly **growing**, with a population increase from 17,5% from 2010 to 2017 (US Census Bureau, n.d.). Especially it's **downtown area is growing again**. Since 2013 the population grew by 30%, since the year 2000 it has tripled, and today Denver downtown has 22 000 residents (DDP, 2018a, p. 1). Additionally, 13 000 employees, 45 000 visitors and 58 000 students visit downtown Denver daily (ibid.). The area still functions mainly as a “business district”, but urban living did much pick up in comparison to the past. As Picture 9 also shows, the huge gaps from the “urban renewal” processes in the 1970s (see Picture 8) are more closed. For better orientation the prominent D&F Tower from Picture 8 is circled red here:



Picture 9: View on Denver today; Source: Google maps (2018)

Recent publications show that downtown Denver differs greatly in its mobility shares in comparison to Denver as whole, as displayed in Figure 2:

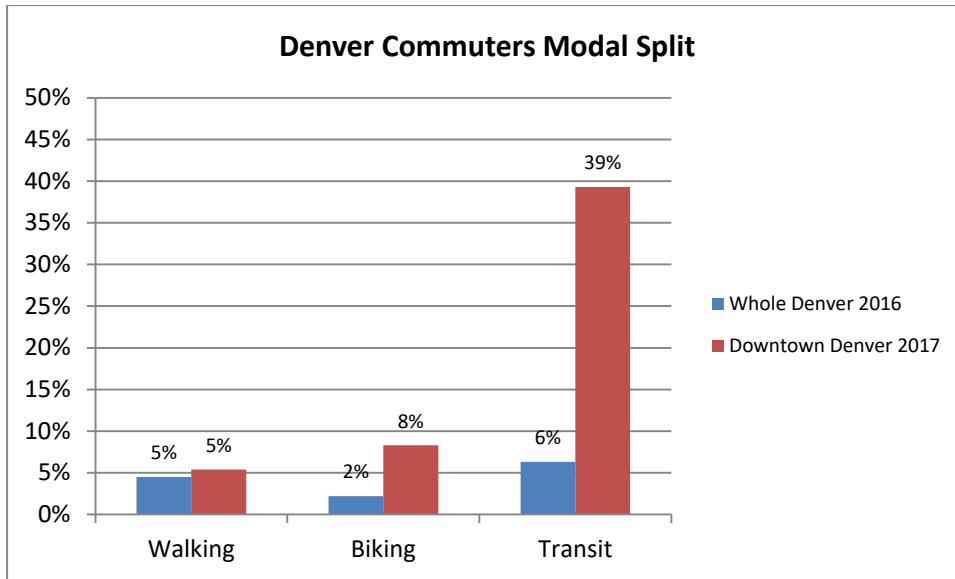


Figure 2: Denver Commuters Modal Split 2016; Source: whole Denver: United States Census Bureau (2016) after Sachs (2017); for downtown Denver: DDP (2018a, p. 2)

This can be related to the better built out bike infrastructure in the downtown area of Denver (see City and County of Denver, 2017c).

The overall Denver commute mode share is as shown in Figure 3:

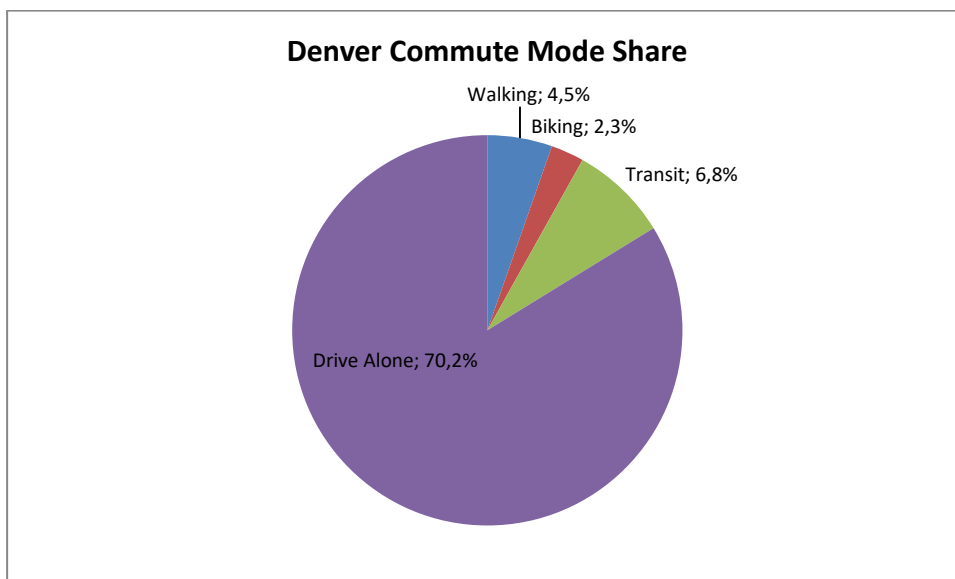


Figure 3: Denver Commute Mode Share; Source: U.S. Census Bureau, 2012-2016 after DDP (2018a, p. 13)

As is visible in the Figure 3, driving alone is still very much dominant in Denver’s ways of mobility. Moreover, over the past years mass transit has declined (DDP, 2018a) and cycling peaked in 2012 with 2,9% and has since dropped (Sachs, 2017). Compared to the earlier Denver streetcar system, today buses and the light rail network, built out since the 2000s, are the main mass transit providers (RTD, 2018a).

Table 15 below lays out further key facts about Denver today. In order to put the city in better context I compare the Denver key numbers to the focused “donor” city of this study, Amsterdam.

	Denver	Amsterdam
Demography		
Population administrative city	600 158 (census 2010) – 704 621 (estimate for 2017) (US Census Bureau, n.d.)	854 316 (2018) (OIS, 2018)
Population growth administrative city	17,5% growth from 2010 to 2017 (US Census Bureau, n.d.)	10,1% growth from 2010 to 2017 (OIS, 2018)
Population density administrative city	1 514 inhabitants/km2 (2010) (US Census Bureau, n.d.)	5 130 inhabitants/km2 land (OIS, n.d.)
Population metropolitan area	2 732 325 (2014) (OECD, 2016b)	2 452 659 (2014) (OECD, 2016a)
Population density metropolitan area (OECD, 2014b) ¹³	125,37 persons per km2 (2014)	869,79 persons per km2 (2014)
Geography		
Land area administrative city	396, 27km2 (US Census Bureau, n.d.)	219,49 km2 (2017) (OIS, n.d.)
Land area metropolitan area (OECD, 2014a)	21794,38 km2 (2014)	2819,84 km2 (2014)
Urbanized area (OECD, 2006)	1 897,78 km2 (2006)	592,55 km2 (2006)
Polycentricity (total number of polycentric centers in the city) (OECD, 2014a)	1 (2014)	4 (2014)
Economy		
GDP per capita (OECD, 2018c)	\$63 173,15 (2013)	\$49 676,22 (2013)
Environment		
Estimated average exposure to air pollution based on imagery data (OECD, 2018b)	6,1 (2013)	13,7 (2013)
CO2 emissions per capita (tonnes per inhabitant) (OECD, 2018a)	14,85 (2008)	15,06 (2008)

Table 15: Key facts Denver in comparison to Amsterdam

¹³ If same source for both cities, it is given in this column.

6. Results

6.1. Social Learning in Denver

This results chapter gives a comprehensive overview of the social learning process in Denver. This chapter shall show at which time of the overall social learning process in Denver the study tour took place.

6.1.1. Level of Policy Change over Time

Like most American cities, Denver once had a very robust trolley system, which started in the end of the 19th century (Forney Museum of Transportation, 2018). With the rise of the automobile, these infrastructures were torn out. In 1950 the last scheduled street car run along Denver's streets (ibid.). Since then, the "automobile became king" (5A, 11E) of Denver's streets, like in the rest of the United States (see chapter *Planning for Cars*).

The first **Bicycle Master Plan** in Denver was published in **1979**, with an update in **1987** and a new version in **1993**, updated in **2001** (City and County of Denver, 2018f). These plans have been laid out in a "**vehicle mentality**" (1A). Still, in the **early 2000s**, the whole system was designed to optimize travel for cars (1A, 5A, 13E). This was represented through naming and motto of the transportation department. What is today called the "Division of Transportation and Mobility" was then called "Traffic Engineering Services" and their motto was about "hassle-free travel" (1A). As 8C put it:

"Our departments of transportation today used to just be departments of highway" – 8C

With the lightrail extension plans starting in the 1990s (RTD, 2018a), the first **cycling advocacy group** specifically for Denver (before there was only a state-wide one) in 2001 (Denver, 2018) and the founding of the **Mayors Bicycle Advisory Committee** (MBAC) in the **early 2000s** (13E) first signs of change showed.

The first strategic document mentioned in the interviews is the **Denver Greenprint** document (see Mayor's Greenprint Denver Advisory Council, 2007). It was a basic starting document aiming at smaller interventions like recycling, saving energy and had mainly the purpose of "getting the conversation going" and helping "the mayor to look greener" (9C). The attitude in traffic planning was then ("about ten years ago") still described as the same car-oriented way of planning, dominated by "How do we get more cars on the road?" (7C), and it was "never talked about bike lanes or complete streets" (7C). Hence back then there was no single bicycle planner working at Denver Public Works (1A). However, around the same time, in **2008** Denver hosted the Democratic National Convention (11E, 14F) and the mayor had the aim of making it "the greenest convention in the history of conventions" (11E), hence recycling was targeted and a **pilot bike-sharing** system was introduced. For 11E, this was the moment when a shift in mind-set for some politicians kicked-off. As 11E, most people started their "story of change" about ten years ago, due to different reasons. 12E

for example attributes it to a “combination of top-down and **mostly bottom-up**” movements. In the same year, 2008, the organization of 15F also started their “**Urban Exploration Trip**” Program, which has since brought many Denver stakeholders on various urban development topics to national study tour destinations (see DDP, 2018b).

2009 was an important year for Denver Public Works, Division Mobility, as 1A described it is important for her to have people with a “passion and vision for this work”. One such person was hired in 2009 and turned out to be a **key person** and “driver” for sustainable mobility over the years through today. As 1A described:

“[She managed] to take that into the greater level of detail [...] [what] she’s been able to do was amazing [and] completely changed the way we’re looking at things” – 1A

Furthermore, in 2009 the **first protected bike lane** (Champa Street) opened in Denver (City and County of Denver, 2016). The design for it was majorly influenced by a national study tour to New York City (11E, 15F). For 15F this was the starting point to “really enhancing our bicycle infrastructure in downtown Denver” and shortly thereafter they started advocating for the protected bike lane along 15th street together with the bike advocacy community of Denver.

In **2010**, Denver introduced its **bike sharing system**, B-cycle, as one of the first in the United States (14F). Moreover, Denver Public Works opened up its first position for a dedicated **bicycle planner** (11E). 2010 was also the last year of the previous mayor of Denver (Ballotpedia, 2015). According to interviewees, his legislation period was not marked by any strong goals regarding sustainable transport.

2011 was the start of the **current mayor of Denver’s** first term (14F). The picture of the mayor and his attitude towards sustainable mobility is mixed. On the one hand, people reported that “he set real goals” (6B) and “his focus has been trying to create more bike infrastructure and get people out of cars” (14F). However, it is also commonly agreed that mobility and active transportation is “not his passion” (12E) and that he did not have the goals he later set regarding mobility from the start (2A).

2011 was also the year when an **advocacy organization for pedestrians** entered the field (12E) and a new **bicycle plan** (see City and County of Denver, 2011) was adopted. For this new bicycle plan, also few **additional positions** for bike planners were created (1A). However, bike advocates today show frustration about how little was realized from this plan:

“To me bike lanes are important and my frustration as a bike advocate is that we have had a bike plan for over five years.” – 11E

Also for some, this bike plan, seen from today’s perspective, is not up-to-date with “how we think about infrastructure in this country” (13E). Its focus then was more on on-street bike paths marked with paint (13E).

In **2012** Denver opened its **Office of Sustainability**, as the third of its kind in the whole United States (9C). With the creation of this office, the mayor aimed at having sustainability “to be the core business value of every government agency” and to “move numbers in a big way” (9C). Through today, that office is staffed with three people (9C). In **2013**, the **Denver Sustainability Goals for 2020** were set under the coordination of this office (9C). In the realm of mobility, they aimed to reduce

single vehicle occupancy of commuters from about 70% (9C) down to 60% by 2020 (City and County of Denver, 2013).

In **2014**, delegates from Denver were on their **first international study tour to Denmark** (derived from survey contact database). Altogether there were four delegates from Denver. Those delegates were two high-ranking individuals from Denver Public Works, the president of the DDP and one Denver City Council Member (ibid.). One of the Denver Public Works civil servants that was on this tour was described as one of the **driving forces** in Denver for bike infrastructure. 14F sees the starting point of Denver's move towards bicycles at around 2014, he points to a lot of pressure from outside that might have triggered it. In this year, after a long process, 15th street opened as buffer-protected bike lane (City and County of Denver, 2018a). The staff in Denver Public Works dedicated to bike planning was still a small group (13E). 1A, who was identified by nearly all interview partners as a **"driver"** towards more sustainability in Denver, started her **leading position** in Denver Public Works in that year (1A). Under her leadership, the former "Division of Transportation" got **renamed** to "Division of Transportation and Mobility" and the motto finally changed away from putting cars in the center towards "moving people" (1A). Other interview partners about 1A:

"She has definitely moved us in that direction, to think more about how we move people." – 5A

"She's been very instrumental in changing that culture throughout the whole city, and the public works team." – 15F

In **Spring 2015**, Denver held **municipal elections** and the current mayor was reelected with a large majority (Ballotpedia, 2015). It was the start of 10D's career as a Denver City Council member. The council member that was on the Denmark study tour in 2014 was also reelected (ibid.).

The **study tour to the Netherlands** took place in **fall, 2015**. Of my interview partners, 1A, 2A, 3A, 7C, 10D and 15F were on this trip. The detailed outcomes of this trip can be read in the chapter *Learning Outcomes*. One representative of the Denver bicycle industry as well as one individual in a leading position from DDP were also on this trip. The opening of the **Lawrence & Arapahoe protected bike lane** in 2015 (City and County of Denver, 2018b) was seen as a sign for a shift towards protected bike lanes in Denver (12E). Furthermore, Denver Public Works brought in 2015 its **first equipment** specifically for the maintenance of the (protected) bike ways (3A).

Also in fall 2015, just at the same time of the study tour, a **"Mobility Working Group"** was established (1A). It was led by 8C and 1A and included "many of the mayor's appointees" (1A) and other senior level staff, including two Denver Council Members, therein 10D. The reason for this working group was to address transportation needs that came up, as Denver was growing quicker than expected ("suddenly transportation became an issue" 1A). 1A described the attitude in this group in the beginning as such:

"They talked about it really from their personal perspective [...] and no one was really thinking about it from that more programmatic or systematic approach [...] that gave us an opportunity to say, okay let's educate the senior level staff at the city." – 1A

As 1A explained, through that process some goals were changed and “we increased them and made them more aggressive [...] so really try to put more emphasis on building out those networks”.

Also in 2015, the “**Safe Routes to School Program**” started with a more Denver-city wide focus (6B). This program uses “a variety of strategies to improve the ability for children to safely walk and bicycle to school” (City and County of Denver, 2018m). The program is led by the city, yet outside of Denver Public Works, under the supervision of 6B. Until today, that program is not fully funded; however, a slight increase in the number of served schools could be achieved (6B).

In **2016**, another international **study tour to Denmark** was organized. 14F from my interviewees was on that tour. Besides him, three other Denver delegates participated, one from the advocacy community, civil servants and one potential funding source for projects (derived from survey contact database).

In the same year, the much discussed **Broadway protected bike lane** opened (City and County of Denver, 2016). This was referred to as a success, as there was much protest from the public and nevertheless they realized it. Also, the lobbying from 10D for more money towards cycling infrastructure paid off in 2016, it was the first year when **\$2,2 million** was allocated to cycling infrastructure (in 2015 it was only \$0,9 million) (Denver City Council District 7, 2018).

Also in **2016**, important lines from the **lightrail extension** (started in the 90s) opened (RTD, 2018b) and a new strategic planning approach, “**Denveright**” (City and County of Denver, 2018j) was kicked off. Under the umbrella of Denveright, four strategic plans for Denver are being developed/updated (so far plans exist in a draft version) (see City and County of Denver, 2018j):

- Denver’s Comprehensive Plan
- Land Use & Transportation Plan
- Parks & Recreation Plan
- Denver Moves: Transit, Pedestrians & Trails Plan

What was according to interviewees special about this approach is that all plans were coordinated approached and communicated to the public, which also had the opportunity to give feedback. One output of this community feedback was that there was a lot of **pressure** on Public Works to put in bike lanes and sidewalks (2A). This pressure was further increased as bike advocacy groups undertook a **poll** in which they asked Denver residents how they stand towards more cycling infrastructure (11E). The results were very positive for the bike advocates and were also shared with the Mayor’s Office, which henceforth became “more confident” in promoting such infrastructure (11E). In the interviews it was often underscored on the basis of this poll that the public is supportive of more bike infrastructure.

2017 was then announced as the “**year of mobility**” (6B, 11E), which led to the commitment to several “bold” (6B, 12E) goals documented a number of important strategy documents:

- The **Mobility Action Plan** (City and County of Denver, 2017b) is the most high-ranking strategy document, which was the output of the Mobility Working Group, 1A and 8C were involved in since 2015. This document was in the interviews an important point of reference and advocates clearly expressed that now they also want to see the realization of those bold goals. The most

important goal regarding mobility is the reduction of single-occupant vehicle commutes from 73% to 50% and to increase the percentage of bike, pedestrian and transit commutes to 15% by 2030 (see City and County of Denver, 2018l). Drawing back to the year 2013, one can read that already then the Denver 2020 Sustainability Goals were set to reduce single occupancy vehicle commutes from then about 70% (9C) to 60% (City and County of Denver, 2013). However, since then it increased to 73% (City and County of Denver, 2018l), this is why the goal was reset towards 2030 (9C).

- The “**Vision Zero**” action plan (City and County of Denver, 2017e) sets the goal to have zero traffic fatalities by the year 2030 through making streets safer. Many organizations within Denver work together on this program; from my interview partners 5A, 6B, 12E and 15F are involved. Vision Zero’s goals are not tied to greenhouse gas emission reduction but it may likely be a positive side effect of the program as 5A explained. When 9C tried to incorporate more focus towards that direction, e.g. through the suggestion of congestion charges based on the London example, he did not succeed. As 5A put it, “I don’t think politically it’s there yet”. So far, as reported in the interviews, the whole Vision Zero mission does not have sufficient financial means. The idea for this program came from 1A.
- With the Mayors Mobility Action Plan the foundation for a **sidewalk program**, which kicked off in 2018 (see City and County of Denver, 2018d) was also laid out.

“A bunch of us worked together and worked with the administration to start funding sidewalks. [...] It’s a brand new program that has never existed before, that will really move us forward on the pedestrian space.” – 10D

Also in 2017, a **bike education program** in schools kicked-off (13E). It is a collaborative project between Denver’s Parks and Recreation Department and major cycling advocacy groups. This program was already being planned for a long time but then last year, the Mayor’s Office “really helped to get it off the ground” (13E).

Generally, in 2017, change was also recognized through other events. As 2A described her experience on a conference:

“Bike lanes now are more commonplace, probably more than several years ago [...] it is getting in the mainstream of service delivery.” – 2A

What was recognized by 2A as the major difference in those goals compared to previous ones is that “this administration has put dollars into it”. The money allocation in the annual budget for bike infrastructure stayed the same as in the previous year, with **\$2,2** million (Denver City Council District 7, 2018). However, sidewalk funding rose from zero to **\$2,5** million (ibid.) and the bulk of infrastructure investment came from a **bond** provided by the state (ibid.). This bond is due after 10 years and has to be approved by the voters (10D). The bond election of 2017 resulted in 44% (\$47,7 million) of the whole bond money allocated to transportation and mobility (Denver City Council District 7, 2018). Among that, 11% (\$47,7) are for sidewalk construction and 4% (\$18) is for the Denver bicycle network (Denver City Council District 7, 2018). According to interviewees, 10D, together with the advocacy groups was again one of the key players in pushing for sustainable mobility in the bond, as well as in the annual budget discussion, which 10D would have liked to also raise for cycling infrastructure, but did not succeed. In order to be better prepared to push for more money, the advocacy groups united together under the umbrella movement called the “**Denver**

Streets Partnership" (11E), the bond result and sidewalk funding in the annual budget was a great success for them (11E, 12E, 13E).

Denver Public Works had by 2017 about **five positions** dedicated to bicycle planning (1A). On the international level, Denver joined the grouping of American cities that **still commits to the Paris Climate Agreement**, although America, as a country, left (see We are still in, 2018).

In addition to all the strategy that was decided in 2017, three important protected bike lanes opened in that year¹⁴, the **14th street** and the **19th and 20th street protected bike lanes** (City and County of Denver, 2018e). For many, those two streets symbolically represent the shift towards protected bike lanes (instead of not-protected on street bike lanes) (see chapter *Policy Transfer from International Study Tours to Denver*).

In **2018**, two more **study tours** took place. In April, a delegation was in **Seville and Barcelona**. 1A, 8C and 10D were on this tour. Four other Denverites were with them: the council member, that was already on the study tour in Denmark in 2014, the newly hired director of Denver Public Works, the Director of the Denver Planning Department and one private real estate developer and investor, who was described as "one of the biggest advocates for cycling" (8C). One more study tour to the **Netherlands** took place in June of this year; however, this was already beyond the timeframe examined in this research.

The 2018 Spain study tour was utterly connected with the building out of the Denver **bike network**. **This new bike network shall** follow a new planning approach, which prioritizes certain areas where to quickly build out the bike infrastructure (8C). The speed in building the network is emphasized (8C). The new bike plan is part of the Denverright initiative (as part of the Denver Moves: Transit, Pedestrians & Trails Plan) started in 2016, it should be published at the end of 2018 (City and County of Denver, 2018j).

Furthermore, Denver Public Works faces big organizational changes, mobility shall be brought together in a **separate standing Department of Transportation** in order to be better prepared for the changing mobility environment of Denver (1A). For that reason, a new director of Denver Public Works was hired in December 2017 (1A). He belonged to the delegates on the Spain study tour. The organizational restructuring is still ongoing and the bicycle community is paying attention to how bold this new director will be "when the rubber hits the road" (10D). Regarding the positions in Denver Public Works for bicycle planners, it remained at five so far (1A). The annual budget for bicycle infrastructure once again remained at **\$2,2 million** (Denver City Council District 7, 2018). 10D lost his proposal of adding another \$3,2 million by one vote (10D). However, Denver Public Works has another **\$3 million** available allocated by the mayor for bicycle facilities through the sale of a city owned property (1A).

¹⁴ More bike lanes opened that year, however those are the once of importance for this study, as described in the chapter 8.3.4. Policy Transfer from International Study Tours.

Relevant planned **future projects** are the **bus rapid transit system** on Denver’s Colfax Street that should be ready for construction by 2020 (City and County of Denver, 2018g) and a project called “**City Loop**” which is currently in the early design process (11E). The City Loop shall be a city trail which makes streets more walkable (11E). A project which at the time of the interviews caused big public protests is the **I-70 highway expansion** that started in summer 2018 (Sachs, 2018).

6.1.1.1. The current Status of Change, Future Goals and Obstacles in Denver

It is broadly recognized that the priorities of what shall be achieved have shifted. From the statements, a clear focus on the aim of “providing mobility options” (7C) can be recognized. The city aims for traffic calming measures, especially underlined through the Vision Zero Initiative (see City and County of Denver, 2017e), cost competitiveness between the car and other modes of transport (8C) and especially the building out of complete cycling, walking and transit networks (1A, 8C). 1A described that they shifted from “if we will do it” to a “how we are going to do that”. City council members “market themselves as pro active transportation” (12E) and generally the “city council has become much more bike friendly and understands how things work” (13E). As 11E describes “a complete culture change” happened in the understanding of where public money should be invested, which is now more than ever before in Denver on sustainable transport (Denver City Council District 7, 2018). Advocates also confirm that within Denver Public Works a shift happened:

“If you work as a city employee in transportation and mobility there’s, there’s no one there who is anti- bike. They’re just stuck in their system and their systems are sometimes stupid. So it’s really about helping them, figure out how to deal with their system and deal with the barriers they have.” – 11E

Despite all the change that has happened, it is broadly agreed, that “it is a big transition” (2A) and Denver is just at the starting point. Obstacles still exist; for example, the development community that pressures for big parking lots in their buildings and the reluctance of them to connect to the existing cycling network of the city (2A). A big issue for most is the slow pace at which the network is developing, which is often connected to the ongoing lack of full commitment of the mayor (11E, 12E, 13E, 14F, 15F). The described reasons why things are happening slowly are manifold and further described in the chapter *Barriers to Policy Transfer*. When it comes to more “radical” political measures, such as congestions fees, it is stated from most sides that “It’s politically difficult” and “we are not there yet” (5A). What is recognizable is a flow of accusations in relation to the level of influence. Advocates blame it on the lack of commitment by the mayor, civil servants blame it on the lack of money and “the voice” of the mayor, civil servants in the Mayor’s Office, blame it on the lack of competence given by the state/national level.

