Planning for accessibility and sustainable mobilities

Beyond the plan: methods of triggering long-term change in urban and regional mobility

Agnes Förster[1], Eva Strobel[2]

[1]*Chair for Planning Theory & Urban Development, RWTH Aachen University, foerster@pt.rwth-aachen.de*
[2]*Chair for Planning Theory & Urban Development, RWTH Aachen University, strobel@pt.rwth-aachen.de*

Abstract: Mobility is a complex and dynamic phenomenon that operates on multiple scales and is highly interwoven with technological, economic, social, cultural trends. Currently, multiple urban and regional projects and initiatives address the issue. For a prolonged sustainable result, 'communication' and 'participation' accompany the process – but a set of actions disconnected from a larger strategy will fail to bring about change within a complex system. Mobility is produced in the constant interplay of transport offer, user demand and behavior in relation to spatial configuration and urban qualities. Transforming mobility is a long-term process to the extent that impact exceeds plan-action. This paper understands mobility change as multiple transformation processes. It demonstrates how the scope of planning has broadened and proposes communicative planning methods as triggers of long-term change in urban and regional mobility. Four interrelated fields of tension serve as a framework: (1) Start here today. (2) Networked thinking and design. (3) Involving players beyond ideologies. (4) Make a difference in space. This framework is used to discuss the change of mobility in the context of a dialogue format for practitioners and researchers. The transformative capacity of communicating planning methods in several cases from practice and research approaches are discussed.

Keywords: communicative planning methods, urban and regional mobility, transformation, systems thinking and action

I Introduction

For many cities and regions, coping with the increase in traffic is a pressing issue. The rising demand affects the quality of life, threatens the city's or region's economic success and, in many cases puts a strain on the political climate. When it comes to creating more housing, new jobs, the development of educational facilities or commercial areas, transport is an ongoing, contentious issue. Cities and regional associations seek help and look out for concepts that tackle these observed demands of mobility on a city or regional scale. At the same time, whilst locally perceived urgency is evident, there exists a very global view on the subject of traffic. Normatively expressed in the Sustainable Development Goals developed by the United Nations, mobility plays a key role in the development of a sustainable world. The SDG's 9th goal sees the need, amongst others, to 'develop quality, reliable, sustainable and resilient infrastructure […] to support economic development and human well-being [through] equitable access for all'. Furthermore, in order to make 'cities and human settlements inclusive, safe, resilient and sustainable', the 11th goal sees the provision of 'access to safe, affordable, accessible and sustainable transport system for all' as a prerequisite (UN, 2015). Consequently, and with the intention to push-start this topic, public incentives provide funding programs, for example the national Mobility Workshop and Laboratory of FONA in Germany, as well as numerous projects EU-wide like the European large-scale project EIT-KIC for Urban Mobility (EIT, 2019).

Mobility is subject to strong dynamics. Various factors influence movement patterns and behaviors: Changing technological conditions, the digital transformation in general, new offers and services, new forms of mobility

styles, alternative drives e.g. electric mobility, and not least the steadily growing demand to maximize people's capacity for being mobile. Simultaneously, we observe changes in lifestyles, growing awareness of health and sport, demographic change, the need for an ageing society to be mobile and more (BBSR, 2011). These trends and dynamics are forces, difficult to control, that affect the various forms of mobility. It is therefore understood in current research and practice that we cannot approach or influence the change of mobility by looking solely at traffic and infrastructure but by grasping mobility as a system. If we then want to understand deeper the concept of mobility, we can define it as the possibilities to movement available to an individual that are dependent on various framework conditions (Sterzer, 2019). Based on this definition, we suggest to generate a system view and describe the movement dependent on transport infrastructure, the offers for moving as well as the spatial structure of a city or region and the users including their individual behavior.

Having understood mobility as a system and that it is constantly undergoing change, we are confronted with a particular challenge: simply increasing efficiency of the existing system neglects the dynamics of a changing system. Nor does it improve the situation sustainably, since boundaries become noticeable more than ever: urban space is limited, and environmental damage is considerable. Rather than accepting the current trend development affecting the mobility system and plan within it, the dynamics themselves need to be redirected. So, by changing our assumptions and objectives, we acknowledge that a fundamental change of the system is unavoidable. Second, the challenges that arise from the prospected demographic change, our changing behavior through digitalization and the new possibilities created by technical advances need to be closely faced and integrated into our assumptions and objectives.

In changing this mobility system, many players are involved – be they intended partners or not: state, market, civil society and intermediaries. In Germany, transport planning is a traditional public task separated from private organizations, even though economic stakes are high. The mobility system as a whole is still subject to strong economic interests and consequently to strong lobbying. At present, we observe changing markets and market shares as influencers on mobility. It is uncertain as to who will contribute to which extent to the system in the future. What will municipalities, public and private companies do and how may they and others organize themselves? And: what instruments and methods can the planner use when it comes to a profound system change? So far, the traffic development plan, as a classical cross-sectional task of urban development, has served as a framework for individual measures and investment strategies over a certain period of time. Due to increasingly varying interests and the complexity of the task, many cities no longer manage to set up a traffic plan that solves the problems sustainably. The lack of political will in general, or the challenge to gain a majority for a bold plan may determine a plan's fate. Sometimes fierce local resistance may stop a development with good intentions because the citizen remembers previous planning decisions that failed in succeeding their aim. At the same time, research findings do not propose better instruments but only help to deepen the knowledge about the problems by modeling and showing better data. Here, the assumptions underlying the modeling need to be changed, and it cannot be produced by the scientific realm alone. Distrust, divided political banks and missing concrete knowledge over-challenge the planning authorities that are left to changing the direction without clear guidance.

This paper asks about the possibilities of the planner to shape the change in mobility. It provides an overview on transformation research and characterizes transformation from a planning perspective. From this it derives that the understanding of practice in traditional planning models evolving into the practitioner actively taking part in transformation processes. Challenges for the planners and their methods are highlighted and discussed and developed that communication plays a key role. It proposes to focus on the communicative aspects of planning methods when the task is to shape transformation and puts the method itself at the center of discussion.

II From planning to transformation – a brief outline of three basic planning models

The question of how the transformation of mobility can be shaped focuses on the deliberate contribution of planners, i.e. the contribution of the public administration to a long-term extensive transformation process. Which concept of transformation is suitable