“We’ve heard multiple times from public work staff ‘Well we don’t have money, we don’t have money, we don’t have money, we got to fight for money’.” – 13E

“If you look at what we do in sustainability, whether it’s energy, mobility or whatever, and you say ‘what’s the most effective tool that we could use to make this more sustainable,’ it’s always something at the federal level, and it’s always something that’s denied to us.” – 9C

At the end for some there is simply frustration:

“What can you do with that [the study tour] to really affect change? I don’t think going on trips is necessarily the answer even though I don’t know what the alternative is. [...] I think we are stuck in no man’s land.” – 14F

The obstacle that all interviewees agree on is the continuous lack of money. The quantitative output of the coding system shows the highest overlap of the category “roadblock” is with “funding”. At the same time, the category “achievement” – “funding” overlaps are high, as many saw the bond as one of the biggest achievements so far for Denver. The given reason why money is rare were explained through the given tax system (9C), the revenue system between state and city (10D), concurring policies (7C) and do much overlap with the barriers to policy transfer (see chapter *Barriers to Policy Transfer*). From the side of the state the lion’s share of federal money for transportation flows into the extension and construction of highways, like the contested I-70 extension that is currently happening in Denver (7C).

6.1.1.2. Current Situation and Achievements in Denver

The overall picture reached regarding the situation Denver, taking into account statements by my interviewees, as well as my participatory observation in the city, shows the following: The car is absolutely still the main mode of transportation as also shown in the modal split in Figure 3. Many areas in the city are still not accessible without a car and parking spaces dominate much of the spaces in the city center and beyond (see Picture 10).



Picture 10: View from 1999 Broadway Civic Center towards North Broadway, Denver; Source: own picture (May 2018)

Cycling infrastructure is mostly developed in the city center and the bike infrastructure outside the city center is not really connected, often “leading to nowhere” (participatory observation & statements by interviewees). Regarding walking, one quarter of all streets do not have sidewalks (12E). All this leads to:

“We are not at the point yet where people are making different choices in transportation.”
– 2A

So far, cycling is not recognized as a “normal” mode of transportation (2A). “People are not used to seeing cyclists on the street” and cycle ways are often plugged with parking cars (13E).

Nevertheless, interviewees saw much positive development what has been achieved. The built-out bike network in downtown Denver is definitely seen as an achievement by most interviewees and the bike network generally is “definitely better” (15F) than it used to be. The move towards protected bike lanes is especially seen as a very positive step. Also it is recognized that things are already moving faster than they used to and last year’s commitments by the mayor gave a further boost:

“I do think that we have turned a very significant corner in the last year with some of the things the mayor has committed to and with this political debate and public debate about what our streets are meant to be for and for a city with a western heritage where the car is king, that's significant.” – 11E

6.1.2. Policy Community / Network

The most important player is the mayor. As it was often highlighted, Denver has a very “strong mayor system” (11E, 13E, 15F) and he has the final say. Derived from my interview data, the network influencing decisions of the mayor and shaping policies around mobility in Denver are:

From the public sector: Denver Public Works, the Mayor’s Office and the City Council

From the private sector: Denver Business Community

From the NGO sector: Advocacy groups in the city. The most important are: BikeDenver, WalkDenver and Bicycle Colorado.

Regarding the collaboration between these organizations, exchanges are frequent, yet it has to be considered that the business community is not one entity and their trajectories towards sustainable mobility are somewhat contradicting. The organization of 15F, as the “voice of the Denver downtown businesses”, is very well connected and an important player. 15F has informal meetings with high-ranking employees of Denver Public Works to exchange information about current developments and discuss strategies on how to move forward. 4A stated that trust between all these players still needs to be developed in order to better work together, though the relationship between cycling advocates and the city has majorly improved. He thinks this is thanks to the Broadway protected bike lane which they managed to accomplish in 2016 despite all the protests. According to 4A, the Mayors Bicycle Committee (MBAC) is better to work with today than it was in the past. 1A pointed out that especially through the process of the Mobility Working Group, which started in 2015 and led to the 2017 released Mobility Action Plan, the collaboration between Public Works and the Mayor’s Office (therein specifically 8C) has deepened. The advocates would wish for better direct relations with the mayor, but through the Vision Zero process, in which they are involved, better relations to the Mayor’s Office (especially to 8C) have developed. The Mayor’s Office is closest to the mayor himself (acting as the “voice of the mayor”), this is why everyone wants to have a good relation to that office. The most named person from the Mayor’s Office is 8C.

From all those organizational entities, people have already been on international study tours in various combinations. The group that was always represented on any international study tour were civil servants from Denver Public Works. According to the information from the interviews, Denver Public Works is also the most connected to all other organizations and relevant programs and strategies. They are “the implementers” (6B) and receive the funding to actually build things. The first study tour in which the Mayor’s Office took part was the Spain trip in 2018, this was also the first study tour with that a large amount of high-ranking people. The majority of the delegates were directors of public departments in Denver, elected officials or high-ranking within Denver Public Works. The Denver Planning Department, which was also represented on this study tour, seems, besides this trip, not yet much involved in mobility issues. It was only mentioned as a part of the Spain study tour delegation and never in relation to any common projects.

To a lesser extent, but also important in Denver’s policy community are the Denver Department of Health and Environment and the Department for Parks and Recreation. Regarding the relations to those organizations, an increased collaboration would still be wished for, from the position of DPW. However, the Denveright strategy, started in 2016, helped to improve this (1A). None of these departments have been on international study tours and interview partner 6B, from the Department of Health, also did not hear about those tours. Within the city level network, most agree that better collaboration with the Fire Department and the Police Department would be necessary because they play in all these processes an important role. One interviewee wished that Fire and Police Department officials should be sent on study tours, as they often have a very different understanding of street planning to enhance safety, which does not correlate with the improvement of active modes of transport. Furthermore, beyond the local Denver level, the most critiques were directed towards the federal and state level, especially the federal level:

“Well, the current federal government does not give us great hope that there’s going to be significant change or significant momentum when it comes specifically to, multimodal or even really an interest in learning and studying other cities. So, Denver, like many cities around the country, is trying to figure out ways to, to take care of the things that need taking care of on their own.” – 8C

There are no expectations that any support will come from the federal level, albeit it is recognized that they contributed money, besides big highway projects, to the light-rail extension (13E). On the state level, more direct collaboration is happening but the problem is that: “Sometimes their regional goals don’t serve our community goals” (10D). Also, the way the revenue system is structured leads to little funding opportunities from the state for Denver internal infrastructure projects (10D). Another player where better cooperation is desired is the Regional Transportation District. In order to better increase “mobility options”, interviewees recognize enhanced collaboration with this main transit provider is essential. Residential Neighborhood Organizations (RNO) are organized local residents groups that lobby for their interests, many of these exist in Denver and their role varies between being facilitator for these new mobility trends and being roadblocks to it. Essentially, when planning a new project in an area these are often good first points of contact to engage with the local residents (4A).

Collaboration is especially important for the advocacy groups and programs with little funding, e.g. Safe Routes to School Program (6B). To foster better collaboration between the group of advocates

the formation of the Denver Streets Partnership in 2017 was very important. It gives them a better standing as they talk now “with one voice” that is more powerful than many scattered ones (11E, 12E). In order to get access to information, advocates sometimes use third parties, like one individual from the private sector that has good access to the Mayor’s Office and was also on the Spain study tour (11E).

The picture regarding the business community has many sides. On the one hand, they are described as drivers in bringing sustainable mobility forward in Denver, on the other hand, they are a “roadblock”. This is related to the kind of business they own. The business community in downtown Denver, represented by DDP, is definitely lobbying and facilitating active transportation according to several interviewees, whereas retail shops with large goods and many costumers that usually arrive by car are holding back progress (10D). Smaller shops start to realize that bicycles may enhance their business, as they are more likely to stop along the way (10D).

Besides the international study tours examined in this research, the national study tours organized by DDP were mentioned several times. As 15F explained, a mix of people from the business community, industry, civil servants, advocates, elected officials and even the mayor himself participates.

In general, interview partners agreed that good relations need time to build up and that informal conversations are often the most important ones. Regarding the importance of time to build trust, the next elections are an impediment:

“That's the hard part in this is these are long-term things that take a while to ramp up a commitment to and then on top of that every four years in Denver you could have all new people in all of those positions that I just mentioned because they're either elected or appointed people.” – 10D

6.1.3. Consensus

6.1.3.1. Consensus with Public

“We cannot make everyone happy.” This is what many interview partners concluded, however, not without first explaining a long process of conversations with residents, residents meetings, and the doing and redoing of studies and statistics to convince skeptics. Especially 4A is at the forefront of talking to residents when new cycle ways will be constructed. For him, it is most important to make “people feel heard” and give them a chance to express their opinion. As he reported, often times he gets shouted at and insulted. Especially the Broadway bicycle way led to big protests and 4A and 10D reported to have received threats. The fact that the bike way was still built is for both of them one of their biggest achievements. Many interview partners, especially from the advocacy groups, confirmed the fact that the city shows a very collaborative attitude and long breathed patience towards the public. Also, the fact that studies are conducted sometimes three or even four times, with always the same result, only to show the public that, for example, a project will not prolong their commute to work, shows a very careful approach as 4A explained. This is not always seen as positive, by civil servants as well as by advocates:

“When I look at other cities across the country, or across the world, Denver takes a very deliberate planning process before doing almost anything. [...] There's a lot of public consultation and planning and concern about business owners and parking and drivers and you know, what's everybody going to think about this. And you know there're good aspects to that, right. Like you get a lot of collaboration and if you get something on the ground in the end, maybe it makes it better. But it makes for slow progress.” – 13E

This collaborative and careful planning process directly relates to the “lack of boldness” of the Mayor’s administration that many advocates claimed. At the same time, most interviewees and especially advocates were sure that the public want and ask for more mobility options:

“We know that people in Denver want better options.” – 11E

For many, this is most of all through the poll (2016) and the bond (2017) (see chapter *Level of Policy Change over Time*), which both demonstrated that people are very much in favor of sustainable transport measures. According to 13E, before the election, the bond already had “grassroots support” to include more bike infrastructure. He contributes this support to the work of advocates and residents that the bond went so favorable for sustainable transport. This two-faced position of the public, as pusher and at the same time “roadblock”, can be explained by the “not in my backyard attitude” which was very much underlined in many interviews. As long as people are not directly affected by any changes, the attitude towards new cycling infrastructure is pretty positive. However, the story differs when it comes to their personal ways and especially with parking:

“Parking is always something that comes up, that's probably one of our most sensitive areas, is the loss of parking.” - 1A

It is then the job of people like 4A to go to these areas, “listen to the concerns of people” and try to convince them. A phrase that was very popular in the interviews is “to educate people”. For that purpose, quantitative data is of key importance to show people, for example, that their commute will not be much longer, or that there will still be enough parking spaces available. Only one person explicitly mentioned another approach; 12E is a proponent of “tactical urbanism”¹⁵, which for her is important to understand the value of certain changes in the urban environment.

Finally, the attitude of the public is much related to the cultural context and its implied obstacles to make faster progress. A detailed overview of these cultural constraints is given in *Barriers to Policy Transfer* chapter. Albeit all those barriers, people interviewed see Denver as a city with an “environmental feel” (13E) where compared to other US cities it is easier to bring environmental concerns on the agenda.

From my participatory observation, mobility is a highly discussed topic in Denver. Generally, no one showed a negative attitude towards cycling. The cargo bike, much used in the Netherlands, is

¹⁵ “Tactical Urbanism is an approach to neighborhood building that uses short term, low cost and scalable interventions and policies to catalyze long term change.” (Streets Plans Collaborative, 2016, p. 11)

something utterly new to most people in Denver and most reacted with positive interest. People I encountered are proud of their lightrail system and it has a good reputation. Otherwise, public transport has the reputation of “being for the poor”. Cyclists within the cycling community were pretty satisfied with the development in Denver compared to other US cities and they claimed that Denver today is definitely better to cycle than it was in the past. They agreed that it could always be better, referring to other US best-practice examples such as Portland or Pittsburg. Comparison to outside of the US, respectively the Netherlands, was for many not possible, as they had never been there. In their actions, the bike community is very cautious not to upset anyone. Like the city government, the bike community is careful in their actions not to provoke protest, but rather to convince people through events, repair workshops etc. Denver, compared to many cities worldwide, has no Critical Mass¹⁶, rather many smaller group bike rides around the city.

6.1.3.2. Consensus within the Local Government

Regarding the consensus within the government 9C gave the deepest insights:

“Do we have disagreements? Oh yes! We have a lot of disagreements. I mean, we always resolve them, we have a lot of discussions and we resolve these disagreements and then we all support the resolution.” – 9C

Generally, civil servants and elected officials, who would have most insight, did not like to talk about internal disagreements and if so, it was always pointed out, as 9C did, that in the end an agreement was found. However, 9C most strongly showed that there are discussions. This is particularly interesting, as he has the job to implement sustainability in all governmental tasks. 5A who referred to him regarding the conceptualization of the Vision Zero program, recalled that 9C wanted to implement more targets towards the greenhouse gas reduction, but it was not realized to the point 9C aimed for. Regarding the council members, which belong to the legislative branch of the government (10D), five (out of 13) individuals were named, who are highly supportive. Among the most supportive council members named is the council member that was on the Denmark and Spain trip, as well as 10D. Generally, it was stated from the civil servant side and elected official side that the majority of the leadership is “behind this”, but the strength of support always depends on the specific situation:

“I think that in general if you were to go ask any member of council are you supportive of building out our bike network and spending money on bikes, they'd say “Yes” but when the rubber hits the road and they have a priority that they want funded over here or you have to cut money from something else to get there, then that's where we struggle to get a majority.” – 10D

¹⁶ “Critical Mass is an international, monthly event where bicyclists briefly take over city streets to celebrate bicycling, demonstrate their collective strength and send a clear message to the public: ‘We are not blocking traffic, we are traffic!’” (Furness 2007, p.299)

10D would like to send all city council members on a study tour to win them over in important votes.

6.1.4. Reason for Change

The main reason named for the move towards sustainable mobility is the growth of the city. All interviewees referred to that and also as shown in Table 15 Denver is growing fast, especially in the downtown area. According to interviewees, resulting problems such as overloaded streets, traffic jams and congestion led to people demanding and putting pressure on the city to improve transportation in the city. Also many of Denver's new inhabitants come from bigger US cities that already have a better transportation system (12E); hence they demand this from Denver, particularly as it has this "outdoorsy", sporty reputation (1A, 12E). Another trigger is safety; many (too many) traffic fatalities happened, which triggered in particular the Vision Zero initiative (5A, 12E).

Another broader reason to look for alternatives to the car is the economic recession in 2008/2009 which led to high gasoline prices and hence made driving more expensive (7C). At the same time, the Obama Administration offered multiple funding opportunities for sustainable mobility projects, which cities such as Denver took advantage of (13E). Furthermore, sustainability is also a general trend that cities like to use for city marketing; as 9C put it: "it's a mayor who says to a staff, 'I want to look greener'", which according to 9C led to the 2007 Denver Greenprint document (see Mayor's Greenprint Denver Advisory Council, 2007).

Regarding the more general Denver sustainability goals, they focus on basic resources because Denver "is [in] a part of the world that the basic resources aren't that good" (9C).

6.2. Organizational Learning & Group Learning

This chapter shall mainly contribute to the first research question, *How do organizations learn from international study tours on sustainable urban mobility?* Together with the learning outcomes described in the *Learning Outcomes* chapter, the research question will be fully answered in the following discussion (see chapter *Answering the Research Questions & Discussion of the Results*).

The main source of information for this chapter is the survey. The qualitative interviews also gave insight to organizational processes, structures and the group learning process ("embedded" mixed methods approach, see *Methodology* chapter). The questions from the survey were not directly asked again; therefore not every aspect of the survey is again covered with qualitative data.

As the part on organizational learning through international study tours is only relevant for organizations that actually sent individuals on study tours, this part of the results chapter only encompasses the interviews with people working in one of the following organizations:

- Group A – civil servants within Denver Public Works
- Group C – civil servants in the Mayor's Office
- Group D – elected officials

- Group F – private enterprises

Statements from individuals within these groups that were not on a study tour are considered because they also provide insights (i.e., in the organizational structure, reporting back from the tour, etc.).

6.2.1. Learner Readiness & Motivation

6.2.1.1. General Learner Characteristics:

Of survey (n = 128) respondents, 61% were male and 39% were female (Q64) and all were raised in the United States (Q66). At the time of the survey, respondents lived in 48 different US-cities, most numerous were Portland (16%), Denver (7%) and Memphis (7%) (Q70). The biggest age group of survey respondents is between 36 and 45 (32%) (Q65) and have more than 21 years of total career experience (38%) (Q75). The largest respondent group works as civil servants (48%) followed by advocates (23%) and consultants/advisors (17%) (Q73). As shown in Table 11, the choice of interviewees reflects these job-categories.

6.2.1.2. Motivation & Preparation

The motivation for study tours was described by the respondents of survey and interviews to acquire inspiration, ideas and, as interview partner 1A explained, “helping people to see what the future can look like”. Experiencing this advanced cycling environment (often described by the respondents as “cycling culture”) therein plays a key role for the participants as shown in the survey (Q33) and in the interviews. What is more is that most of the survey respondents (Q33) as well as interview partners referred to the aim of learning as the ambition to ameliorate the situation in their home town, as one survey respondent put it: “[I wanted] to bring back fresh ideas and enthusiasm for improved transit infrastructure [...] to my home”.

From the interview data, two individuals were already “convinced of cycling” and the power of international study tours abroad as a method to convince people (1A and 15F). Also 10D and 14F were already before the study tour advocates for urban cycling. On the contrary, 7C explicitly said that he did not believe cycling to be a good solution for Denver and 2A was described by a third party “as more of a car person before she went [on the study tour]”. Further, most Denver delegates pre-study tour attitudes describe the mind-set that bicycles were not regarded as a useful or feasible form of transportation in a city, or at least not for Denver. Hence, one of the goals on the tour was to see if and how a “cycling city” can really work (3A, 8C, 10D). The tour group that went on the most recent trip (at the time of the interviews) to Spain (1A, 8C, 10D) was described as very motivated to learn and improve, as they already had before the tour a shared motivation through the work they do every day.

One major key word that fell under the interviews and the qualitative survey question on the main goal for participating in the study tour (Q33) was “bike network” and the building out of such.

Results

Interviewee 8C explicitly made the connection between the current planning of their bicycle network in Denver and the specific goal of learning for that from the study tour to Spain.

In the case study, interviewees described a different learning goal and output motivation connected with the group composition and study tour location. So was the study tour to Spain in April 2018 with the specific goal to learn for the planning phase of the Denver bicycle network and its strategies on a higher, more abstract policy level. In contrast, the study tour planned (at the time of the interviews) to visit the Netherlands in June 2018 was more focused on the goal on learning about the actual implementation of such infrastructure. Related to that is also the study tour group composition. The delegation for the Spain trip consisted of mostly high ranking policy makers (8C, 10D and 1A were on this trip), whereas the trip to the Netherlands is more for planners and engineers on the implementation side who work within Denver Public Works (4A went on this trip in June 2018). This was also reflected in the statements by the different categories of interview partners. Group A referred in their learning goals much to practical matters such as design, implementation and maintenance. Interviewees from group C and D referred more to strategic elements and policy. Furthermore, the specific choice of destination also demonstrates these different learning motivations. Spain was seen as a fitting example to learn from cities (Barcelona and Seville) that managed to build out their bicycle infrastructure very fast over the last few years. As it is still not so “perfect” as the given best-practice examples of the Netherlands, it was seen as a good peer learning city with more similar starting conditions to Denver.

Regarding the general preparation for the study tour, I refer foremost to the survey. The Likert-scale results on study tour preparation are as follows:

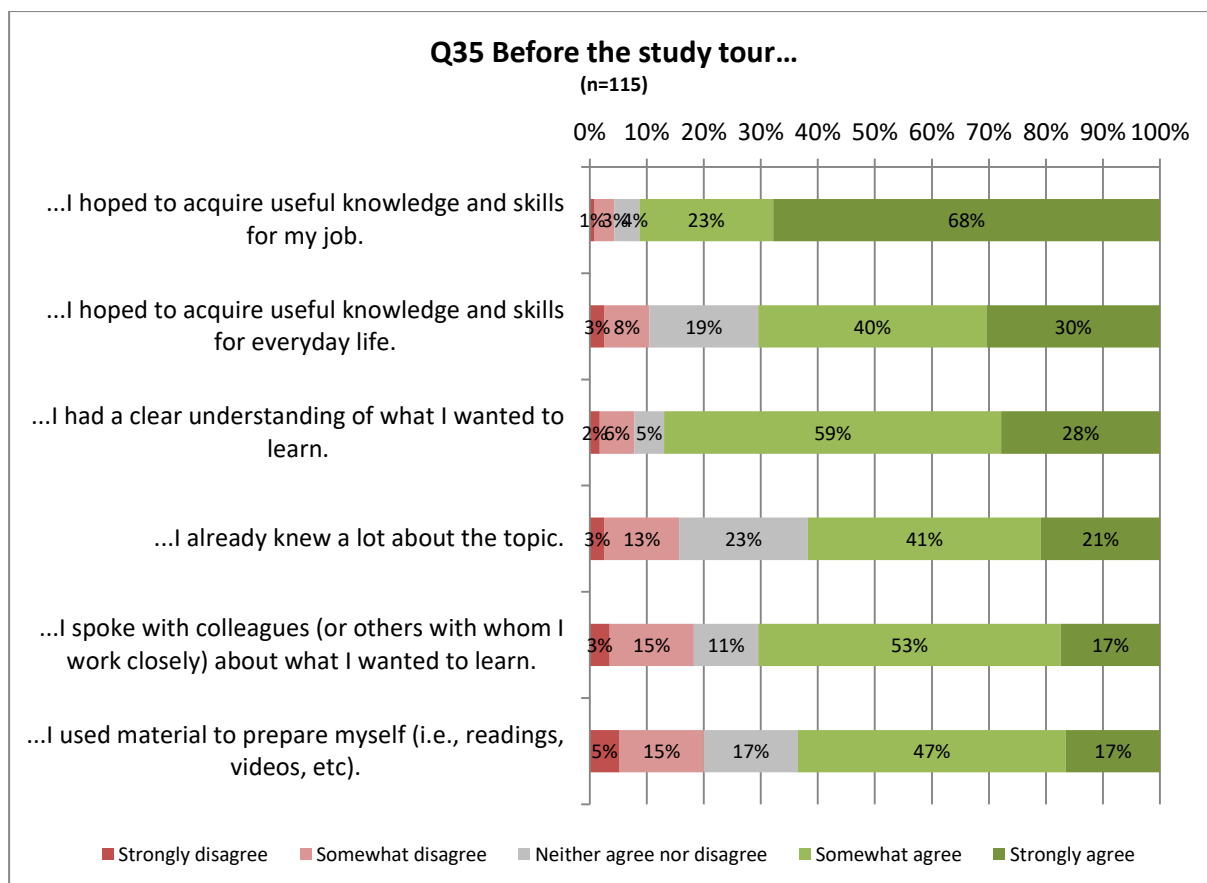


Figure 4: Preparation for the study tour; Source: own elaboration based on survey

One interesting output of the interviews was that one respondent (5A) who could not go on a study tour himself and is also not on the coming one to the Netherlands said he will prepare a set of questions for the delegates of the next trip to ask on his behalf.

6.2.2. Organizational Characteristics & the Role of Individuals in the Organization

As described above, the largest part of survey respondents works were civil servants, followed by advocates and consultants/advisors (Q73). Regarding their position within their organization, 68% of respondents could be identified as having leading roles¹⁷ (Q74) and perceived to have power to influence decisions, is shown in Figure 5.

¹⁷ Summarizing all survey respondents with a job title including one of the following keywords: *director, president, manager, principal, chief, senior*

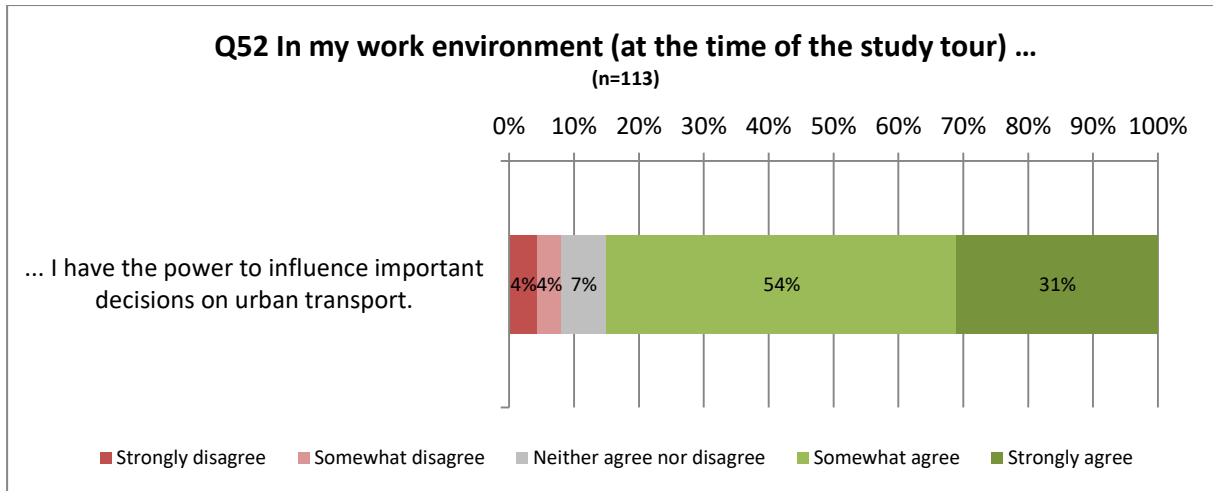


Figure 5: Power to influence decisions on urban transport; Source: own elaboration based on survey

To better understand the roles and power of interview respondents, I break this block up into the different interview groups and again only refer to those organizations that sent people on study tours.

Group A – civil servants within Denver Public Works

Power:

Within the group of civil servants in Denver Public Works, two individuals are in leading positions and lead up to 300 employees (1A, 2A) and one is in managing position (3A). All three of them have been on study tours as shown in Table 11. Further, individuals of this group have strong influence on the Denver bike plan (1A), the setting of planning standards (beneath others for bicycle infrastructure) (2A) and on the engineering designs (5A), as well as acquisition of new maintenance equipment (3A).

Tasks:

The main tasks inherent this group are: 1. Responsibility for all sign signals and markings within the entire city (1A); 2. Building out infrastructure and capital construction for the entire city and setting planning standards (2A) 3. Street and machinery maintenance (3A) 4. Engineering designs (5A). One individual also described his role in relation to the general public as to “bring people to rethink their assumptions and not to force them upon them” (4A). Generally 1A, 4A and 5A work in the same sub-unit of DPW. 2A and 3A represent two more separate sub-units of DPW.

Goals:

The organizational goals named by this group are: 1. Better data handling – become a “smarter” city (1A) 2. Ensuring that constructions are safe by setting standards, especially for cycling, as there are none yet (2A) 3. To have good, clean and usable (street) surfaces, thereby making them also comfortable for cyclists (3A) 4. Make Denver streets safer - one important aspect therein is lobbying to reduce speed limits (5A). Generally, all of the respondents of this group referred to the Mobility Action Plan (see City and County of Denver, 2018I) as a major guiding document for their working goals. Further, many did also refer to the Vision Zero goals (see City and County of Denver, 2017e).

Group C – civil servants in the Mayor’s Office

Power:

The employees in the Mayor’s Office explicitly claimed to be the “voice of the mayor” and therefore also work the closest together with him. As 8C put it, he represents the mayor’s desires on any major initiative and thereby helps to lead the strategy and policy. 7C is responsible for a major development area in Denver, in which he manages the coordination between six sub-projects. Prior to this, he worked until 2016 as traffic engineer in Denver Public Works in the team of 1A (interview group A). The only person of the Mayor’s Office within my interview group that has not been on a study tour, 9C, leads a team which is specifically responsible to give in-house advice on how to make projects, initiatives etc. more sustainable. He also advises budgetary decisions regarding sustainability in the government.

Tasks:

The general tasks are already given in relation to their power. Regarding more concrete cycling infrastructure, 8C was majorly involved in the creation of the Mayor’s Mobility Action Plan, which sets current goals to reach until 2030. 7C was involved in the planning of infrastructure projects and has now the task of coordinating the planning of this development area, in which the construction of bicycle infrastructure plays a role. 9Cs task is to incorporate sustainability in all governmental duties.

Goals:

The goals are equal to the goals given in official documents by this administration, as they are the ones writing them as the “voice of the mayor”. The interviewees described the following major goals:

- Giving people options of different modes of mobilities. (7C)
- Connectivity through a well-planned cycling network. (8C)
- Bring specifically more young people to cycle. (7C)
- “Ensure that basic resources are available and affordable to everyone both today and tomorrow.” (9C)
- Building relationships and persuading people for the aim of sustainability. (9C)
- In general, the main goals set by the mayor address issues in the fields of: transportation and mobility, climate, environment, housing and addressing homelessness. (8C)

Group D – elected officials (10D)

Power:

10D is a member of the Denver City Council, representing one district. In the Denver political system, the City Council is on the legislative side of the local government and therefore does not speak on behalf of the mayor (10D).

General council powers in Denver as described by 10D are:

- Direct authority over land-use (zoning)

Results

- Purview over historic preservation applications
- Approval of all contracts that come through the city that are over half of a million dollars
- Make the laws: if there is change/enactment/repeal of a law, all go through the council
- Being involved in the annual budget process

Furthermore, 10D was involved in the transportation mobility working group of the council, which also worked on the Mobility Action Plan of the mayor.

Tasks:

Generally, lobbying for his interests in budgetary processes, council votings etc., as well as going to the people he represents from his district and listening to their concerns.

Goals:

He generally supports the mayor's goals on providing mobility choices, however, he wishes that especially regarding cycling infrastructure, things should happen at a much faster pace. Therefore, he keeps lobbying to allocate more funding towards sustainable infrastructure measures.

Group F – private enterprises

Power:

14F is director of a marketing consultant firm that works on a variety of projects, including many in the field of mobility. He worked extensively for the city on a number of different (mobility) projects. Until 2011, he was employed by the city in a leading city marketing position and, under that role, he contributed a great deal to the establishment of the Denver bike share system (14F).

15F has a leading position related to transportation in an organization that represents the business community in downtown Denver, the Denver Downtown Partnership (DDP). According to 15F, the organization is comparable to the European model of Chambers of Commerce but only for downtown Denver. As such, this organization manages services for downtown Denver, yet only for the business community and commercial property owners. As “voice of the business community”, this enterprise is counted under interview group F – private enterprises.

Tasks:

As a consultant, 14F is engaged from different entities on a contracting base – currently he is also involved in the Vision Zero strategy paper of the city (see City and County of Denver, 2017e). Furthermore, he is now in the planning process for a client to build a bicycle parking facility in downtown Denver (see more on that in chapter *Policy Transfer from International Study Tours to Denver*).

15F describes her job mostly as advocating at the city administration level for the needs and wishes of the business community her organization represents. One method of lobbying and “educating” city officials is to organize national study tours on different topics to other US cities. She also described her organization as influential on sending delegations on international study tours, e.g. the

Netherlands. Furthermore, she described her role as communicating and bringing understanding between business leaders and city officials.

Goals:

For 14F, it was important to stay up to date with current urban mobility trends, such as dockless bike sharing, and find ways how to deal with them. 15F emphasized contributing to livable spaces from an economic policy perspective and also from a place making perspective and to ensure that they are useable for recreation and business. She specifically stressed to continue pushing for building better cycling infrastructure in downtown Denver and growing her personal network to reach that. According to 15F and other interviewees, DDP (the organization of 15F) did majorly contribute to the building out of the existing bike network in downtown Denver.

6.2.3. Organizational Openness & Culture

Organizational openness and culture is here displayed in three parts. The first part mostly refers to the survey results and gives a general insight. The latter two parts of this chapter refer to collaboration and different forms to gain knowledge as an indicator for organizational openness, as described in the chapter *Theoretical Framework: Learning on Different Levels*.

6.2.3.1. Organization Internal Openness & Culture

The survey results show that respondents see their organizational work environment as mostly positive in all three aspects (see Figure 6). Most of all, they agree with managers and supervisors supporting the sharing of knowledge. As shown in the second sub-chapter (*Ways of Gaining Knowledge & Exchange*) on organizational openness below, also the Denver case study reflects this result that learning new things is encouraged.

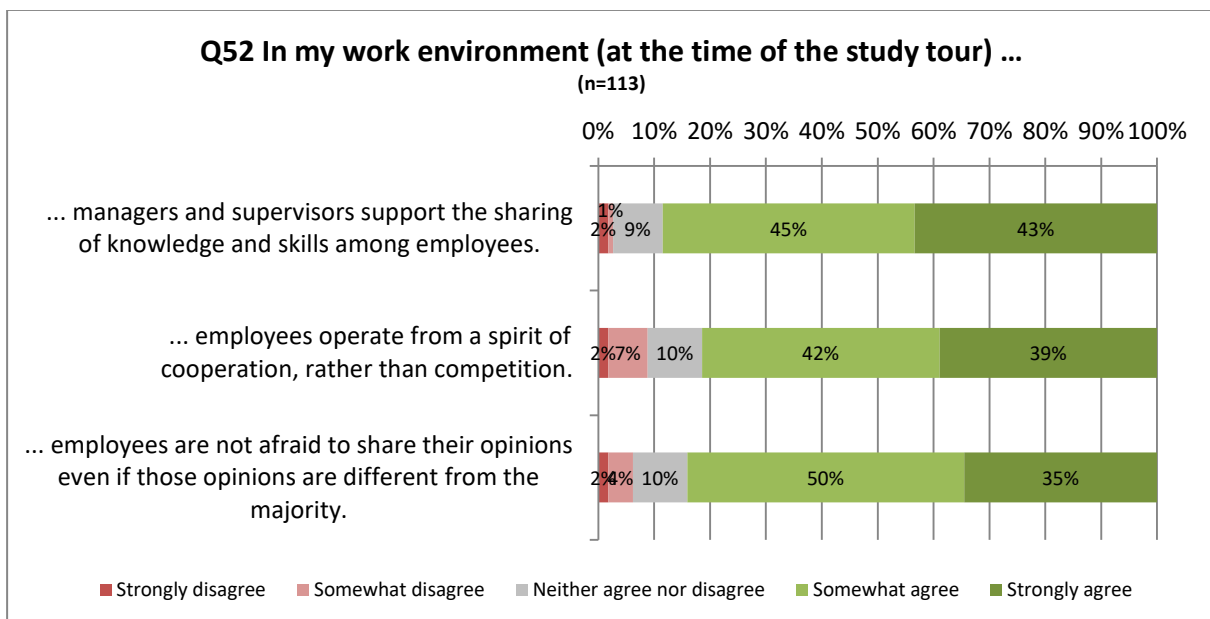


Figure 6: Work environment at the time of the study tour; Source: own elaboration based on survey

Statements that directly describe how working together internally to the organizational functions for the Denver case study could only be retrieved from group A (civil servants within public works). However, as three out of those five have leading/managing positions and up to 300 people under their supervision, this is of importance, as their openness in leadership affects many.

1A stated:

“I really work to try to empower my team to say, ‘hey when we’re designing something let’s look at it from this new or different perspective’, just to see what that looks like and also have the conversation with the community from the operations and maintenance side of things.” – 1A

5A emphasized that, when there are conflicting opinions within his working group, he tries to “reframe the conversation”:

“It kind of comes down to interpersonal. Just kind of make it clear you’ve heard their concern, you know [show them] you’ve tried to, you empathize and you kind of repeat what their concern is, but also try to pivot from their saying well but the reason why we’re doing this is because of safety first.” – 5A

3A states clearly that his unit cycling is rather seen as a burden for cars, which shall stay away from the streets. As he does not share this opinion, he tries to convince colleagues by showing them pictures from places where it works and making test pilots.

6.2.3.2. Ways of Gaining Knowledge & Exchange

In general, the interviews showed that peer learning plays an important role for all organizations. Thereby it is significant that learning from the US is a much stronger reference than learning from places farther away. In this relation, one also has to consider that all interview partners knew that I do research about learning from Amsterdam. Therefore it suggests itself to mention Amsterdam/the Netherlands as a reference when it comes to cycling. Nevertheless, given this influence, a clear preference to learning from US examples could be identified. Regarding the coding count of peer cities¹⁸, the count for “peer US” is at 38 marked quotes, for all relevant learning organizations (group A, C, D, F), compared to 13 marked quotes for “peer outside US” – therein, however, two times were references to Canada.

1A points out that, for her, “peer-to-peer knowledge transfer and knowledge sharing has been hugely beneficial and helpful” – she states that the city is therein active since about 2012/13. 1A plays a key role in sending people on study tours abroad; as 7C states that “she [1A] wanted me to go to Holland”. 1A was identified by most interviewees as a key player in advancing learning and vision building in the organization. For her, it is important to have people “who have a lot of passion and

¹⁸ These codes belong to the inductive codes added during the coding process.

vision for this work”. 1A sees study tours as “an important framework for folks to see that there is a different way to solve the traffic problem.”, they show them what is possible and make them excited about it, and inspire them also try out new techniques at home. Also for 3A, it is very important that his team tries new technologies:

“I think that's a big achievement on my part is to get everybody on board, to slow down for a minute, use technology and produce a better product.” – 3A

Beyond the international study tours examined in this research, Denver also undertakes study tours to other US cities. These are organized by the DDP, where 15F works at, as well as the Chamber of Commerce.

Other forms of gaining knowledge mentioned were:

- Technical approaches– counts, statistics, data and analysis. This approach is intended, on the one hand, to gain knowledge about commuting time calculations, parking demand studies etc. On the other hand, this approach is not always simply intended to gain knowledge, but also to soothe public protest against certain measures that might specifically restrict car use.
- Talking to residents to see what they want – one particular method for this is online surveying about planned or finalized measures.
- Factory training and sales support from companies that sell equipment they need.
- Contracting consultant firms.
- Guidelines and guidebooks, specifically, NACTO (see NACTO, 2011) was mentioned.
- Learning from past experience.
- Platforms and conferences.

6.2.3.3. Collaboration

Generally, all organizations referred regularly to collaboration in and outside the organization. A more detailed analysis of the collaborations between organizations and departments was already given in the chapter *Policy Community / Network*, as this information is also most relevant for the analysis of the policy network in Denver. Here, collaboration is used as an indicator for organizational openness (as described in the chapter *Theoretical Framework: Learning on Different Levels*). Thereby it is interesting, when looking at the quantified coding output¹⁹ in Table 16 below, that the closer the organization is to policy makers in the field of transportation and decision makers, the less collaboration plays a role. This does not necessarily mean that these organizations collaborate less. In the interviews, the groups with high collaboration, according to Table 16 below, mostly referred to the Mayor’s Office, DPW or council members.

¹⁹ Overlap of different coding categories as described in chapter *Interview Analysis*.

Interview group	Average number of use of the code “collaboration in and outside organization” per group
A – DPW civil servants	7,4
B – other department civil servant	16
C – Mayor’s Office civil servants	4,6
D – Elected official	3
E – Advocacy Group	13
F – Private enterprise	5,5

Table 16: Collaboration of organizations, Denver case study analysis

Both organizations that have the highest hits on collaboration are not directly related to organizational learning, as they belong in the control group. In the focus group of learning organizations, Denver Public Works (A) accounts for the highest hits on collaboration. This is also evident in the statement from respondent 1A, that in order to learn new and try new things, they look to other departments to see if they can collaborate together on achieving overlapping goals.

6.2.4. Group Dynamic & Study Tour Design

6.2.4.1. Study Tour Destination & Agenda

Survey respondents altogether have been on study tours in 13 different countries (Q4), however, for the purpose of this research, they were asked to focus on only one study tour, which if applicable should be the one in the Netherlands or otherwise the one that was most recently. Out of this, the following picture evolved: 60% (n=75) were in the Netherlands, 19% (n=23) in Denmark, 10% (n=13) in Spain, 6% (n=7) in more than one country, thereby always including Denmark and Sweden²⁰, Japan 2% (n=2) and France, Sweden (alone), Germany and Canada have each 1% (n=1). For some of the further analysis, the countries with a very low percentage (Japan and the following) are summarized as “others” (together 5%). The most visited cities in the Netherlands were (ordered by importance) Amsterdam, Utrecht, Rotterdam, The Hague, Groningen, Delft and Nijmegen (Q14).

Most of the study tours took place in the year 2015 and 2016 (together 43%) (Q77). Generally, more study tours took place during or after 2015 (always more than 10%). A slight peak before was in 2011 with 11%. Regarding these results split per country (see Figure 7), one recognizes the domination of Spain in 2018. This also relates to the qualitative case study in Denver. One delegation from Denver was very recently, in April 2018, in Spain on a study tour. Of this group, I could interview three people (1A, 8C and 10D). The trips to the Netherlands are quite evenly spread from the years 2010 to 2018 with a slight peak in 2015 of 35%. Also this is in line with the Denver case study. One delegation

²⁰ More refers to Germany, Switzerland and UK in different combinations.

from Denver has been in the Netherlands in 2015; of this group I could interview six people (1A, 2A, 3A, 7C, 10D, and 15F). Besides the Netherlands and Spain, Denver delegates have also been to Denmark in 2014 and 2016 (as of May 2018).

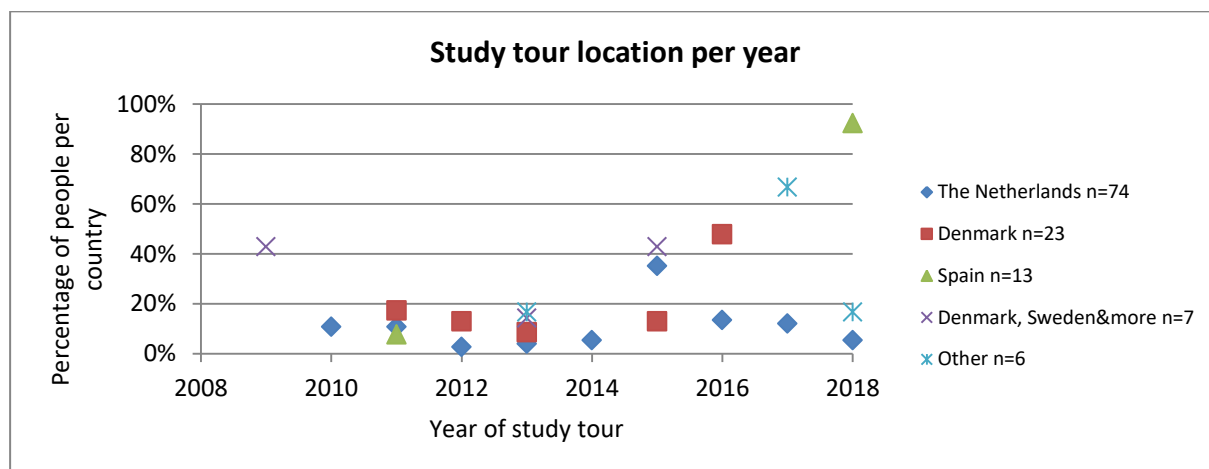


Figure 7: Study tour location per year; Source: own elaboration based on survey

Regarding the duration (Q9) of the study tours, most survey respondents were on trips that took 5 days or longer (91%). The pattern in relation to the countries is very similar. The only difference is that, for the group of “others”, a higher percentage than for all other countries did tours that took only 3 days (33% of those going to “others” on a study tour). This is not a surprise, as in this category is also Canada, which makes it easier to go on a short trip. Also regarding the general framework of the study tour (Q10), the category “other” countries differs from the rest. 50% of “other” were on a study tour as a part of another program such as a conference or university trip. For all the other tour destinations, the majority went solely for the study tour. All Denver delegates were on trips that took 5 days or longer and they went only for this trip on the tour.

Regarding the mode of transportation during the study tour (Q15), the vast majority used the bicycle as their main mode of transportation (92%), whereas again “others” differed. Within this category, most people used public transport. However, as the total number of people in “others” is only six, this does not greatly affect the overall result. All Denver delegates used the bicycle as their main mode of transportation.

Regarding information on the agenda (Q16) of the study tours, the most time was spend on guided outdoor group sessions followed by discussions with local experts. Again this was most important for all country groups, except “others”. For the “other” group, plenary or lecture sessions were the activity most time was spent on.

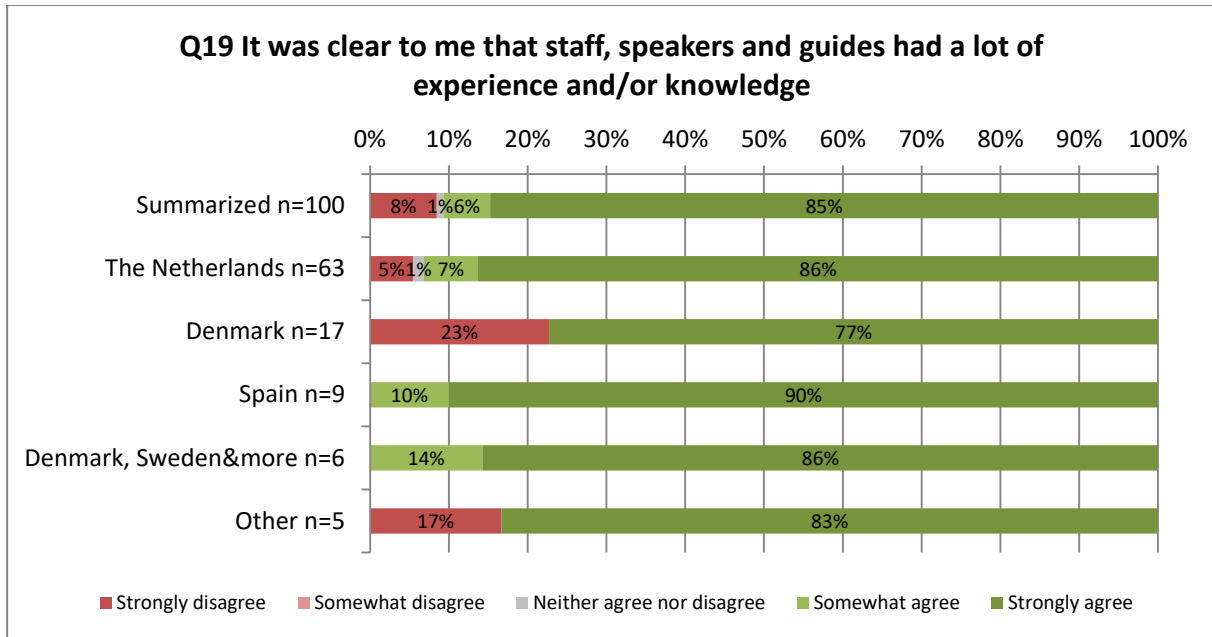


Figure 8: Evaluation of study tour staff, speakers and guides; Source: own elaboration based on survey

As visible in the survey result, most respondents were very satisfied with the staff, speakers and guides on the tour. Also in the interviews a high level of general satisfaction with the study tours and the experience was shown. From all eight people interviewed that were on one or more study tours, five (1A, 3A, 7C, 10D, 15F) spoke with great enthusiasm and highly positive about their experience with the guides or speakers:

“I mean I, I loved them [...] they’re phenomenal” - 10D

Two were also positive, yet not as enthusiastically, but definitely supportive of the concept of study tours (2A and 8C). One respondent that was on a study tour, however, sees study tours in general rather critically. Regarding the study tour agenda, he stated:

“I just think riding around is great for a vacation, but it is not the greatest learning experience in the world.” – 14F

He would have preferred a different setting including a workshop on the topic of sustainable behavior change. From all people interviewed who were on study tours, he is the only one that went to Denmark; this also correlates with the survey. For Denmark, the highest percentage (23%) was strongly dissatisfied with staff, speakers and guides. Another, however, generally much less critical interview partner (3A) would have liked additional agenda points that more precisely match his field of work. Yet as he was the only one in the group with that specialization, he understood the focus that was set.

Contradicting the critique of 14F (see statement above), according to the survey, the most helpful agenda point to learn was with 67% experiences in the city/cities of the tour (followed by lectures, facts & data, anecdotes from speakers/guides, plans/designs/illustrations, and group discussions) (Q18). The experiential aspect is most important for tours in the Netherlands (77%) followed by Denmark (61%) and Spain (57%). Also those who belong to the group that went to more than one country named most often experiences as the most helpful (46%). Again, only “others” diverge

(17%). These are the only ones for which facts and data are more important (33%). Again this result is in line with qualitative data received from the interviews and the qualitative survey question. The experiential aspect, which all Denver delegates had through the use of the bicycle as their main mode of transportation, was very much positively underlined by most interviewees who had a generally positive attitude towards study tours.

Furthermore, 8C underlined that the exchange with participants from other destinations was helpful.

6.2.4.2. Study Tour Group: Composition & Characteristics of the Group

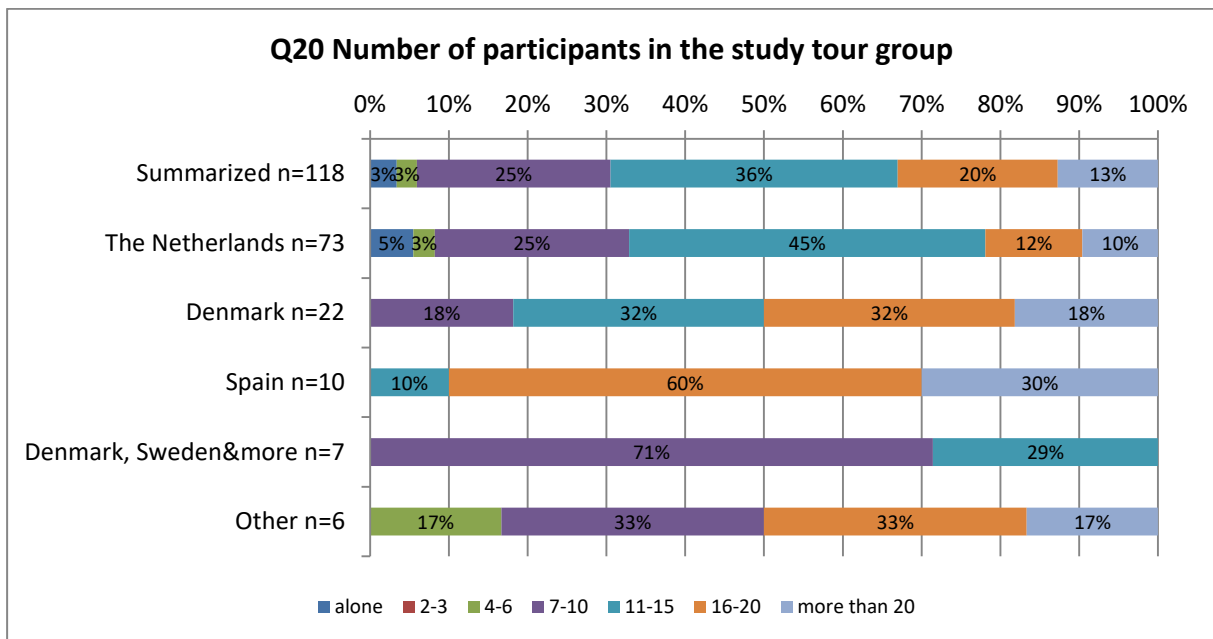


Figure 9: Number of participants in study tour; Source: own elaboration based on survey

As shown in Figure 9, most study tour groups included eleven to fifteen people. Within these groups, 20% of other participants were from the same city and 33% from the same organization. 39% came from other US cities, whereas only 8% were non-American residents (Q21). This result is more or less the same for all study tour destinations.

Moreover, survey respondents indicated that at least one elected official was a participant of the tour (61%) and 82% indicated that at least one senior level transportation city staff was participating (Q25). Figure 10 shows that, for the most part, study tour participants did not know each other well before the study tour took place:

Results

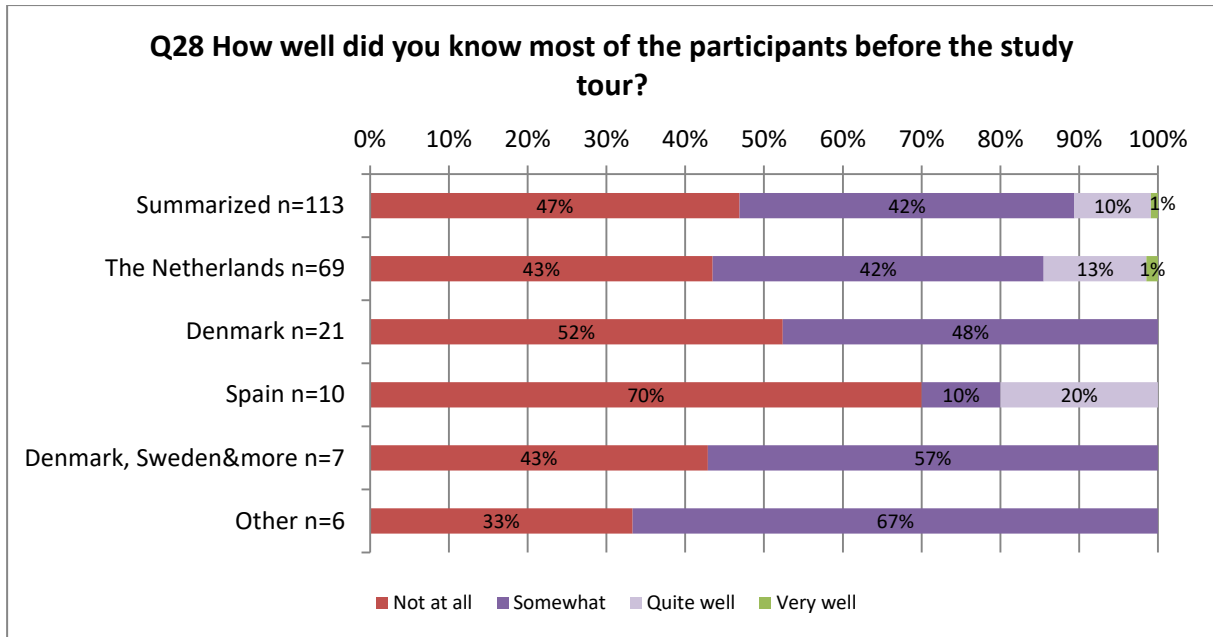


Figure 10: Relation to other study tour participants; Source: own elaboration based on survey

Regarding the Denver case study, it seems quite common to send elected officials or senior level city staff on study tours. Especially the 2018 Spain trip was undertaken with mainly very high ranking people, including the new director of Denver Public Works, two Denver council members, a close confident of the mayor (8C) and people that might bring opportunities for funding. For the elected official (10D) and the senior level transportation staff (1A), it was their second trip (both were in the Netherlands in 2015 and in Spain in 2018). According to the internal contact database used for the case study selection, Denver delegates were always in a study tour group with at least three other people from Denver. In the study tour to the Netherlands in 2015, it was a group of only Denver delegates, which was a “cross section of people from Denver”, including businesses, civil servants and one elected official (10D) – generally it was not as high-ranking as the 2018 Spain trip. Having members from other cities in the US in the study tour group was only for 8C explicitly helpful, whereby also he emphasized the importance of the team he had with him from Denver. One person that played a special role, according to many of my interview partners, was 3A in the study tour to the Netherlands in 2015, as he belongs to a different department within Denver Public Works than all other delegates from this organization. As 1A put it: “he was able to look at it from a different perspective. [...] That was really helpful.” Also 3A described it as a very good collaboration between him and the other people from the other department of Public Works, whom he already worked with before.

Survey questions regarding the group dynamic in the study tour²¹ (Q29) attribute the most negative results for the study tours to Denmark. 10% of Danish tour participants rate the group dynamic as negative, compared to participants to all other destinations, which have a maximum of 1% in this very negative rating (Likert-scale “strongly disagree”). However, regarding these results for Denmark, one has to consider that the total number of people responding is rather low with a total number of 21 (compared to Dutch study tours with a total of 69 respondents). Overall the atmosphere of all study tours is perceived as very positive (best rating on Likert-scale). Altogether, 77% strongly agreed that being part of this group made the study tour more enjoyable and another 19% somewhat agree to this. Also, the case study results show that most people have positive memories of the study tour and their group. Again, the one exception is interview partner 14F, who was not enthusiastic talking about the tour, as frustration dominated his study tour experience. However, the frustration had more to do with the situation back home than the study tour experience itself. I will come back to that in the *Learning Outcomes* chapter. 15F explicitly described her role in the study tour group as the “bridge” between the Denver “city people” and the “solid business people”.

6.2.5. Reporting the Gained Knowledge back

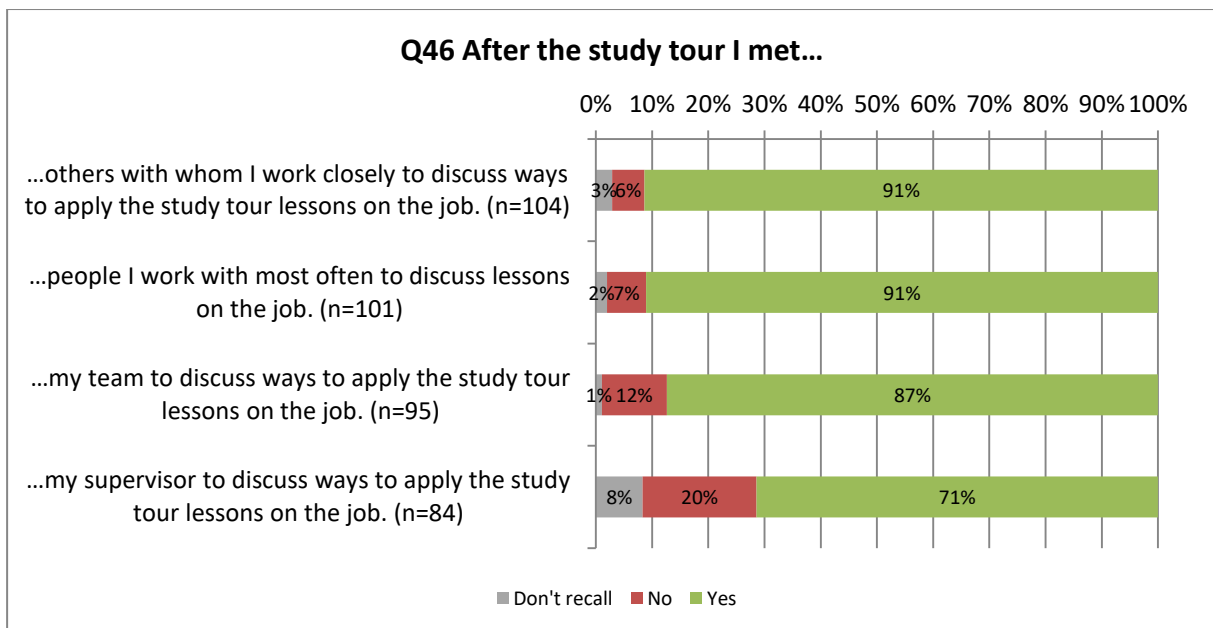


Figure 11: Reporting back from the study tour; Source: own elaboration based on survey

Based on the survey results (Q45), the majority of people discussed how to apply the lessons on the job with work colleagues. However, as shown in Table 12 above, the direct communication to the supervisor was the least important. Regarding the kind of information people passed on in work

²¹ Indicators to rate on a Likert-scale were: enough time to get to know other participants; feeling comfortable in expressing own opinion; being part of this group made the tour more enjoyable;

(Q48), most people shared their experiences on the study tour (41%), followed by personal anecdotes (19%) and facts & data (16%). As shown in Table 13, the way information was shared was mostly through informal discussions (32%), followed by showing pictures (27%).

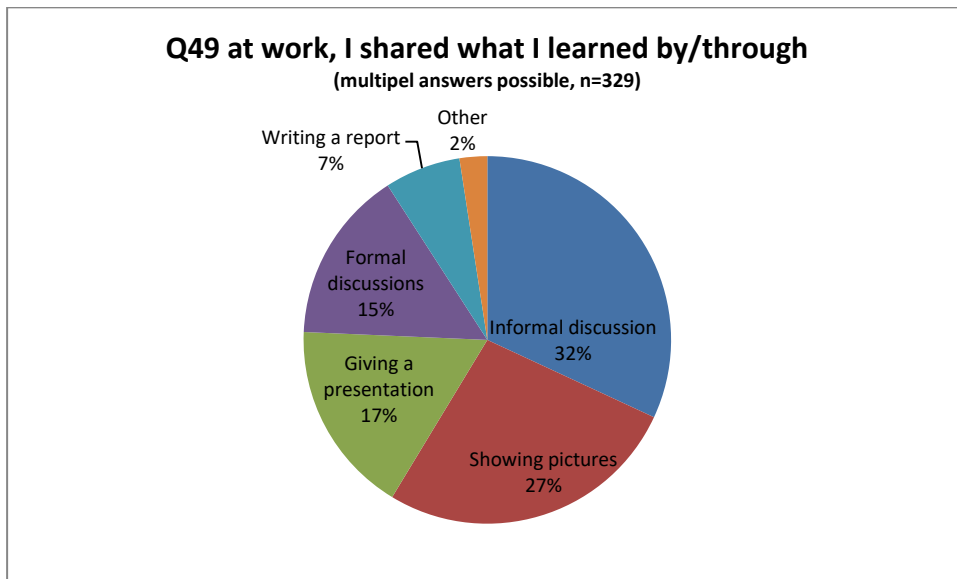


Figure 12: Format to share gained knowledge; Source: own elaboration based on survey

The case study mirrors these results. People most often referred to telling colleagues about their experiences and showing pictures. Interestingly, the most critical candidate on the study tour, 14F, got quite enthusiastic when showing me pictures, which he had still on his phone from the tour in 2016. 10D explicitly stated that he uses his experiences in budget discussions to advocate for more spending on cycling infrastructure. He also shared that he met the mayor after the study tour to Spain to tell him what they have learned and how they plan to proceed. Further meetings on the building out of the bike network, which was the main motivation to go to Spain, were scheduled. Many others discussed that they used their experiences, supported by pictures or videos, to try to convince other people, as 3A put it:

“I took a lot of pictures when I was there because I could use those pictures when I got home to point out how they do it and getting people to adapt to something different.” – 3A

Also anecdotes about the cultural differences between the study tour city and Denver were popular to share, as an example, the fact that compared to Denver, no one in the Netherlands wears a helmet. Also people from the “control group”, who were not themselves on a study tour, reported on stories they heard and pictures and presentations they have seen from former delegates. However, one person from the “control group”, 6B, never heard about the study tours. This is probably connected to the fact that she is the only one not working directly related to transportation.

6.3. Learning Outcomes

In this chapter the second research question is addressed:

What are the outcomes on the individual, group, organizational and policy level?

6.3.1. Personal/Individual Learning Outcomes

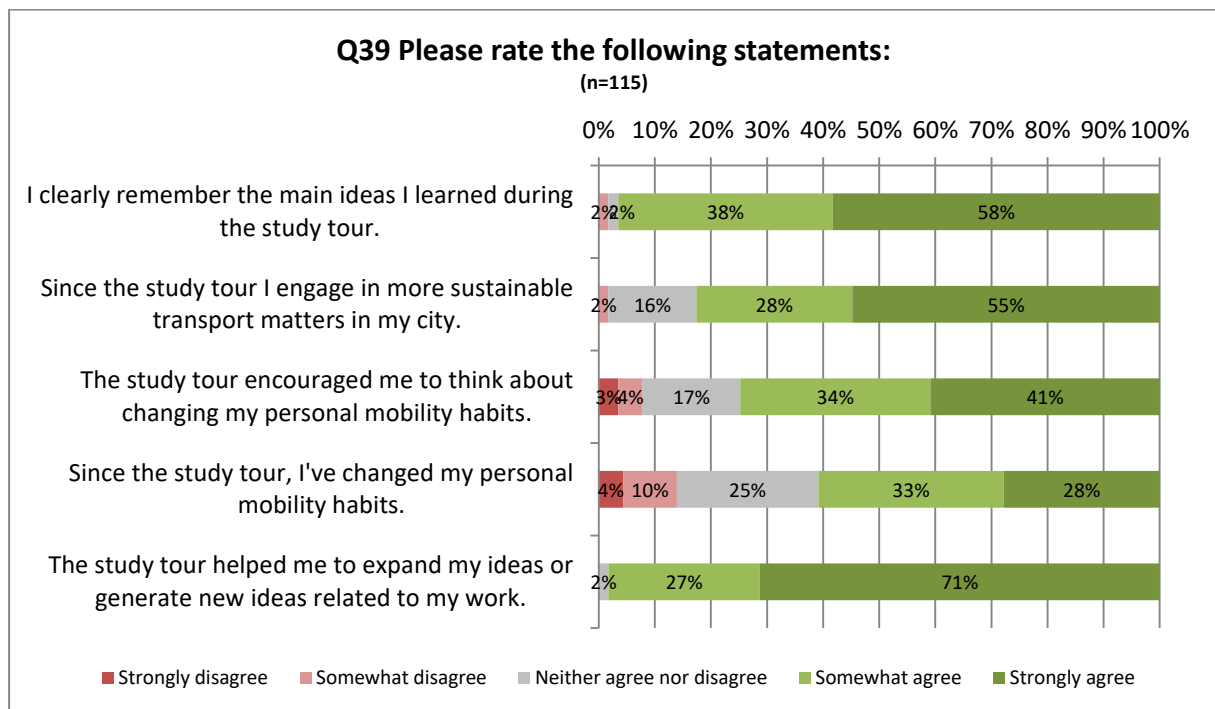


Figure 13: Individual learning outcomes survey; Source: own elaboration based on survey

As the survey results show, the study tours have the most impact on generating and expanding ideas, as described below, this was also the most important output on the personal level for the Denver case study. All interview partners that were on a study tour referred to gaining ideas on how to do or process with things in the working context at home, even 14F, the most skeptical interview partner. Also the qualitative survey question is in accordance with this result. Furthermore, main concepts and ideas were also shared with me in my interviews and seemed to be well remembered. Regarding the personal change in behavior, one can see a decrease in agreement; this is also shown in my interviews. Only one interview partner explicitly stated that his mobility habits have changed and one other delegate from Denver, whom I could not interview, was described as having changed his habits. However, regarding these survey results, one should keep in mind that the second most used mode of transport among survey respondents was already before the study tour the bicycle (Q76). Comparing the different study tour destinations, the ideas from Spain are best remembered. One should keep in mind, however, that the majority of Spain tours occurred most recently. Dutch study tours show the highest rate of people changing their personal mobility habits (36% strongly agree).

Results

Referring back to the chapter *Learner Readiness & Motivation* and the Denver case study, one can read that 1A, and 15F have been cycling advocates already before the trip. Also 3A, 10D and 15F had a positive viewpoint regarding cycling before the trip. The most drastic change in mindset might have been for 7C: he went from being very skeptical towards being a cycling enthusiast:

“Seeing that was a real eye-opener for me. [...] I was hopeful, a little skeptical but I came away with ‘yeah we can do this.’” - 7C

Also 2A, who was described as a rather “car person”, made a shift towards being “more open-minded”. For all interview partners that were on a study tour, **inspiration and ideas** played an important role, mostly described through the experience of being in such an environment, as 2A stated:

“To me, just doing, doing and seeing was probably the best thing. It was great meeting the people in the other cities and all of that. But the fact that you could ride your bike and ride a train and get from here to there in different cities using different standards all of that, it inspires you to try to figure out how you can do that here at home.” – 2A

Also people that were already before the study tour advocating for it **shifted in their understanding and way of seeing things**. It was described that the full potential of what is possible could only be understood through the experience of the study tour (e.g. 1A) and the attitude of many in being skeptical of seeing the bicycle as an appropriate mode of transport for Denver shifted:

“I think that immediate change was me seeing it was possible.” – 10D

It can be said that all people I interviewed who were on a study tour (and also those who were not on a study tour) are supportive of bikes as mode of transportation in Denver. Beyond the point of inspiration and change of viewpoint, 10D changed also his **personal behavior** after the NL 2015 ST:

“It changed my life personally. It changed my viewpoint, changed how I’m advocating as a person, leader in Denver. [...] it has completely changed how I personally travel around this city, which clearly changes my whole frame of reference.” – 10D

Also the “control group” confirmed that they encountered people coming back very inspired and that “their eyes seemed to have opened”, in reference to people that I interviewed and also other individuals that were on international study tours that I could not interview, such as two high-ranking stakeholders in Denver. Perhaps most important, a vast change in behavior and view point was also reported for another Denver City Council member, who was on the study tour in Spain (2018) and in Denmark (2014).

Regarding the explicit knowledge gained, they shared with me the following important insights:

- The practice of “seeing the street as a whole”, not prioritizing cars from the beginning, but designing streets from the beginning that serve all modes of transport.
- The importance of a whole bike network that is easy comprehensible, organized and predictable.
- Planning standards, how they design their infrastructure and what materials, colors, facilities (e.g. bike rest stands and bike parking) and tools (e.g. bike counts) are used.

- The realization that “bikes can be for anybody” and that one does not necessarily need to wear a helmet, sports clothing or take a shower afterward, if the necessary preconditions are given.
- The realization that “bikes move like water” – which means, after 10Ds explanation, that cyclists always try to go the shortest way and it does not necessarily make sense to build “bike highways” if the cyclist has to make a detour to reach them.
- One additional interesting insight from the qualitative survey (Q38) results was the learning from the Dutch culture and history in how they avoided public backlash.

Besides the majority of positive memory about the study tour experience and the inspiration, frustration also played a role (14F). Frustration, however, does not directly relate to the experience in the study tour country rather it relates to the own situation in Denver and how far “behind” it is in comparison. More on that will be discussed in the chapter *Barriers to Policy Transfer*.

Summing up, on a personal level, people that were described or described themselves as not convinced of cycling as a mode of transport for Denver before (2A, 7C) changed their viewpoint. People that were skeptical on how it can actually work (3A, 8C, 10D) came back inspired for what they could do in Denver (in case interviewees were not directly stated in this part, outcomes on the personal level might have led to further outcomes on the “higher” levels as described in the following chapters). People that already before the study tour advocated for cycling got inspired about how to do things differently (1A, 14F, 15F).

6.3.2. Study Tour-Group Learning Outcomes

Regarding outcomes on the group level, the survey shows (see Figure 14, Q32) that the majority of study tour participants from all countries strongly agree that a “sense of trust and openness” developed among the group. Spain is in this matter outstanding with 90% strongly-agree-rate. Denmark has the lowest with 48%. At the same time, Denmark has the highest rate of people who strongly disagreed with the statement that a sense of trust and openness developed (5%).

Concerning the development of a “shared vision”, the strongly-agree-percentage was not that high, however, still always reached a minimum of 29% (Denmark). The summarized result of all countries for both questions is displayed in Figure 14:

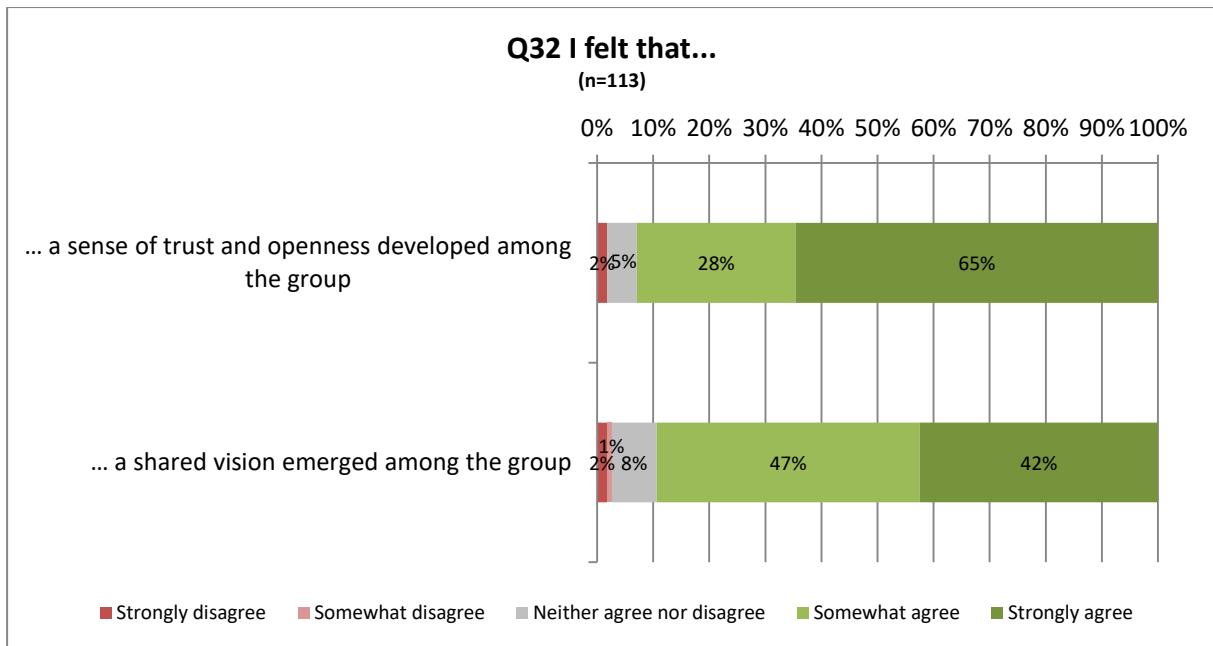


Figure 14: Group dynamic on study tour; Source: own elaboration based on survey

What is important in the interview results is that the possibility to collaborate with people from Denver from different departments and organizations that came together on one study tour was described as highly helpful. The possibility to imagine as a group how things could be applied at home was valuable and, together, they could better translate the things seen/learned into the Denver context. Thereby, the specific role of 3A, as he works within Denver Public Works in a different department, was often mentioned as specifically helpful. According to interviewees, he could point out the feasibility from his field of work in addition to the planners’ view (planners dominated the group). Furthermore, as one delegate described, the study tour offered space for “safe conversation” (15F) away from the everyday rush at home. The closer team building process was definitely happening within the group of Denver delegates, as most interviewees that were on a ST only referred to their Denver group, however, as 8C described, “we were a better group [with the delegates] from the rest of the country, where we were also able to share and compare”. The fact that most of the Denver delegates already knew each other and collaborated before the tour, as in the case of the Spain study tour and also had shared motivation on what they wanted to achieve, was described as helpful in the end of the study tour to reach a good result that everyone is committed to. Especially for the Spain study tour in 2018, according to 1A, a strong commitment to the result could be reached. Also a commonly developed plan (“road map”) on how to proceed back home in getting administration and elected officials on board was laid out already on the tour. The scheduling of meetings started as soon as they arrived home. The challenge that they hoped to overcome was to keep up this commitment despite all the other duties waiting for them in their regular work environment. At the time of the interviews, the ES study tour was only about one month ago and a high-ranking meeting with elected officials and the mayor was scheduled for the week after.

However, as described by 14F, exactly this coming back to the everyday work life was the barrier that could not be overcome for 14F’s attempt in 2016 after his study tour to Denmark to “move things forward”. Also as 5A from the “control group” stated:

Results

“They saw what they could do but they didn’t come back with the political clout to say ‘yes we’ll just go ahead and just do that right away’” – 5A

Summing up, group building was mainly happening in the group of Denver delegates; thereby it was helpful to get insights from people working in different fields and organizations. People from other cities were by one interviewee described as also important, but the group composition and motivation of Denver delegates is more important for paving the way for concrete outcomes. From past study tours to the Netherlands as well as to Denmark, important indicators for group building, such as the development of a shared vision for the home context and building trust, happened. Yet when the group came back home, that shared group commitment seemed to decline. Nevertheless, the following chapters on organizational and policy outcomes show that outcomes, partly supported through this group process, prevail. So far, the recent Spain study tour shows an ongoing commitment to make progress; however, at the time of this study it is too early to see concrete outcomes.

6.3.3. Organizational Learning Outcomes

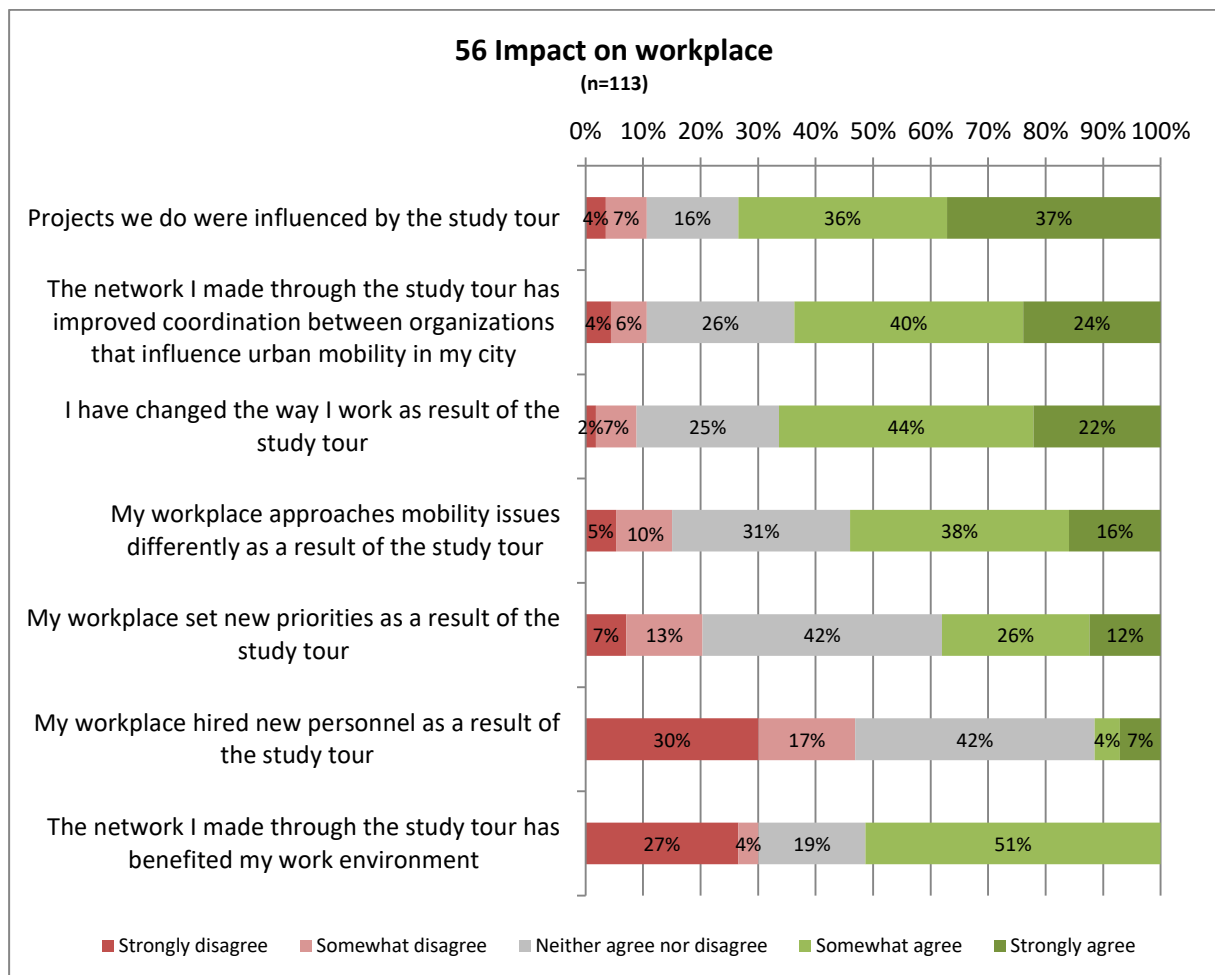


Figure 15: Organizational learning outcomes survey; Source: own elaboration based on survey

As shown in Figure 15, according to the survey, the biggest influence from study tours on the organization was on **projects** and the **coordination between organizations in the “learning” city**. The

order of outcomes is equal for all country destinations. Through the weighted Likert-scale system, scored points show that, for this question, 70% of the maximum possible points (100% is the score if everybody answering the question would give each item “strongly agree”) were reached.

6.3.3.1. Survey Correlations between Organizational Learning Outcome and Indicators Measured

At this point of the research, I draw back to the survey results discussed in the previous chapter *Organizational Learning & Group Learning* and regard them in relation to these presented organizational outcomes of survey item 56, displayed in Figure 15. The results of the regression analysis are displayed in Table 17:

Q	Question Format	Main variable measured	Measured Indicator acc. to Table 8	Question Survey content/choices	P-Value ($\alpha < 0,05$ for significance)	Correlation
35	Likert	Learner readiness & motivation	Study tour preparation	ST Preparation	0,3282	0,09
52	Likert	Organizational Characteristics & Role of Individuals in Organization	Power and Tasks of Individuals in Organization	Likert : Power ST delegate	0,0029	0,28
52	Likert	Organizational Openness & Culture	Supervisor support; Climate of trust and courage; Collaboration;	Likert: work environment	0,1198	0,15
6	Multiple choice (weighted)	Study tour & Group dynamic	ST agenda: time of ST	Year when tour was undertaken	0,1999	0,12
9	Multiple choice (weighted)	Study tour & Group dynamic	ST agenda: Duration of ST	Choice of number of days	0,2686	0,10
19	Likert	Study tour & Group dynamic	ST agenda: competence of guide/staff/speakers	Likert	0,3646	0,09
25	Multiple choice (weighted)	Study tour & Group dynamic	ST group: power of other ST participants	Q25 summarized	0,0141	0,23
28	Likert	Study tour & Group dynamic	ST group: knowing other participants	Likert	0,0500	0,19
29	Likert	Study tour & Group dynamic	Satisfaction with ST agenda	Likert	0,0563	0,18
46	Multiple choice (weighted)	Knowledge Externalization	Meeting with people in the working field at home to share knowledge	Q46 summarized	0,0000	0,48
39	Likert	Personal Outcomes	Change of personal behavior; Change of perception/vision; Gain in knowledge;	Likert	0,0015	0,29
32	Likert	Group Outcomes	Atmosphere of trust and open communication; Shared vision;	Likert	0,0402	0,20

Table 17: Survey correlations with survey item 56 on organizational learning outcomes

The significant correlations are:

1. The **power of individuals** on the study tour to influence important decisions on urban transport has a significant impact on the organizational learning outcome. The more influence given, the better the outcomes are. (Q52)²²
2. Having **powerful individuals** and people from the same organization on the tour positively influences the organizational learning outcome. (Q25)
3. **Knowing the other participants** from the study tour already before the tour enhances the organizational outcome. (Q28)
4. **Meeting** other people from work at home to **discuss lessons on the** job is significantly important for the organizational learning outcomes. (Q46)
5. Positive **outcomes** on the **personal level** (change of behavior/perception/vision/gain in knowledge) positively influence outcomes on the organizational level. (Q39)
6. Positive **outcomes** on the **group level** (atmosphere of trust; open communication and shared vision) positively influence outcomes on the organizational level, yet to a lesser extent than the outcomes on the personal level. (Q32)

Regarding questions calculated through comparison of the reached outcome (average of Likert scores reached) dependent on the choice taken (for non-metric multiple choice/response questions in the survey), the following results were calculated regarding the influence of the ST agenda on the outcome (Q56):

²² The questions discussed here are ordered after their discussion in the previous chapter.

Results

Q	Question Format	Measured Indicator acc. to Table 8	Question Survey content/choices	Percentage over/under the weighted average points of Q56
4	Multiple response	ST agenda: country	Netherlands	-0,63%
			Denmark	7,23%
			Spain	-1,70%
			Denmark Sweden and more	-7,74%
			Other	-5,77%
10	Multiple choice	ST agenda: ST framework program	Yes	-14,48%
			None	2,74%
15	Multiple choice	ST agenda: mode of transport used	Walking	-14,70%
			Cycling	1,16%
			Public Transport	-12,67%
			Car	-
			Private bus/van	-14,70%
20	Multiple choice	ST group: size of ST group	alone	-10,64%
			"2-3"	-
			"4-6"	13,73%
			"7-10"	1,13%
			"11-15"	0,95%
			16-20	0,99%
21	Multiple response	ST group: other participants were from	more than 20	-5,22%
			My organization/workplace	3,63%
			My city (at the time of the study tour)	4,38%
			Other US cities/states	-1,16%
49	Multiple response	Content shared through	Outside the US	-2,76%
			Giving a presentation	6,12%
			Informal discussions	0,22%
			Formal discussions	5,69%
			Writing a report	6,35%
			Showing pictures	1,97%
			Other	-10,13%

Table 18: Organizational learning outcomes measured per (non-metric) choice variable

These outcomes from Table 18 put in words show:

1. Albeit sometimes negatively highlighted, people that have been on a study tour to Denmark are in their average weighted outcomes 7,2% above the overall average. The Netherlands are on average level and Spain is 1,7% below. The summarized category of people that have been to more countries, as well as the summarized "other" countries (for reasoning of this

countries regarded together please see page 83) are all more than 5% below the average in their outcomes. (Q4)

2. The average of people that did the study tour as part of **another program** (e.g. conference, holiday etc.) show results more than 10% below average, whereas people doing only the study tour rate 2,7% above average. (Q10)
3. In terms of **transport used** on the study tour, people using the bicycle are slightly above average in their results. No one used the car as a mode of transport. All other modes are in their outcome average below 10% of the general average outcome. (Q15)
4. Concerning the **group size**, groups in the range of four to six rate the best with more than 10% average weighted outcomes above average. No one was in a group of two to three people and people being either alone or more than 20 is rated more than 5% below average. All group sizes between seven and 20 rate equally to the overall average outcome. (Q20)
5. People that **worked with people on the study tour** from the same organization and/or city scored above average. (Q21)
6. Results show that **formal ways of reporting** what was learned back from the study tour led to higher outcomes. For all three forms of formally reporting information back home (presentation, formal discussion, writing a report), the results are more than 5% above average. Showing pictures and informal discussions scores around the average. (Q49)

In the discussion chapter (see *Answering the Research Questions & Discussion of the Results*) these, according to the survey important influence factors, will be discussed together with the data from the interviews as described in the second part of the results chapter above (see *Organizational Learning & Group Learning*). The following result parts focus on the interviews and the resultant insights on organizational, policy and social learning.

6.3.3.2. Case Study Organizational Learning Outcomes

Coordination between Organizations

In direct connection with the previous chapter, *Study Tour-Group Learning Outcomes*, are the “improved coordination between organizations that influence urban mobility” (see Figure 15). As described, a shared realization and discussion of what is possible occurred amongst members of the study tour group, which comprised of a mix of civil servants, elected officials, industry representatives and consultants.

“So I think they brought, like, people from that entire system to think about the entire system from construction to the implementation to the maintenance and that was really important. That culture didn’t exist in the city before and I think it’s getting stronger and stronger every year.” – 15F

As described by one delegate from the Netherlands 2015 study tour, a place for “safe conversation” was created and, in this case, the output of this safe conversation led to organizational changes in Denver. In the group, it was recognized that one particular member of the Denver bike community was “difficult to work with”. Upon returning from the study tour, a process was started that finally led to a staff change in the respective Denver bike advocacy organization.

Also, the common approach of study tour delegates from the recent Spain trip shows improved coordination between the different organizations as described above. Civil servants from different departments and elected officials worked closely together to get everyone on board on the trip and about one month after the trip (time of the interviews) this commitment still endured and additional meetings of importance were scheduled (including the mayor). However, also relating to above, the experience for 14F after his trip to Denmark in 2016 was different. He held a round-table bringing together all who had been on a European study tour. Still, the main outcome for him was frustration.

Way of Organizational Work

Concerning organizational outcomes in the way organizations work, the interviews indicate that the interviewees who were on a study tour changed their approach to mobility:

“I think we’ve broadened the conversation to help people understand what are some of the transportation challenges that we face here in Denver” – 1A

In connection to this, it is also indicated that former ST delegates changed the way they work:

“[...] then they come back and they put on their thinking cap and get really excited about how to solve the problem differently” – 1A

“So now any project that I get involved in, I’m going to see like, okay how can we make this a complete street? How do we prioritize all modes?” – 7C

At the time of the study tour, 7C was still working for Denver Public Works (so belonging to group A). He described that through his personal change in views he started convincing other people with whom he worked. Thereby, he made use of the knowledge he gained on the study tour and later on when showcasing his personal biggest achievement, a curb protected bike lane in Denver. According to 7C, he sees people changing their minds. The “control group” confirmed the change of Denver Public Works’ approach in transportation planning supported by the study tours:

“I think it’s also been helpful for the Public Work staff. I mean, if you think about Public Works 10 years ago, like, biking wasn’t even on their radar.” - 13E

“It won over some of our higher level folks in Public Works [now they are] more onboard with spending more attention and energy on mobility projects.” - 11E

Hence also **projects** were influenced by the study tours as will be described in chapter *Policy Transfer from International Study Tours to Denver*.

2A described that, through the study tour, she more fully supports people who already work on projects in this field. One very concrete example is when she came back from her study tour in 2015 she pulled people working on all kinds of different projects together in order to finish the Larimer / Lawrence bikeway because they otherwise could not have made the deadline. She took this action because she as well as the others from the study tour group were excited to see one of these protected bikeways in action before Winter arrived. After they made the deadline on-time, a party was organized. People who had never worked together before from many different departments within Denver Public Works pulled together to make this possible. Furthermore, knowledge on how to better build out a bicycle network through the need for different traffic control devices for bicycles

and new bike way designs, for example, was for her an important knowledge to bring back from the trip.

For 8C in the Mayor's Office, the study tour led him to accelerate existing plans and to step in to assist project that need more money quicker or more manpower. Like 1A, he also stated that it is important to "maintain the momentum and the focus". The specific questions regarding the new Denver bike network plan were answered on the trip. Now they are in the process of adapting the plan, which shall be finalized by the end of 2018 (8C).

Regarding the organizational outcomes for the elected official (10D), it is the most difficult to differentiate between the four different outcome categories. As he put it:

"The first step for me was to do it [cycling] and then that's totally changed again the kind of things that I work on and how I advocate for things and also how I understood bike infrastructure." – 10D

As he stated himself, he would not have supported bike infrastructure as strongly as he did if it were not for the study tour. Since the study tour, he makes active modes of transportation a "constant priority" and pushes for it in every budget discussion. He discusses with opponents "but what's not on the table" is that the project will not be realized. The change also lies in what kind of bike infrastructure he advocates for. Before the study tour, he was fond of the idea of total separation between bikes and cars. As a result of the study tour, he realized that "every single street needs to be designed to be comfortable for cyclists" because bikes "move like water".

6.3.4. Policy Transfer from International Study Tours to Denver

Explicit connection between the study tours and specific policy outcomes could be identified for seven urban mobility related projects and for five concrete bike lane projects:

6.3.4.1. Urban Mobility Related Projects:

Bike Network

As described in the previous chapters, the study tour to Spain in April 2018 had the specific aim of learning to apply it to the new Denver bike network plan, which is due at the end of 2018 (8C). The reasons why they specifically went to Spain were the framework conditions were regarded as fitting to those in Denver and it seemed achievable. As the Denver bike network plan is still in the planning phase, one cannot yet say the extent to which the study tour had an impact on it. However, as 1A stated, it has "the potential" to directly impact the design of the Denver network. At the time of the interview, 4A had the task of implementing the lessons learned from the study tour, which were reported to him by the people that had been on the trip. He also had to send this adapted plan to the organizers of the study tour, the US bike advocacy group People for Bikes.

Shared Street

The study tour to the Netherlands in 2015 inspired especially 2A to try the shared street concept in Denver. The idea came to her because the shared street they saw on the trip greatly reminded her of a location in Denver, where more or less the same framework conditions exist (old train track, industrial area, small space for trucks and cars). This street in Denver is currently in the construction phase. Beyond the inspiration for this project, the study tour also enabled the realization of that project in another way: the necessary support to receive funding for it was, according to 2A, gained through the study tours. As she explained, when they had to pitch projects to receive funding “no one batted an eye” in voting in favor of the shared street, because “they had all been on the study tour and could understand it”. Two of those supporting it were in Denmark in 2014 (employees of DPW) and one was a council member that has been on a tour.

Furthermore, 2A emphasized much on the standards that need to be set for the shared street design in Denver. For the creation of these it will, according to 2A, be looked to the Netherlands, “because that’s what inspired us” as well as to two already existing shared streets in Denver.

Bike Bridge

As 7C proudly pointed out, they will build now a bike friendly bridge that is currently in the design process and should open in 2020 (see City and County of Denver, 2018c). He was inspired to do because of the study tour to the Netherlands in 2015. Before the building of this new bridge, he was already involved in the design and construction of the pedestrian bridge at Denver’s Blake Station, however, there was not yet enough funding to make it bike friendly (it only has stairs and an elevator) (7C). The Picture 11 below shows the design of the new bike friendly bridge.



Picture 11: Planned bike friendly bridge in Denver; Source: City and Council of Denver (2018c)

Bike Commuter Station

14F told me about a bike commuter station that he tried to build at Denver Union Station. He stated that the general idea is based on examples in America; however, after his study tour to Denmark (2016), he came back with some alternative ideas. Finally, he updated me in an additional e-mail response that this bike commuter stations will not be realized. Instead, bike racks with cages for

security along the main shopping street, the 16th street, will be installed. The funding for those is not entirely safeguarded. The aim is to have them built by 2019.

Equipment

One aspect in the development of bicycle infrastructure in Denver was the need for fitting machines and equipment to maintain the bike ways, as explained in the interviews. The regular equipment Denver Public Works had was far too big to fit the narrow bike ways, especially the protected ones (3A). This was especially for 3A an important aspect to learn from the study tour to the Netherlands in 2015. As 1A explained:

“He was really looking at all the details and the design and the elements and he came back and did tons of research on different kinds of equipment and then bought it.” – 1A

Denver Public Works purchased four machines: one special sweeper and three small enough snow removal machines (3A).

Use of Colors

People on the Dutch study tours (2015) were specifically inspired by the way they use the color red to make the bike network easily comprehensible. This is also one of the specific cases for which the group compositions of people from different departments within Denver Public Works was explained as very helpful. It enabled 3A to explain to the planners what is possible and what is not. Regarding the colors, 3A could explain that red, which is the designated bike lane color in the Netherlands, would be more easily possible than green. However, the standard color in the United States is green and the costs for green are much higher than for red. That is why 3A explained:

“We’re not there yet. I think we keep looking towards that. It is doable at some point to make that more consistent for cycle lanes to have specific colors.” - 3A

General Elements of Transfer

This refers to transferred elements, which cannot be allocated to a specific project or location. These things are:

- Trying different materials and design techniques, of which some were learned on the study tour. (1A)
- Better placement of street design elements, guiding facilities and crossings, such as the location for new throughways. (3A)
- The need to do or acquire certain things was recognized, e.g. parking stations, design guides and planning standards for bicycles. (4A)
- 14F was very inspired by the predictability of the Danish system and by the bike counters. However, he says it was nearly impossible bringing any of this to Denver and the effects were “marginal”.

6.3.4.2. Denver Bike Lanes

2015 - Lawrence & Arapahoe Protected Bike Lane

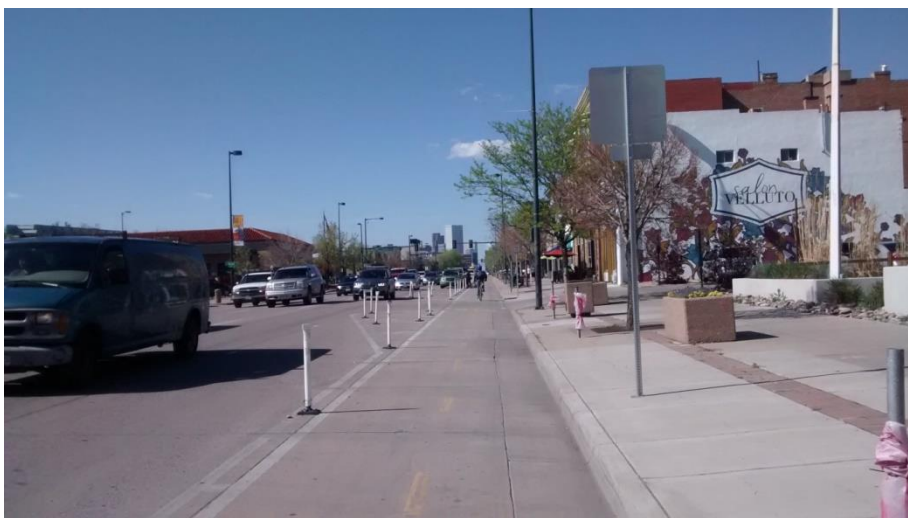
12E sees a connection between the study tours and the protected bike lanes on Lawrence and Arapahoe Street. Both bike lanes got converted from regular bike lanes to protected ones in 2015 (City and County of Denver, 2015a). They were the first protected bike lanes in Denver that were separated from the street through a row of parked cars (the previous protected bike lanes were protected through vertical plastic posts). The statement of 12E was rather to underline the generally increasing support for bike lanes and particularly protected ones in Denver and not regarding specific transfer of certain designs:

“I think the embrace of protected bike lanes in Denver is relatively new and I think partly attributable to those trips. [...] [The study tours] helped to build support for doing that in Denver [...] [it] really helped build support here politically” – 12E

2016 - Broadway Protected Bike Lane

The Broadway protected bike lane was at the time of the interviews the most discussed and contested bike lane in Denver. Most interviewees spoke about it and also in my participatory observation it came up several times. It is a protected bike lane in one of Denver’s major exit roads to the South. Picture 12 below gives an impression of the current street situation (2018). The protected bike lane was constructed in 2016 (City and County of Denver, 2016).

The whole procedure of the implementation of this protected bike lane was a long process with many discussions as outlined by many interviews. In relation to this project, 10D and 3A clearly stated that without the experience of the study tour to the Netherlands they would have never pushed for it so hard. 10D personally got put in very precarious situations and also 4A told me about hate letters he received from opponents of this project. Despite this opposition, the Broadway protected bike lane was constructed, which was told from the side of Denver Public Works and elected officials with pride. However, it is also criticized by several interviewees to be poorly integrated with the rest of the Denver’s existing bike network.



Picture 12: Broadway protected bike way; Source: own picture (May 2018)

2017 - 19th and 20th Street partly Protected Bike Lane

According to 7C, these were the first streets where from the beginning of its reconstruction they considered all modes of transport. Although the planning for it already happened before the study tour to the Netherlands in 2015, 7C “changed some of the design to kind of mimic what Amsterdam was doing” (7C).

Also 14F confirms that the construction was influenced by the study tour, as two project managers that were involved in this project were with her on the study tour and she could recognize the things discussed on the tour in the realized protected bike lane.

Looking at the design of these bike lanes, one recognizes parts of the protected bike lane that are protected through raised concrete curbs (see Picture 13 below). This is also practice in the Netherlands as shown on Picture 14. The design for the 19th and 20th street conversion was finalized in 2016 and the construction was completed in 2017 (see City and County of Denver, 2017a).

2017 - 14th Street Protected Bike Lane

It was generally pointed out that the whole trend towards protected bike lanes in Denver is partly due to the study tours. As 7C explained:

“So now you’re seeing instead of just signage or striping in the street that says, for bikes and cars we’re now doing protected bike lanes. So if you walk down 14th street here, for example [...] originally it was just a striped bike lane [...] but now we’re getting into more of the protected bike lanes. We just completed a project about three weeks ago and added another protected bike lane” – 7C

10D also confirmed that the timing of the 14th street conversion to a protected bike lane was just between the study tours of 2015 and 2018. The new 14th street protected bike lane was constructed in 2017 and it is also designed with a foot-wide raised concrete curb between parking and bike lane (City and County of Denver, 2017d). Again, this is often the separation design one can see in the Netherlands (see Picture 14).

14F also lobbied for a protected intersection (for either 14th street or the Lawrence & Arapahoe Street) as she has seen in the Netherlands (see example on Picture 14), however this was not realized. Presently, Denver has no protected intersections (11E).



Picture 13: 19th street curb protected bike way; Source: own picture (May 2018)



Picture 14: Amsterdam, Valeriusplein, bicycle crossing with curb protection; Source: own picture (June 2018)

6.3.5. Barriers to Policy Transfer

In the interviews, various barriers could be identified and were grouped into: cultural/past policies, administrative/legal, financial/political and physical barriers. A thorough discussion of those results is in chapter *Discussion: Barriers to the Transfer of Policies and Social Learning in Denver*. In this part of the work, it is only laid out what interviewees referred to. The chapter structure was originally based on the categorizations given by other scholars in the field (see page 28) and then, through the interview analysis process, which allowed adding categories (see Mayring, 1991), new categories were added. The following chapters follow the inductive categorization process.

6.3.5.1. Cultural/Past Policies

Cultural barriers were dominant in the interviews conducted. As 1A described:

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“It's that translation into the context here and I don't know that the translation from an engineering perspective necessarily is harder, as from a design perspective, it's the cultural perspective, that's the hardest of all of them. That's where we struggle and that's what holds us back.” - 1A

According to several interviewees, for many Denverites it is difficult to understand cycling as a mode of urban transportation. It is largely seen as a hobby for leisure on the weekend, but the bicycle as a way to get from A to B is not very established in Denver (1A,10D). Furthermore, people who cycle in the city are often attributed with certain clichés, as one interview partner put it “super eco” or simply poor. However, also another cliché is present: the urban cyclist as a forerunner of gentrification, representing a “male 20 to 40 white kind of thing” (13E). Regarding that, interviewee 13E criticized that cycling in the US is marketed for white people and looking towards Europe enforces that perception of people because, according to him, many Americans see Europe as a “white continent” with less diversity compared to the United States. Generally, interviewees described that for some people there is just a barrier in looking towards Europe, as they dismiss it from the beginning as “too different”. As 12E put it, one has to overcome this “psychological resistance”. However, it is not only resistance to looking to Europe. It was also described that some people just see Denver as so unique that comparisons with other US cities are also difficult as for example “they don't want to be like New York City” (12E). However, it was described that due to the many new inhabitants of Denver of whom many came from those bigger cities, more acceptance is developing. My participatory observation in the Denver cycling community supports this; many people moved to Denver and also saw the group cycle activities as a social event to meet new like-minded friends.

More specific cultural differences described were the American “love” for big trucks, streets and machinery and the higher importance of speed and time efficiency in the US compared to cities they have seen on the study tours, or other places visited privately that interviewees liked to learn from (3A, 5A, 4A, 7C, 10D, 14F). The large size infrastructure and vehicles are particularly supported by the fire brigades that claim they need their big trucks to put out fires (3A, 5A). The difference in time efficiency is also related to the way people dress when cycling and the type of bicycle they use (4A, 10D). It was recognized that in the Netherlands people wear all kinds of clothes, no helmet, often transport goods or other people and use an easy mountable Dutch bike (see Picture 15). In comparison, in Denver people mostly have racing bikes and wear sports clothes (see Picture 16). 14F described the difference between Europe and the United States as follows:

“I think the European way of life is very different and people are more accepting of patience. [...] there was more of a sense of the greater good and willingness to do things for the greater good as opposed to in America.” - 14F

Results



Picture 15 Woman with kids cycling in Amsterdam; Source: own picture (July 2018)



Picture 16 Woman cycling in Denver; Source: own picture (May 2018)

Furthermore, several interview partners (5A, 11E, 14F) referred to their “western US heritage” and its strong car dominance as making it more difficult to establish cycling in Denver. This was for them especially differing from best-practice countries such as the Netherlands, where cycling has actively been promoted for more than 40 years. Also regarding mass transit, it “has never been embraced the way it is in other cities around the world” (14F). Regarding these vast differences in their historical development, interview partners showed frustration when comparing the Netherlands or Denmark to their home country:

“I’m frustrated when I see European bike infrastructure because we are so far behind in the United States. I look at it and I think this is the way it should be.” - 11E

This feeling of being so far behind these best-practice countries gave motivation for the study tour to Spain (1A, 10D). The starting position of Seville and Barcelona were regarded as more similar to those in Denver and the bike network those cities have achieved in a short period of time were seen as a realistic goal for Denver to reach within the next couple of years.

6.3.5.2. Administrative /Legal

Especially interviewee 9C underlined the following differences between Europe and the US/Denver:

- High differences in gasoline prices: in the Netherlands it is very expensive whereas in the US it is very cheap.²³
- Much higher cost in the Netherlands compared to Denver/US to purchase a car and to park it.
- Differences in property rights.
- The very different overall taxation system between the countries²⁴ – through this system Denver receives little revenue from taxes to build out better infrastructure.

Especially 9C (“control group”) criticized the lack of awareness when being on international study tours about these major differences. According to him, it does not make sense to pursue the Dutch model as long as these framework conditions are not changed. As he put it: “It’s the whole structure that’s different”. Also other interviewees underlined the different “political climate” (4A) and “layers of bureaucracy” (6B) that need to be overcome.

Another barrier to change was also described in the reluctance of some civil servants to change. This was only especially emphasized by 3A, who is not in the transportation planning department himself, but closely works together with them. Another organizational barrier, as already laid out in the previous chapters, is the difficulty of keeping the commitment gained on the study tour alive between all other tasks waiting at home. ES tour delegates are especially aware of this and ES delegates interviewed mentioned several times, that it is the task now to keep up that commitment (about 1 month after the ST). For 14F after his tour to Denmark in 2016, this commitment could not be kept, hence leading to his frustration.

6.3.5.3. Funding /Political Will

The lack of financial resources for the building out of sustainable infrastructure (9C, 15F) also relates to the identified barrier of the different tax system. Moreover, the lack of funding was present in every interview, not only in relation to concrete learning from the study tours but more as the general “roadblock” in Denver’s attempt to make mobility more sustainable. In the chapter *Current Situation and Achievements in Denver*, this aspect was already elaborated. As the heading of this chapter indicates, interviewees expressed that a lack of political will exists, which makes it more difficult to apply lessons learned from the study tours, as well as does it limit funding. 10D pointed out the large differences in the amount of money the Netherlands spends on cycling infrastructure

²³ Comment by the author: The Netherlands have the world’s second highest gasoline prices (after Norway) with \$7,46 per gallon, compared to the United States with \$2,99 per gallon (statista, 2018).

²⁴ Comment by the author: Generally Colorado is a moderate (Forbes, 2018) to low-tax state (CNN, 2018), and the whole US has compared to the OECD average a low tax-to-GDP ratio with 26% compared to 34% OECD average and even 39% in the Netherlands (OECD, 2017b)

compared to Denver. For him, seeing that Spain (ES tour in 2018) could achieve something that seemed more realistic for Denver was very helpful.

As 7C put it, there is a competition between many important policies ranging from public schools to road paving and all need to be covered.

14F summarizes his feeling of coming home and facing the barriers as such:

“You come back and then you come back in the rat race of everyday life [...]. The trajectory of the way people think in the battle that we all face for resources and getting things done I don't feel like there was significant change. [...] The realities of everyday life become overwhelming” - 14F

6.3.5.4. Geographical Differences

Regarding the maintenance of the protected cycle ways and paths, 3A pointed out that it was difficult to learn from the Netherlands, as the quantity of snow is a lot higher in Denver than in the Netherlands. Therefore, the exactly machines used in the Netherlands are not useful for Denver. Furthermore, 15F pointed to the different street structure that exists in Denver and according to her, this makes the installation of protected intersections “very challenging”.

7. Answering the Research Questions & Discussion of the Results

This discussion will outline the results of the three sub-research questions posed and thereby refer to the main variables derived from the theories used, as shown in Table 8 (2nd column).

7.1. Research Question 1

How do organizations learn from international study tours on sustainable urban mobility?

Survey respondents were people that were on study tours to NL, DK, ES, the summarized group that were all in more than one country and the group of “others”, which summarized the destinations of Japan, France, Sweden, Germany and Canada. The way the last category, summarized as “others”, differed most from all the other country destinations was its study tour design. “Others” differed through: different tour durations, it had the tour as a framework of another program and the mode of transport was different, as well as the agenda setting on the tour. All interview partners that were on study tours belong to the group of the majority of survey respondents in terms of their tour agenda and destinations (DK, NL, ES). From the survey, the majority of people were in the Netherlands (60%), followed by the other countries (in order: DK, ES, more than one destination, “others”). The smallest group of “others” only represents 5% of the survey respondents.

The majority of the people that were on a Dutch study tour are also visible in the results of the separated indicators in relation to the overall outcome. Survey respondents, referring to a tour in the Netherlands, reach the average scoring on organizational learning outcomes. Denmark is above this average, Spain slightly below average and the summarized groups of people that went to more countries and the little represented countries of “others” are well below the average outcome.

Putting everything together, it is not surprising, yet important, that factors which were given for the dominating countries (NL, DK, ES) led to better organizational outcomes: the bicycle as main mode of transportation does lead to outcomes slightly above the average and having no other framework program besides the study tour leads to results slightly above average. The group size of the study tour group seem independent from the country destination and no clear patterns are visible. The results show that the group size of 4 to 6 people led to the best organizational learning outcomes. Group sizes in between 4 and 20 participants generally show positive learning results compared to all outcomes. The competence of the tour guide was very positively rated for all country destinations to a large majority and hence has no significance for the organizational learning outcome. The same is true for when the study tour occurred: for the timeframe covered from the survey respondents (2009-2018), it does not seem to impact the organizational learning result.

As these results on the study tour agenda show, the design of the study tour (see Rouwette et al., 2002) does impact the organizational learning outcome. The agenda was one important aspect according to Rouwette et al. (2002) and research shows, that it is important to consider to designs a study tour to better learn from it. Concerning the Denver case study, all interviewees who were on a study tour belonged to the group that did a study tour in an advantageous design (according to the parameter just identified through the survey results) for the organizational outcome.²⁵ In the interviews regarding the ST agenda, emphasized the most was the importance of actively cycling around the city/cities themselves because this helped them better to understand how things work and play together. The importance of the experience in the learning city to help the delegates learn was also shown through the survey results. These findings confirm the suggestion that international study tours that are in smaller groups and combine learning with “emotion and action” (Argyris, 1993, p. 55) offer better preconditions for double-loop learning as described by Argyris and Schön (Argyris, 1976, 1993; Argyris & Schön, 1978).

Besides these “hard” variables of the study tour, the study tour happens (mostly) in a group setting. The group in/with which is learned is according to Argyris (1978, p. 18) important and the group dynamic was measured according to indicators derived from Rouwette et al. (2002). The survey analysis provides evidence that positive outcomes on the study tour group level, such as the building out of “trust” and a “shared vision” (see Greenlee & Karanxha, 2010, p. 365; Rouwette et al., 2002, p. 25; Schulz et al., 2003, p. 251) among the ST group significantly influences the organizational learning outcome. What is additionally important regarding the study tour group is the power (see Nafukho et al., 2017; Schulz et al., 2003, p. 251) of individuals in the group. People that have power themselves doing a study tour, as well as being part of a study tour which has powerful people on it positively influences the organizational learning outcome according to the survey. Regarding the Denver case study, this can be confirmed. Denver did send powerful people on study tours and outcomes on the organizational level and specifically on the policy level strongly relate to the power of the individuals on the study tour. Further, it was recognized for the case study that positively measured indicators of the group dynamic enhance the outcome. As an example, the interviews especially highlighted the importance of having people from different departments/organizations on the study tour group, as this helped them to envision similar things together (relating to “shared view of problems or actions” (Rouwette et al., 2002, p. 25)) for Denver. Another indicator on the study tour group was the level of how well the tour participants knew each other (see Schulz et al., 2003, p. 251) before the study tour. According to the analyzed survey results, knowing people already before the tour had a significantly positive influence on the organizational learning outcome. Also in the interviews, it was specifically emphasized by one person that knowing the team with whom he was on a study tour beforehand and already having a common goal and shared motivation (see Argyris & Schön, 1978; Rouwette et

²⁵ This relates to the fact, that all study tour delegates interviewed from Denver, were on trips organized by the US-based NGO People for Bikes. At the same time, as explained in the Methodology Chapter, contacts provided by this organization did also dominate the survey distribution contact list.

al., 2002; Schulz et al., 2003, p. 251) on what to achieve especially helped to get things done afterwards in Denver.

This leads to the next measured influence factor. The analyzed survey results showed that no significant relation exists between organizational openness (see Argyris & Schön, 1978; Bates & Holton, 2012b; Holton, Bates, Noe, et al., 2000; Preskill & Torres, 1999) in relation to the organizational outcomes. The information derived from the interviews further helped to explain the relation between those variables and shows a slightly different and deepened picture in comparison to the survey. According to the interviews, organizational openness, in this aspect indicated through the support of supervisors to learn new (see Holton, Bates, Noe, et al., 2000, p. 340) was important to even lead to going on international study tours. Also in the survey item that measures organizational openness, the support from managers and supervisors (see Holton, Bates, Noe, et al., 2000, p. 340) that support gaining knowledge was the highest. This further supports the conclusion that organizational openness must to some degree already exist to engage in a learning process through study tours. Organizational openness, in terms of having time and financial resources to try new things on the job (see Holton, Bates, Noe, et al., 2000), was in the case study, however, also identified as a barrier to keep up the commitment of the study tour back home (the barriers will be thoroughly discussed on page 116).

According to the survey results, the findings provide clear evidence that a gain in individual knowledge (see Nafukho et al., 2017; Rouwette et al., 2002, p. 9f) significantly influences the organizational learning outcome. This leads to the logical conclusion, as underlined by the survey results, that sharing this gained knowledge ("knowledge externalization") (see Nonaka & Takeuchi, 1995a) in the working field at home, is most of all important for increasing the organizational outcome. Furthermore, the survey analysis shows that formal ways of reporting back (see Nonaka & Takeuchi, 1995a), like presentations, formal discussions and writing reports are more effective in the resulting organizational learning outcome than informal ways of sharing knowledge (e.g. informal discussions, showing pictures) (ibid.). So far, most of the survey respondents, however, report back in informal ways (59%) most of all through sharing their experiences, personal anecdotes, then followed by facts and data. This relates back to the aspect of learning with "emotion and action" (Argyris, 1993, p. 55), which positively influences the study tour outcome. These results show that, tacit knowledge (see Nonaka & Takeuchi, 1995a) gained through the active experience in the city is the most important, yet in order to be of value for the whole organization it needs to be translated into explicit knowledge (see Nonaka & Takeuchi, 1995a) and then best to be shared in formal ways. This knowledge externalization from tacit to explicit knowledge is happening (Q46 shows that nearly 90% share the knowledge in the job and 71% even with their supervisors) and hence has a strong positive influence on the result. Although the survey shows the importance of formal reporting back, this should not dismiss informal sharing. Jointly looking at the results from the survey and the interviews indicate that a combination of both ways of sharing is most beneficial (also in the survey informal sharing still led to outcomes slightly above average). On the one hand, formal ways of sharing are important, especially, because they highlight the prominence of the subject, as for example, the formal meeting between the ES study tour delegates and a whole other team to together work on the Denver bike network. This again stresses the importance of power. On the other hand, informal ways of sharing played a role in many other aspects. Stories and anecdotes about the study tours reached people working in different, but collaborating, organizations. The

power of pictures especially showed in the enthusiasm that suddenly came up in the otherwise rather critical 14F interview partner. Moreover, pictures and personal stories are popular to be used to convince people at home that have not been on a tour as explained by several interviewees.

7.2. Research Question 2

What are the outcomes on the individual, group, organizational and policy level?

Discussion: Personal/Individual Learning Outcomes

On the individual level, survey and interviews show that ideas and inspiration is the outcome that occurs most often. All interview partners that were on a study tour did learn to this extent. Further, individual learning outcomes from the interviews reflect the outcomes of the survey; personal behavior change (see Nafukho et al., 2017; Rouwette et al., 2002, p. 9f; Schulz et al., 2003, p. 251) for both methodological approaches appeared the least. Moreover, the survey and interviews show the common result that study tours to the Netherlands show the most personal behavioral change. In the interviews, it was also reported that one other Denver delegate (who I could not interview) had changed as a result of his study tour to Denmark. From this, one could draw the assumption that “classical” cycling best-practice countries trigger more personal behavioral change compared to others, such as Spain. Further research would have to be done on that subject to make a more definitive statement. However, what was also recognized is that inspiration and the showing of enthusiasm resulted more from study tours to those “classical” best-practice countries (10D, 1A were on both and referred more to the NL tour when talking about inspiration, 8C who was only on ES tour was much more fact and output oriented, the rest was in NL/DK and was rather enthusiastic talking about it). This again relates to the main underlying motivation (see Bates & Holton, 2012b; Nafukho et al., 2017; Preskill & Torres, 1999; Rouwette et al., 2002) for going on a study tour. According to one interview partner, inspiration and “seeing it was possible” was the main aim for the NL trip, whereas the ES trip was much more strategically and high-level with the explicit goal to learn for the Denver bike network plan.

Regarding people’s individual shift in setting their priorities and questioning the given system (see Argyris & Schön, 1978), the Denver case study showed that former study tour delegates that were already convinced of cycling as mode of urban transportation before their trip began, did shift in their understanding of how it could be achieved. People that were described as rather critical towards cycling as a mode of transportation shifted towards being more open to it. Generally, most that were not entirely convinced of cycling before the trip described that they could not imagine cycling for Denver, which in all those cases changed. All interviewees that were on a study tour can now be described as advocates for advancing cycling in Denver.

Discussion: Study Tour-Group Learning Outcomes

Outcomes on the group level mainly refer to the theory of Rouwette et al. (2002) and were analyzed along the main variables as given in Table 8. The indicators as measured in the survey, “sense of trust among the group” and “development of a shared vision” (Rouwette et al., 2002, p. 24ff), were both

to a high majority agreed (strongly and somewhat after the Likert-scale) and also in the case study both indicators could be identified. These were seen through the description of a place for “safe conversation” and through the described group process which helped to better imagine things seen for the local Denver context. Both descriptions referred to NL study tours. The only interviewee I had who was on a DK study tour showed most frustration when talking about results from the study tour. Denmark is also in the survey the country with the worst outcomes on the group level. Further research would have to be conducted to shed light on why these differences exist. For the interviewee from the DK tour, frustration was based on his experience coming back to Denver and not being able to go on with the ideas and commitments developed on the study tour (the barriers to that will be discussed on page 116). In other cases, the shared enthusiasm and motivation from the tour could be discerned and the way projects were done was explicitly influenced by the study tour, e.g. the construction of the Larimer/Lawrence bike lane (see chapter *Policy Transfer from International Study Tours to Denver*). An additionally inductive category that was added for the description of study tour group outcomes is the agreement on “shared action” among the study tour group. That factor was especially relevant for the ES study tour, as delegates from this tour referred often to further actions they took (or will take at the point of the interviews).

Discussion: Organizational Learning Outcomes

According to the definition of organizational learning (Argyris & Schön, 1996, p. 16), organizations have learned when the learned material becomes “embedded in the images of the organization held by its members’ minds and/or in the epistemological artifacts”. Generally, the research shows that study tours, in the tour design and variables as examined in the case study, did positively impact the organizations involved in the way urban mobility is approached. Both indicators (1. “Embedded in the images of the organization held by its members’ minds”; 2. “the epistemological artifacts”) after Argyris (1996, p. 16) could be identified in case study and survey.

Concerning the first indicator, the research showed that the interviewees who were on a study tour did together with their shift in understanding, as described in chapter *Personal/Individual Learning Outcomes* also shift the way they approached projects at work. As the correlated survey results show, as well as described by prior studies (Colomb, 2007, p. 361; Kemp & Weehuizen, 2005, p. 4; Nonaka & Takeuchi, 1995a, p. 13; Tedesco, 2010, p. 185f), the individual learning does have a major influence on the organizational learning outcome. The best example for this process is the changed understanding in transportation planning of one interviewee (key word “complete street”) and his continuous attempt since to make this happen in Denver through his projects and his advocating for it among other colleagues. In this advocating process, knowledge externalization in informal ways (see Nonaka & Takeuchi, 1995a) plays an important role, as many interviewees reported to use their gained ST knowledge to persuade others who did not have the chance to go on a study tour.

The second indicator after Argyris and Schön (1996, p. 16), the “epistemological artifacts”, can be attributed to the survey result, which showed that influence on projects was the most occurring organizational learning outcome (74% strongly or somewhat agree). For the case study, the following chapter, *Discussion: Policy Transfer Outcomes*, outlines the projects that could be identified as influenced by the study tour and hence show the “epistemological artifacts” (see Argyris & Schön, 1996, p. 16) of learning.

According to the survey, the next most important outcome after the influence on projects is the enhanced coordination between organizations that influence urban mobility in the city (see Banister, 2005). This improved coordination between organizations and departments within the same organization in the city could, in some cases, explicitly be identified for Denver. Expressions of it would be the commonly developed “roadmap” on the ES study tour on how to proceed with the Denver bicycle network. In this common approach, of my interviewees alone, three partners are involved from three different organizations (DPW, Mayor’s Office and the Denver City Council). Another finding was the organizational changes in one of the Denver bike advocacy groups, which ties back to the “safe conversation” happening among the study tour delegates from different Denver organizations on the NL 2015 study tour. Generally, important coordination improvements occur on the study tour itself, as described above, the group process and the sharing of knowledge from the individuals’ fields of work was important to identify possible lessons (transfers) for projects in the Denver context. This coordination might not always be kept when returning home, however, as one individual clearly stated, she thinks that “this culture of coordination” didn’t exist before the study tours in Denver.

Discussion: Policy Transfer Outcomes

The Policy Transfer outcomes reveal in closer detail which projects were by which means influenced by study tours undertaken from the interviewed Denver delegates. In all cases, the study tours were not the only and main source of inspiration. This leads to difficulty in categorizing the exact nature of transfer; it was rather a combination of insights from other places and probed habits, norms and standards normally used in Denver. The transfers that occurred most can be described as “ideational transfer” (Marsden et al., 2011) and physically oriented. For example one interviewee described he got inspired to realize a bike friendly bridge in Denver through his study tour experience in the Netherlands (see *Bike Bridge*). The design of this bridge (see Picture 11) does not enable making conclusions of the precise extent that elements from the Netherlands were considered. He did not specifically point out any specific elements that directly transferred; he rather drew to the inspiration for the general idea of doing and pushing for such a project. The other identified Denver projects are also based more on this ideational nature. The example of the Broadway protected bike lane (see *2016 - Broadway Protected Bike Lane*) confirms the direct relation between the study tours and Denver’s stronger devotion to protected bike lanes. Two interviewees involved in that process explicitly stated they would not have had such a strong standing in getting it though were it not for the study tour. From the identified projects, the most promising for “higher” levels of direct transfer (see Marsden & Stead, 2011, p. 494) is the Denver bike network. The study tour to Spain was very much focused on this precise output and, at the time of the interviews, one interviewee, who was not on a study tour, was in the process of implementing the things learned by the delegates on the ES trip and reported to him (importance of knowledge transfer!), into the current design of the bike network plan. This plan is due at the end of 2018; hence the result cannot be evaluated here.

Furthermore, the improved bike lane protection from plastic pollards to concrete curbs could be seen as an emulation of a “small-scale built environment feature” (see Pojani & Stead, 2015, p. 1571).

Discussion: Barriers to the Transfer of Policies and Social Learning in Denver

In this part of the discussion, I draw together the barriers for concrete policy transfer and the overall barriers for social learning in Denver. As policy transfer is an outcome of social learning (see Stone, 2001, p. 35), the barriers overlap to large degrees.

As examples of the listed projects in the Policy Transfer Outcomes results (see chapter *Policy Transfer from International Study Tours to Denver*) show, in some cases, the original idea of transfer for several reasons were either drastically reduced in form (e.g. bike commuter station) or did not happen at all (e.g. protected intersection). Regarding the most frequently reported outcome of inspiration in relation to the concrete projects that were identified as influenced by the study tours and the associated level of transfer (see Marsden & Stead, 2011, p. 494), it is clear that only few ideas lead to some degree of implementation (“hard” outcome of the study tours). Barriers to implementation are manifold and many scholars already discussed them (Marsden et al., 2011; Pojani & Stead, 2014, 2015; Thomas & Bertolini, 2015), as described in the theoretical framework of this work. I summarized the analysis of the barriers under the three main key words: *cultural, legal, political barriers*, looking at categorizations of other scholars in the field (Dolowitz & Marsh, 2000; Marsden & Stead, 2011; Spaans & Louw, 2009; Thomas & Bertolini, 2015).

Many interviewees stressed the cultural differences between the study tour context and the local Denver context. Aspects described show that, in many cases, the differing past policies between the “giver” and the “donor” country led to the now perceived “cultural” differences. One example of this would be the description of Denver as a “western city” where the “car is king”, which makes it, according to interviewees, especially difficult to build out sustainable modes of transport. As shown in the historical background (see chapter *Denver from its Origins until Today*), the dominance of the car in America has developed as a result of past (and also current) policies and henceforth turned into a “practical tool to explain the invisible and taken-for-granted values” according to Harris (1999, p. 25) definition of the term “culture”. However, with the emphasis on “western” heritage also another aspect was emphasized: Denver’s isolated position within the US and its “harsh” climate. Hence, it is also different from other, more central US-cities. The described stronger “individualism” in Denver compared to other places can be connected to this rough climate and Colorado’s mining history, according to Leonard and Noel (1990, p. 253). Nevertheless, Banister (2005, p. 80) also points out that generally in Europe the focus in transportation planning is on “equity,” whereas in the US it is on “efficiency”. This is further highlighted by the reported importance of time and speed in Denver and the problem many citizens therefore have with the installations of bike infrastructure, as they fear this will prolong their commute to work. Concluding, the overall differences between the US and Europe/Netherlands as described by other scholars (Banister, 2005, p. 80) is mirrored in the Denver case. Thereby this difference is hardened through Denver’s isolated position and historical development.

Also, these cultural differences were often pointed out when it came to “educating” the public or other stakeholders, colleagues etc.. According to one interviewee, the most difficult aspects to transfer are the “cultural perspective”. This is also what reflects her own experience on the study tour: she could through the experience of the trip understand things that “could not be explained”. Here again demonstrates the learning of implicit knowledge and the importance of knowledge externalization (see Nonaka & Takeuchi, 1995a). The predominance of using other US-examples as

showcasing examples to learn from relates much to the aspect of “common culture” and the resistant of people to accept a country as different as the Netherlands as a possible peer-country to learn from. This research showed the active experience in those more different environments leads to a fascination that then again turns into action; however, using those same examples in Denver for people who could not actively experience it is difficult.

Many of the stated barriers lead back to the given political-administrative system, for example, stated differences in the taxation system and the low gasoline prices compared to Europe. This gives the public sector less resources to spend on investments like public transport and supports the use of cars, as they are not competitive (in price and speed) compared to other (sustainable) modes of transport. Generally, the lack of financial resources was the most present barrier referred to and the indicated reasons for it were several, of which all probably play together. For many, it was the lack of commitment from the mayor to spend more money on it and the following of a very “deliberate planning process”, which prolongs concrete action. People in higher ranking positions claimed the reason for the lack of financial resources is the lack of support from the state and/or federal level. The direct impact of the federal government on the local level is limited, as Colorado is a “local control” state (Articles XX and XIV of the Colorado Constitution). However, according to one interviewee, in the past, federal funds helped to support sustainable mobility projects, but, nowadays, under the current Trump-Administration, no support exists for promoting sustainable modes of transport. In both past and present, the federal government influences mobility mostly by funding highways, such as the I-70 highway extension currently happening in Denver (see City and County of Denver, 2015b).

Relating back to the described lack of commitment by the mayor, this again also connects to the political system. As explained in the interviews, Denver has a “strong mayor system” and hence he has the most power on final decisions. One can conclude from the interviews that a stronger commitment by him is desired in order to enhance sustainable mobility. This lack of political will can be traced to fear of the public reaction as well as pressure from certain business communities. Hence this demonstrates that the “play of power” and struggle to stay popular, as described in Social Learning Theory (Bennett & Howlett, 1992; Stone, 2001). That in combination with the strong role of the mayor often hinders measures towards more sustainable mobility which would otherwise be possible on the local level (e.g. statement concerning congestion charges: “we are politically not there yet”).

The overall Denver economic situation played as shown in the chapter *Denver from its Origins until Today*, always a very important role in the development of the city. Currently, Denver is again in a “boom” phase, with much population growth. As far as my research could get insight, the business community of Denver downtown is a strong facilitator of more sustainable transport. This is also shown in the much better cycling infrastructure in Denver downtown, compared to the rest of the city and the goals laid out by the interviewee representing the Denver Downtown Partnership. Nevertheless, other businesses and private investors are also holding back, as described in the interviews. More in depth research must be conducted in order to get deeper insight into those aspects.

Generally regarding the type elements transferred, it is mostly elements of the built environment rather than legal, financial, or administrative planning tools. As the transfers described (see chapter

Policy Transfer from International Study Tours to Denver) showed, physical transfer is enhanced when physical conditions are comparable (e.g. shared street example). The more complex instruments to trigger sustainable mobility such as “legal, administrative and financial planning tools” (Poiani & Stead, 2015, p. 1570) were in the case of Denver never directly mentioned as things learned from the study tours. This could relate to the previous scholars who identified barriers of “policy complexity” (see Marsden & Stead, 2011, p. 494). However, regarding the information gained in the interviews, learning about these more complex policies does not seem to have been the concrete intention of the study tours. The most complex learning aim is visible in the ES tour, with the specific goal to build out the bike network in the same fast pace as the visited city, Seville, managed. In general, all lessons learned must be translated in the local context and the more direct transfer of physical developments is easier, as the deciding power is mostly on the local level. In comparison to changes in, for example, the taxation system, which is not a competence the Denver local level could address. Nevertheless, also on the local level more progressive changes would be possible, yet due to the barriers laid out above policy learning in those aspects is difficult.

The discussion on the social learning results in the next chapter will lay out the direct and indirect influence of the study tours in the overall Denver policy context.

7.3. Research Question 3

To what extent do the outcomes of the study tours influence social learning in Denver?

Regarding social learning in Denver, a general development towards sustainable mobility is visible. As the chapter *Level of Policy Change over Time* shows, this change started around the year of 2008/2009. From my research, it can definitely be said that international study tours were not the kick-off for this change. Rather in the course of this change, study tours came on the agenda to further enhance organizational capacity in order to better deal with the change. As described by Marsden et al. (Marsden et al., 2011) and scholars in the field of organizational learning (Argyris, 1976; Bates & Holton, 2012b; Nafukho et al., 2017), the research showed that an “outward looking organizational culture” (Marsden & Stead, 2011, p. 509) is necessary to even engage in such a process. In Denver this “outward looking culture” was much shaped by one civil servant, identified from most interviewees as “driver”.

Drawing connections with the learning from the international study tours and social learning in Denver explicit is difficult. As shown in the whole Denver Social Learning process (chapter *Social Learning in Denver*) and discussed in the previous chapter (see *Discussion: Barriers to the Transfer of Policies and Social Learning in Denver*), the influence factors regarding the reasons policies do not get transferred can be summarized as system structure, different political and economic interests and cultural habits, shaped through past (as well as present) policies. As laid out in the theory part of this work, policy transfer can be an outcome of the social learning process (see Stone, 2001, p. 35), and hence the barriers for social learning in Denver, also describe the same factors. Nevertheless, besides limiting influences, many positively enforcing powers towards more sustainable transport pushed the

Denver process. Explicitly mentioned enabling factors were for example strong advocacy groups and the rising demand of the Denver public for better “mobility options”. Albeit this complex process and the manifold influence factors given, impact from the international study tours could be identified, as laid out in the following three points:

First, most direct connections between the study tours and policy change can be made in regard to the Denver City Council through their direct involvement in policy making. Most explicitly, the City Council member interviewed claimed to have a stronger political standing to push for bicycle infrastructure as a result of his NL 2015 study tour experience. According to him, this strong standing had a major contribution to the realization of the contested Broadway bike lane (see 2016 - *Broadway Protected Bike Lane*). This bike lane is just one example of a realized project that was enabled by a convinced council member. As council members have with their vote wide-ranging power over cities policy decisions (see chapter *Organizational Characteristics & the Role of Individuals in the Organization*), the influence of one (more) council member convinced to support more sustainable modes of transport is important. Beyond 10D, interviewees reported that also another member of city council changed towards being a pro-active transportation advocate partly through his study tour experience. Hence this leads back to the important role of power. Power was in the survey as well as in this case study identified as a very important variable to positively influence the outcome. Further, as theory (Kemp & Weehuizen, 2005, p. 4) already stated, there is no clear line between social learning and organizational learning. This is especially evident for powerful individuals such as the elected council member, or high ranking civil servants (e.g. 8C).

Second, beyond this direct influence on policies, an important milestone is the establishment of the Mobility Working Group in 2015 and the realization of 1A during that process to “educate the senior level staff at the city”, as according to her, there was no “programmatically or systematic approach”. Since then, 18 mostly high-ranking civil servants, elected officials and other important stakeholders from Denver went on international study tours, of which three were directly involved in that working group. This mobility working group led the way to the mobility goals set by the mayor in 2017 (see City and County of Denver, 2017b). From the side of civil servants, as well as from advocates, these goals are regarded as progressive compared to previous goals and the further action of even “putting money into it” is seen as very positive among my interviewees.

Third, the influences found under the lens of the policy transfer theory can also be summarized as follows: Direct transfer was not much the case, but people interviewed see a relationship with the move towards protected bike lanes and the study tours. It was never just the study tour, rather the study tour was one part in the overall process, yet they did support this shift. And, as pointed out by one interviewee, along with this shift must come enhanced political boldness, such as protected bike lanes compared to on-street bike lanes, reducing space for cars, which in Denver provokes much public protest. Additionally, the ST-inspired shared street project (see *Shared Street*) shows the evolution of a common understanding of new ways of planning, as 2A put it, when it came to funding the project “no one batted an eye [...] they had all been on the study tour and could understand it”.

Hence, showing through these above examples, how ideas as “soft outcomes” (see Marsden & Stead, 2011) can in the end influence policies to a certain degree, I conclude: It must be agreed with the interviewee who stated, through study tours, people are “seeing things differently [...] but there is no change that reflects the way things are done over in Europe”. One must agree to that, however, at

the same time recognize small changes over time like the evolution of civil servants, elected officials and representatives of the private sector to themselves become (stronger) advocates and changing the system from the outside and from within.

Finally, the question remains, where to put these policy outcomes in context of the overall Denver social learning process:

I conclude that the social learning process in Denver is at the stage of “second order learning” (see Hall, 1993, p. 284), which is described as “re-tooling, limited experimentation and introduction of new policy techniques” (ibid.). All these aspects can be seen in the Denver mobility planning process, many of them in relation to the study tours. Examples are: the way the bicycle network shall be extended follows a new technique; Denver now experiments with different ways to protect cycle ways and also with different facilities to store and lock bikes; a bus-rapid-transit system is planned and the lightrail extension in Denver show a different approach to mobility planning (this last example is not related to the study tours). To third order learning (see Hall, 1993, p. 284), defined as a radical shift in “the hierarchy of goals and set of instruments employed to guide policy” (ibid.) it could be partly agreed. The goals and instruments employed to guide policy have shifted. Bikes are, compared to about ten years ago, on the agenda and public transport has been extended. However, third order learning also implies a shift in the paradigm behind the policy and within a “broadly based knowledge-oriented policy community” (Bennett & Howlett, 1992). This policy community, which also includes the general public, is difficult to discern its standing on changing the paradigm as it has the role of both “roadblock” and “driver”(see chapter *Consensus*). However, it is obvious that radical measures that limit automobile freedom are highly unpopular and cause public protest, which consequently restrains political actions and the mandate of civil servants to act. The “fundamental belief systems and values, which public policy is based on” (Bennett & Howlett, 1992) are not shifted. Although more emphasis is placed on sustainable modes of transport, old policies of addressing the problem of overcrowded streets are not abandoned. This is best exhibited by the highway extension project currently happening in Denver (see City and County of Denver, 2015b), and the reluctance of introducing bolder measures such as congestion charges or higher parking rates, which would be possible on the local level. As one representative of the advocacy groups clearly stated, the current policy is to “balance all modes of transport”, however therein disregarding the fact that the car is currently prioritized and that it would thus need much more progressive restrictions on it in order to bring a truly balanced mode share to Denver.

In summary, in comparison to the past, Denver has set ambitious goals concerning mobility and it has also put more money towards it than before. From my analysis, I conclude that study tours did contribute to this change. However, the current situation in Denver and the current approach to projects indicate that a paradigm shift has not yet happened. Cars, although sometimes must now share a street with a bike lane or even contend with less space because of protected bike lanes, are still dominating. Study tours led to a learning process about the ways transport planning can be approached differently as well as a stronger will of higher level civil servants and elected officials to realize change (to a certain extent) in Denver. Still in the process, the car-oriented mindset of calculations on timesaving and parking spaces still dominated the discussion. Altogether, Denver is advancing and change is happening, but a fundamental paradigm shift it is a far road ahead.

8. Conclusion

8.1. Changing Planning Paradigms and Learning – the Role of International Study Tours

The overall research question (*How does learning from international study tours on sustainable urban mobility happen and how does it contribute to changes in urban mobility policies?*) provided space to examine learning from international study tours and how its outcomes contribute to change in urban mobility policies. Regarding how learning from international study tours happens, I conclude that the learning success much depends on the design of the study tour. Active experiencing the city, a rather smaller group size and a well composed group composition, along the parameters identified, positively influence the outcome. Furthermore, a combination of informal and formal reporting back to the workplace is essential to lead from individual learning to organizational learning. For the Denver case study most of these favorable conditions were given, therefore in reference to Flyvbjerg (Flyvbjerg, 2006) it can be said, “if learning is not valid for this case [Denver], then it is not valid for any (or only few) cases”. Hence the first hypothesis, *International study tours lead to organizational learning*, can be confirmed under these preconditions.

The categorization of the outcomes into the different levels (individual, study tour group, organizational, and policy) was difficult, as the outcomes are processes that build up on each other, which was highlighted through survey and case study. The results on the policy level, examined under the lens of policy transfer theory (Marsden et al., 2011; Marsden & Stead, 2011), show the most explicit connections to urban mobility policies in Denver. Yet these policy transfers stay on a rather physical level and are mostly of an ideational nature. However, taking the broader angle of perception through the social learning theory (Bennett & Howlett, 1992; Hall, 1988, 1993; May, 1992; Stone, 2001) helped to further trace lines (partly) put in place through the study tours. Connections between the study tours and important milestones and developments in Denver could be unveiled. The overall social learning process did advance over the past decade and “hard” as well as “soft” infrastructure (Banister, 2005, p. 94f) did change, under the contribution of international study tours. As shown in the individual and organizational outcomes of this work, a change of values and a stronger dedication to sustainable mobility through contribution of study tours could be identified. This is according to Banister (2005) an important “soft” feature for a sustainable mobility development. Another factor that Banister (2005) described as essential to facilitate change is a clear and visionary leadership. Denver did send many high-ranking stakeholders on study tours, which also came back inspired and motivated. – Generally, from my interviewees no one was against the idea of advancing Denver’s sustainable transport options. Yet due to financial, administrative, and political barriers, realization and fast progress is difficult. Summarizing this research provides evidence to confirm, under the conditions given as in the case of Denver, the second hypothesis of this work: *Organizational learning from international study tours can influence policy making, through giving ideas and input of thought as well as through policy transfer to a certain level.*

Although positive influence of study tours, the overall situation for the case study city Denver has not yet moved a long way from the “conventional approach to transport planning and engineering” (Banister, 2005, p. 238). Denver is moving towards the “weak sustainability option” (Banister, 2005, p. 249); however key components of the car-dominated planning paradigm are not yet abandoned or even addressed. As in history the “mental revolution” (see Montgomery, 2013, p. 71) towards the car-dominated city took place before the physical changes, this research showed that study tours can contribute do that “mental revolution”, which might lead in the future to bolder measures advancing Denver’s mobility shift.

8.2. Contribution to the State of the Research & Future Research Needs

This research aims to build a framework to measure learning from international study tours. So far no clear concepts exist to measure learning in policy making and even less in the specific field of urban mobility (see von Löwis, 2008). What differs this research further from given studies on policy transfer in urban mobility, are the specifically regarded “soft” outcomes of learning. What could be elaborated is that learning in policy making through international study tours has more “soft” outcomes than “hard” outcomes. This and the type of “hard” outcomes identified underlines similar previous findings by scholars in the field (see Spaans & Louw, 2009). Regarding the “soft” outcomes of inspiration and the development of a common understanding of new approaches in mobility across the different organizations participating in the study tour, lines could be drawn to the overall attempt of Denver to change its mobility modes and offer more diverse mobility options.

Regarding the use of quantitative instruments from other disciplines to measure learning, it can be concluded that it would have been most difficult to gain real insight applying only the survey. The survey was limited through several constraints:

The aim of the survey was to outline differences in outcomes through different study tour designs and organizational preconditions, as well as group compositions. As the results show, important influence factors could be identified. Nevertheless it has to be clearly stated, that the majority of survey participants did follow the same study tour design, organized by the US-based organization People for Bikes. This can be attributed to the fact that the survey contact list was already dominated by people provided from this organization. It is an outcome of this survey, that tours following their design (cycling as mode of transport, tours only to NL, DK and since recently ES, no other framework program – for detailed outcomes per indicator see Table 17 and Table 18) did excel most outcomes of other tour designs (e.g. other countries then the three above, ST as part of another program, not using the bicycle as main mode of transport). In comparison to the amount of study tours presumably undertaken by the People for Bikes organization, the reference group with different designs was very little. As the survey is a quantitative approach, a certain amount of responses shall certainly be recorded to give outcomes weight. The survey results of the study tours by this minority of different designs did in most cases show worse results than the dominating type of study tours. However, due to the small absolute number of respondents in this group, the comparison shall be

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taken with a grain of salt. Further research efforts in that direction should harden or dismiss those results.

Furthermore, the respondent groups per country were also not balanced; study tours to the Netherlands were pre-dominant compared to other study tour destinations. The focus on the Netherlands was intentional, however this did not allow valid comparison between the different study tour destinations. Comparison between countries was also not the main focus of this research. All the same, for further research it would be of interest conducting a survey with the aim of country comparison. One outcome of that could also be that the Netherlands simply is the main country to learn from in this field. With the research at hand this can be assumed, however as the main effort to gather survey respondents was the Netherlands, this indication is biased.

Lastly, as already described in the methodology of the survey, the limitation with Likert-scales is that people tend to rate themselves too favorable. A trend of very positive results is also visible in this survey, which leads to the assumption that the Hawthorn Effect occurred.

Given these shortcomings on the survey, the mixed methods approach was important and allowed for deeper insights in these complex processes. Main outcomes of the question *How is learned* could be underlined through the case study results. Verified through both methodological approaches, it can be said that learning through the experience in the peer-city is one of the most important aspects of study tours. In connection with this direct engagement in the peer-city, as well as with other tour participants, positive outcomes on different levels of learning could be identified. Referring to the lack in the policy transfer theory in considering the actual “input factor for learning,” this research shed light on the *How is actually learned*. The outcomes are that through study tours as a form of gaining knowledge policy learning can happen, however more in the area of “soft” outcomes, which again do not play much of a role for the policy transfer perspective, as described in the *State of the Research & the Contribution to it* chapter. This is why the framework of organizational learning and social learning offered the right lens to also analyze “soft” outcomes. It can be concluded that these outcomes are dominant and that it is difficult to make explicit connections to policy results, as ideas and inspiration are not easy to track down. I was aware of this limitation from the beginning, and dealing with it was difficult. Nevertheless, connections between learning and policy change could be made. This is a contribution to existing literature, insofar as outcomes in specific relation to one explicit learning method in the policy process were not much considered yet. As it is rather rare to use the concept of social learning as a lens of examination, different interpretations of the given social learning literature and the indications for the methodological approach are possible. For further research, it would be of interest to apply the social learning framework in different ways to better understand and contribute to a matured methodological framework for this approach. In this sense, the work at hand did contribute to a theory building process. Furthermore, comparison between different learning methods, as it is in this work international study tours, would give insight on more or less effective ways of policy learning. Given the strong importance this research showed on the experiencing aspect of study tours, one assumption of further research projects could be that learning from study tours is more effective than non-experienced learning.

Additionally, given the dominant role of power, studies examining similar processes from a power perspective (e.g. Community Power Studies (see Hunter, 1983)) would open up to further important

insights and could more comprehensively explain the outlined role of power in the process. The same is true for the often referred to cultural barriers, further examination under the framework of “planning cultures” (see Knieling & Othengrafen, 2009) would give additional key insights on the process of policy learning.

Concluding this research contributed to the current state of research. It is one of the first studies, to my knowledge, that examined in such detail the “stream of learning and ideas” from individual policies. Thereby it addressed the lacks of the policy transfer theory and proposes a framework for how to measure organizational learning in the context of sustainable mobility. The limitations of the designed survey instrument have already been explained. With regards to the examination of the “stream of learning and ideas,” the limitation has to be emphasized, that it is quite difficult to draw explicit lines between policy change and the happening of a/several study tour(s). As already described in the limitations of the social learning theory, policies are shaped by many processes and constellations of power (see Bennett & Howlett, 1992; Hall, 1993; Stone, 2001). Reading this research, these limitations shall be kept in mind. Additional research projects that have a similar research design could harden or dismiss findings of this work.

8.3. Relevance for Planning

From this research it can be concluded that international study tours, in the form analyzed herein, do influence planning instruments in the learning city. The policy transfer outcomes (see chapter *Policy Transfer from International Study Tours to Denver*) describes foremost direct planning instruments, such as the construction of bike lanes and other physical bike infrastructure, which were to some degree transferred. Regarding indirect instruments, the Denver bike network plan, which shall be released by the end of the year, shows the largest potential to directly be influenced by the ES study tour. Another very important indirect planning instrument is setting standards for bike lane design plans. So far Denver has no planning standards for this and is in the process of preparing them. As one interview partner stated, study tour experience will influence these future planning standards. Regarding structuring planning instruments, it shall be drawn to the large restructuring process happening in DPW and the aim to build the city’s own Department of Transportation. It would be too farfetched to directly connect this change with the international study tours, however it is happening as part of the overall social learning process in Denver, which did to some extent get influenced by the study tours. Generally, there have probably been many more projects that were influenced by the tours, because as the survey shows, 37% strongly agree and another 36% somewhat agree to the influence on projects. The listed projects in the chapter *Policy Transfer from International Study Tours to Denver* are only those that could be clearly identified for the Denver case study. These outcomes show that international study tours do have an impact on projects and policies. However through the blending with ideas from other places and standards and methods used in the home context, as well as through the barriers identified, more direct application at home is not happening. As the analysis of social learning in Denver showed, there is so far still a lack of political will to impose more effective measures that would be possible on the local level. Yet policies and practices keep

changing and Denver has more financial means committed to sustainable transport than in the past decade (Denver City Council District 7, 2018).

Nevertheless, all these described influences on planning instruments show the potential of the study tour as a tool in itself. Study tours can be seen as a persuasive / communicative instrument (see Selle, 2005, p. 120), which is used to educate people, mostly used within an organization and to give them a better understanding of a different approach to planning. According to this research it is most often public organizations that send people on study tours to learn. As the results of this research show, organizational learning happened through the study tours and projects were tried to approach differently, albeit often hindered by given barriers in the home context. Beyond the “hard” outcomes of international study tours, the “soft” outcomes in the form of a change in viewpoint and inspiration should also, in regard of planning instruments, not be neglected. As Selle (2005, p. 125) wrote, planning instruments are connected with the underlying goals and values, and those were shaped by the experience of the study tours, shown from the individual outcomes to the policy outcomes. The latter might not show vast impact of study tours. Nevertheless, planning processes take time and the inspirational seeds planted through the study tours (beneath other factors) might further unfold in future policy development. Coming back to Selles (2005, p. 120) categorization of persuasive / communicative planning tools, he writes “Im Wege von Verständigung und Überzeugung sollen Akteure in ihrem Handeln beeinflusst werden” (translation by the author: “Through communication and persuasion stakeholders shall be influenced in their actions.”) – regarding this definition, seeing study tours as belonging to this group of instruments seems correct. Yet Selle relates this instrument in most cases to public engagement processes (see Bischoff, Selle, & Sinning, 1996) and not internally to planning organizations. It has to be clearly stated that international study tours are not a feasible persuasive instrument for public engagement. Study tours can help to learn about better methods of public engagement participation, but using them as a persuasive tool itself for such a wide group would cost too much and cause high environmental pollution. Especially the latter deserves, in respect to the topic of this research, further thought. Albeit this study shows that international study tours do bring positive effects for the organization and to a certain extent also for changing urban policies, one shall not be blindfolded to the fact that international study tours themselves frequently incorporate the most unsustainable mode of mobility, the airplane (see Banister, 2005).

9. Recommendations

Regarding the study tour design, this research gave insight in how to effectively learn from best-practice examples through international study tours. **Experiencing the visited city through actively using the mode of transport** it is learned about (for the cases of my research, the bicycle), is thereby very important. Further, according to this study various variables regarding the study tour group do matter: The **group size** is most favorable somewhere in the range from four to a maximum of 20 people. The **group composition** of people that view this topic from various angles through their professional backgrounds helps the study tour group to better envision and realize such a project at home. Furthermore, through this common experience bonds between people from different organizations get strengthened, these are also then, back home, necessary to realize projects (as shown with the *Shared Street* example). **High-ranking individuals with influence** on policy in the home town/city are very important in order to also enhance political support. Beyond people with influence over policies, higher-ranking people within the organization are also important, as they shape in how far people have time capacity to also apply the learned methods and concepts.

The research further implies that the selection of the case to learn from and the learning outcome depend on each other. When the aim is rather **inspiration** and to envision a new way of mobility planning, well designed study tours²⁶ to **classical best-practice destinations** in the field of sustainable mobility (and especially cycling), such as the Netherlands, showed greater potential to achieve this and make them advocates for sustainable mobility in their city. First of all, this output affects the individual learning on the study tour. Though as results showed, individual learning did lead to organizational learning, which then again led to policy learning. Of course this is not a one to one translation from one level to the other, the **sharing of knowledge, in formal as well as informal ways**, is the most important aspect to lead from individual learning to collective learning. Beyond the essential need of sharing, on both levels (organizational and policy) certain important framework conditions hinder or enable the learning process. On the organizational level, **openness to learn new methods** to approach tasks is on the one hand essential to even involve employees in such a learning process, on the other then to give them enough time and resources to be able to apply it in their job.

On the policy level manifold barriers exist, most of all the lack of financial resources. This lack leads again back to other barriers, such as the politic-administrative system, which does not, for example, give much revenue from taxes and limits the local powers. Nevertheless, the local powers in place are restrained from more progressive action, due to the fear of losing voters and concurring different policies and measures around (again) limited financial resources. And exactly at this point it is where the **tool of study tours as a persuasive instrument** (see Selle, 2005, p. 120) comes in. Between all those concurring policy fields a certain priority and belief must be given in sustainable modes of transport. As the results of this research showed, the study tours achieved to obtain just that. People

²⁶ Along the parameters outlined in the first paragraph.

that have been on the study tour changed in their understanding of how urban transportation can be approached. This understanding, by people with influence, is the first step to lay out trajectories for further developments in this direction. Once there is the political desire (and financial means) to follow new paths, the capacity to imagine such processes, as well as the hands-on knowledge by civil servants and practitioners from other sectors, must be given to realize it and offer solutions for the local urban context. With this different learning goal on more concrete and specific policies, the selection of the case to learn from must thoughtfully be connected and the tour might not necessarily lead to the classical best-practice destinations. Transfer must be **adapted to the local context**.

In conclusion, the recommendation is to use **study tours as a tool to convince people** on a higher-level to lay out overall policies to make realization in physical projects possible. For this convincing act, the research indicates that visiting “**classical**” **best-practice** nations, such as the Netherlands (for the field of urban cycling), are the most inspiring and captivating. In this inspirational process institutional differences do not seem to matter to the same degree as when direct policy transfer is aspired. Hence, when using **study tours as a tool to learn about specific policies** and a “higher” degree of transfer is aimed, this study supports other scholars in the field of Policy Transfer Research (see Spaans & Louw, 2009) in the conclusion, that transfer to “higher” levels is enhanced through **similar framework conditions** in the “learner” and “donor” country.

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11. Annex

11.1. Annex 1: Urban Mobility Study Tour Survey – Design

Study Tour - General information / Location / Time

Q80. Thank you for participating in the Urban Mobility Study Tour Survey!

The purpose of this survey is to gain a better understanding of the possible **impact of international study tours** that have a focus on **urban mobility**. **Your experience and knowledge** as a past study tour participant is valuable to us and can help us understand this niche topic, for which there is **very little research**. Your participation in this research is **completely anonymous and confidential**.

A kind reminder to please only fill out this survey if, in the last **10 years**, you have participated in an international study tour with a focus on urban mobility.

For the purpose of this research we **define an international study tour as:**

A tour in a foreign country for the purpose of studying or carrying out research. A study tour can be stand-alone or as part of a conference, a holiday, etc, and can range in group sizes. Study tours can also be called study visits, fact-finding trips, excursions, or scan tours.

The survey should take no more than 15 to 20 minutes and it will be available online until June 18th 2018. When you have completed the survey, you will receive an email with a unique code for your \$15 Amazon gift card.

Thank you again for your time and contributing to our research!

Q81. Part 1: Study tour setting

Q1. In the last ten years, how many international study tours on the topic of urban transportation or mobility have you participated in?

Q4. In which country/countries did the study tours take place? (multiple answers possible)

- The Netherlands
- Denmark
- France
- Sweden
- Belgium
- Slovenia
- Japan
- Germany
- Spain
- Austria
- Finland
- Norway
- Canada
- Other

Q6. For the rest of the survey, please focus on the **MOST RECENT** study tour. When did it take place?

Q8. Where did it take place? (only one answer possible)

- Denmark
- France
- Sweden
- Belgium
- Slovenia
- Japan
- Germany
- Spain
- Austria
- Finland
- Norway
- Canada
- Other

Q14. Most of the study tour took place in which city/cities: (multiple answers possible)

- Amsterdam
- Utrecht
- Rotterdam
- The Hague
- Delft
- Other

Q9. What was the duration of the study tour?

Study Tour - Agenda

Q10. Was the study tour a part of another program, beyond the study tour itself? (e.g. conference, holiday)

- Yes
- No

Q11. What was the program? (only one answer possible)

- Conference
- Holiday
- Business meeting

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(multiple answers possible)

- My organization/workplace (at the time of the study tour)
- My city (at the time of the study tour)
- Other US cities/states
- Outside the US
- I don't know/recall

Q24. The professional backgrounds of the other tour participants were ... (multiple answers possible)

- Advocate
- Consultant
- City staff, transportation
- City staff, urban planning
- Elected official(s) and/or their staff
- Academic
- Industry / retail
- Other
- I don't know

Q25. In the group of the study tour...

...the participants were mostly from the same company or organization as mine. Yes No I don't recall

...at least 1 elected official was a participant. Yes No I don't recall

...at least 1 senior level transportation City staff was a participant. Yes No I don't recall

Study Tour - Group dynamics & interpersonal relationship building

Q26. How well did you know most of the participants before the study tour?

Not at all Somewhat disagree Somewhat agree Quite well Very well

Q29. Please rate the following statements:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
The study tour agenda offered enough time to informally get to know the other participants. During discussions, other participants felt comfortable expressing their point of view. Being part of this group made the study tour more enjoyable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q27. I FELT THAT... (Please rate the statements)

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
...a sense of trust and openness developed among the group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
...a shared vision emerged among the group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Learner Readiness & Motivation

Q82. Part 3: Study tour motivation & preparation

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Other

Q15. What mode of transport was most often used during the study tour? (only one answer possible)

- Walking
- Cycling
- Public Transport
- Car
- Private bus/van
- Other

Q16. Please rank the following choices according to time dedicated in the study tour agenda, with 1 being the most amount of time.

- Unstructured free time
- Guided outdoor group sessions
- Plenary or lecture sessions
- Informal socializing among participants
- Strategic discussions among participants
- Discussions with local experts
- Other

Study Tour - Content and Focus

Q19. It was clear to me that the staff, speakers and guides had a lot of experience and/or knowledge. (Please rate this statement)

Strongly disagree Somewhat disagree Neither agree nor disagree Somewhat agree Strongly agree

Q18. Please rank the following choices according to how helpful they were to understand the topic of the study tour, with 1 being the most helpful.

- Facts and data
- Plans, designs and illustrations
- Lectures by experts
- Experiences in the city/cities of the tour
- Group discussion
- Anecdotes from speakers/guides
- Other

Study Tour - Other Participants

Q82. Part 2: Study tour group

Q20. Approximately how many participants were participating in this study tour? (Do not include staff, guides, or speakers)

Q21. Other participants in the study tour were from ...

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Family and friends
 Work colleagues
 My supervisor(s)
 Professional networks
 Other

Q48.
 ...at work, I shared:
 (Please rank the following choices, with 1 being the most important)

Facts and data
 Plans, designs and illustrations
 Personal anecdotes
 Experiences
 Group discussions
 Other

Q49.
 ...at work, I shared what I learned by/through...
 (multiple answers possible)

Giving a presentation
 Informal discussions
 Formal discussions
 Writing a report
 Showing pictures
 Other

Organizational Readiness

Q55: Part 5: Work environment

In the next few questions "work environment" means your agency, company, team, organization or in general the people with whom you MOST OFTEN work.

Q57. For your work environment (at the time of the study tour), what was the most valuable outcome of the study tour:

Q52. In my work environment... (at the time of the study tour)
 (Please rate the statements)

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
... I have the power to influence important decisions on urban transport.					
... employees operate from a spirit of cooperation, rather than competition.					
... employees are not afraid to share their opinions even if those opinions are different from the majority.					
... managers and supervisors support the sharing of knowledge and skills among employees.					

Organizational Outcomes

10.7.2018

Qualtrics Survey Software

Q33. My main goal for participating in the study tour was...

Q35: BEFORE THE STUDY TOUR...
 (Please rate the statements)

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
... I used materials to prepare myself (i.e., readings, videos, etc).					
... I had a clear understanding of what I wanted to learn.					
... I hoped to acquire useful knowledge and skills for everyday life.					
... I hoped to acquire useful knowledge and skills for my job.					
... I already knew a lot about the topic.					
... I didn't know anyone (or others with whom I work closely) about what I wanted to learn.					

Learner Outcomes - Content, Ideas & Behavior

Q84: Part 4: Study tour outcomes

Q38: To you, what was the most valuable outcome of the study tour?

Q39. Please rate the following statements:

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I clearly remember the main ideas I learned during the study tour.					
Since the study tour I engage in more sustainable transport matters in my city.					
The study tour encouraged me to think about changing my personal mobility habits.					
Since the study tour, I've changed my personal mobility habits.					
The study tour helped me to expand my ideas or generate new ideas related to my work.					

Learner Outcomes - Knowledge transfer to workplace

Q79: AFTER THE STUDY TOUR...

Q46: ... I met...

	Yes	No	Don't recall	Not applicable
...my supervisor to discuss ways to apply the study tour lessons on the job.				
...my team to discuss ways to apply the study tour lessons on the job.				
...people I work with most often to discuss lessons on the job.				
...others with whom I work closely (i.e., from other departments, companies, organizations, etc) to discuss ways to apply the study tour lessons on the job.				

Q45:

...I shared my experiences with:
 (Please rank the following choices, with 1 being the most important)

10.7.2018 Qualtrics Survey Software

Q26. Part 6: Impact on workplace (at the time of the study tour)

Q26. Please rate the following statements:

	Strongly disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Strongly agree
I have changed the way I work as a result of the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Projects we do were influenced by the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My workplace approaches mobility issues differently as a result of the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My workplaces set new priorities as a result of the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My workplace hired new personnel as a result of the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The network I made through the study tour has benefited my work environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The network I made through the study tour has improved coordination between organisations that influence urban mobility in my city.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Part 7: Demographic information

Q268: Part 7: Demographic information

Q264. Which gender do you identify as?
 Male
 Female
 Other

Q265. What is your age?

Q266. In which country were you raised?

Q268. In which state do you currently live?

Q270. In which city do you currently live?

Q271. What is the highest level of school you have completed or the highest degree you have received?

Q272. What best describes your current profession? (multiple answers possible)
 Advocate
 Consultant/Advisor

10.7.2018 Qualtrics Survey Software

Q273. How many total years of career experience do you have?

Q276. Before the study tour, what everyday mode of transport did you most often use?
 Please rank the following choices, with 1 being the most used.
 Walk
 Ride a bicycle
 Drive or ride in a car
 Take public transportation
 Other

Give contact - keep informed

Q292. Would you like to be kept informed about this research?
 Yes
 No

Q294. Your Amazon gift card

Due to processing issues please expect your \$15 Amazon gift card in June when the survey closes. Please indicate below which email address you want the gift card to be sent to. The gift card is transferable to someone else if you do not wish to keep it. Thank you for your patience!

I would like to receive the gift code on the email address I do this survey with.
 I would like to receive the gift code on another email address, which is
 I do not want accept the gift card.

10.7.2018 Qualtrics Survey Software

Q26. Part 6: Impact on workplace (at the time of the study tour)

Q26. Please rate the following statements:

	Strongly disagree	Somewhat disagree	Neither disagree nor agree	Somewhat agree	Strongly agree
I have changed the way I work as a result of the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Projects we do were influenced by the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My workplace approaches mobility issues differently as a result of the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My workplaces set new priorities as a result of the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My workplace hired new personnel as a result of the study tour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The network I made through the study tour has benefited my work environment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The network I made through the study tour has improved coordination between organisations that influence urban mobility in my city.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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 I do not want accept the gift card.

11.2. Annex 2: Interview Guide Denver Case Study

General Interview Guide

Interviews Denver from April 23rd until May 4th 2018

PART 1 INTRO

Myself:

- Research assistant Urban Cycling Institute, UvA – working for Meredith Glaser, PhD student at this institute
- Masters Student Spatial Planning in Austria, based in Vienna
- Grew up in Austria, mother tongue is not EN
- Work is on policy learning in the field of urban mobility, focus on US cities
- Basically I want to understand how change in urban mobility happens

Consent:

- As part of my research protocol, I'd like to tell you that this conversation is only for research purposes and will be kept confidential and anonymous.
- If I plan to use any statements from this conversation I will send them to you first for accuracy and approval.
- Lastly, do I have your permission to record our conversation?

Opening:

- Can you tell me a bit about your role within Denver and where your role fits into the organization and the City?
 - *Position*
 - *How long already*
 - *Tasks*
 - *How connected to urban mobility issues*

PART 2 POLICIES, CHANGE & LEARNING

Change in goals:

- What are the principal policy objectives your department aims at?
- In 2017 mayor Hancock laid out ambitious goals for transit, biking, and walking. How have these goals changed over the years (or compared to previous administrations)?
- How does your company contribute to that goal?

Organizational learning Process

- Has your organization needed to learn or develop more capacity to meet this goal? How?

Achievements

- In the last 5 years or so, what would you see as the biggest achievement or milestone in reaching this goal?
- What do you attribute the success/outcome of this achievement to?
- What was your role in it?

Collaboration

- Who else was involved in this process and how?
- Who is the closest ally to work together?
- How would you describe this collaboration?
 - o *Open Trust Inclusive*
- Was a particular partner missing, or one you wished you had more support from?
- Funding?

Consensus

- How did/does the general public perceive this vision? And parts of the government?
- How are conflicting or opposing opinions dealt with?
 - *In & outside gov.*
 - *Broader public*

Problems

- What do you consider the biggest roadblock?
- What would you do differently?

PART 3 STUDY TOUR

BEEN on a study tour:

- You participated in XX study tour(s) in YEAR...Can you tell me about your experience?
 - *group dynamics*
 - *group composition*
 - *interpersonal relationship-building*

Goal

- What was your main goal for participating in the study tour?
- Do you think it was achieved? Or could be achieved?
- How did you share your experience back home?

Barriers

- What do you find to be the most challenging aspect of learning from these study tours for the Denver context?

Impacts

- Any change in personal behavior?

- What role do you think these types of trips play for making actual change happen?
- Could you name a concrete example or two where you think study tours had influence on actual change?
- *This could be processes, projects, techniques, policies, legislation that you think the study tour influenced.*

NOT been on a study tour:

- Can you tell me about how you continue to learn about new things in your job?
- When you do (the above) how do you apply what you've learned in your job?
- (When applicable) Other city staff (or some of your colleagues) have gone on study tours to learn about transportation – have you heard about these trips? ...What have you heard?
- What do you think about these types of trips?
- What role do you think these types of trips play for making actual change happen?

PART 5 CLOSING

Final questions:

- Whom would you like to send on a study tour?
- Where do you see Denver's mobility in the future?
- Would you like to add something?

Closing:

- Provide contact info: e-mail
- Maybe subsequent contact if there is needed for clarification
- Thank you

11.3. Annex 3: Interview Coding Structure

Theoretical Concept	Main variables of Theoretical Concept	Object of Analysis in this Research	Indicators from Theoretical Literature	Deductive Codes	Inductive Codes	Survey Questions
Social Learning	Level of policy change over time	Transportation policies Denver	<ul style="list-style-type: none"> Goals/policies/procedures/ideas/ fundamental beliefs/ paradigms – change over time 	<ul style="list-style-type: none"> Timeline-time reference (general) Denver history/background CH goals/priorities Current goals Future planning Funding 	<ul style="list-style-type: none"> US context description Current sit. Denver Achievements Ref. goals to double cycling etc Future uncertain (thoughts, wishes, fears...) Pos. view of future 	
	Policy community/netw ork	Policy instruments Denver	<ul style="list-style-type: none"> Design Strategy documents Level of collaboration Important stakeholders Who is involved Change over time Trust 	<ul style="list-style-type: none"> Ref. to design implementation Ref. org. changes (no connect ST) Ref. to strategy documents Policy community/network (general) Collaboration diff. department Collaboration outside org. 	<ul style="list-style-type: none"> Broadway cycle way Masterplans/projects Ref. physical places DEN Mayor Federal state Drivers in Denver Roadblock 	
	Consensus	Denver community	<ul style="list-style-type: none"> Consensus on goals/measures/funding etc. in and outside the government Opinion of general public 	<ul style="list-style-type: none"> Consensus (general) Consensus within gov. Consensus public 		
Organization al learning & Group dynamic / Group model building	Underlying idea / goal	Transportation policies Denver	<ul style="list-style-type: none"> Reason for change 	<ul style="list-style-type: none"> Reason for policy change 		
	Learner readiness & Motivation	Learner	<ul style="list-style-type: none"> General learner characteristics Study tour preparation & motivation 	<ul style="list-style-type: none"> Motivation & Learner Readiness Preparation for ST Transfer motivation Participants motivation ST Expectations/goals 	<ul style="list-style-type: none"> Cycling enthusiast Spain-NL ST 	<ul style="list-style-type: none"> 33 35 64 65 66 70 73 75
	Organizational characteristics & role of individuals in organization	Organization / Learner	<ul style="list-style-type: none"> Power and tasks of individuals in org. 	<ul style="list-style-type: none"> Pers. Background/role Org. background info/role Org. current goals 		<ul style="list-style-type: none"> 52 74
	Org. openness & culture	Organization	<ul style="list-style-type: none"> Supervisor support Opportunity to use in job Climate of trust and courage Collaboration, communication, cooperation (1) within the organization (2) outside the organization Encouraging environment to learn & try new <ul style="list-style-type: none"> Ways of gaining knowledge & exchange 	<ul style="list-style-type: none"> Org. Openness + Culture Org. collaboration, communication, cooperation INTRA org. Collaboration diff. Department Collaboration outside org.– Ways of gaining knowledge & exchange 	<ul style="list-style-type: none"> Diff. forms to gain knowledge detailed: <ul style="list-style-type: none"> Informal network of exchange (policy) Platforms (conferences) Technical study approach to learning Learning from peer cities (general) <ul style="list-style-type: none"> Peer US Peer outside US Peer NL Guidebooks/standards Consulting firms Learning from past 	<ul style="list-style-type: none"> 52

			<ul style="list-style-type: none"> • ST Agenda, location, guide • Study tour group <ul style="list-style-type: none"> ◦ Group composition ◦ Characteristics of tour participants ◦ Top management involvement 	<ul style="list-style-type: none"> • ST Duration • ST Agenda • ST Tour guide • Contend addressed • STG Composition & characteristics of STG <ul style="list-style-type: none"> ◦ High ranking people 		<ul style="list-style-type: none"> • 4 • 6 • 9 • 10 • 14 • 15 • 16 • 18 • 19 • 20 • 21 • 25 • 28 • 29 • 77
Group dynamic on ST	Study tour/ Study tour group	<ul style="list-style-type: none"> • Informal reporting back • Formal reporting back • Methods used 	<ul style="list-style-type: none"> • RB Communication ST back home <ul style="list-style-type: none"> ◦ RB Formal reporting back ◦ RB Informal reporting back ◦ RB Presentation of learnt 		<ul style="list-style-type: none"> • 45 • 46 • 48 • 49 	
Communication on study tour back home	Communication	<ul style="list-style-type: none"> • Change of personal behavior • Change of perception/vision • Gain in knowledge 	<ul style="list-style-type: none"> • Personal outcomes (general) • CH perception/vision due to tour • ST inspiration/ideas • ST gain in knowledge & credibility • CH personal behavior due to ST 	<ul style="list-style-type: none"> • Study tour positive experience – positive memory • ST negative/frustration • ST_learning about a specific thing 	<ul style="list-style-type: none"> • 38 • 39 	
Personal outcomes	Learner	<ul style="list-style-type: none"> • Commitment to results • Shared view on problems • Atmosphere of trust and open communication • Shared vision • Development of personal relationships/network 	<ul style="list-style-type: none"> • Group outcomes (general) • STG commitment to results of ST • STG Shared view on problems • STG Atmosphere of trust and open communication • STG shared vision • STG dev. Personal relationships/network 	<ul style="list-style-type: none"> • Shared action 	<ul style="list-style-type: none"> • 32 • 51 	
Group outcomes	Study tour group	<ul style="list-style-type: none"> • Change in doing something work related due to study tour • Organizational changes due to study tour 	<ul style="list-style-type: none"> • Organizational outcome (general) • CH in doing sth work related due to tour • CH organizational changes direct connect policy tour 		<ul style="list-style-type: none"> • 38 • 51 • 56 	
Org. outcomes	Organization/ Learner	<ul style="list-style-type: none"> • Goals/ policies/ procedures/ ideas/... • Ideology • Culture • Planning culture • Public protest • Government protest • ... 	<ul style="list-style-type: none"> • ST What is transferred • ST constraints/barriers to transfer 	<ul style="list-style-type: none"> • Diff. Denver – ST context • US context description) • NL context description 		
Policy outcomes	Policy – What was transferred Denver context – Constraints on transfer					
Policy transfer						

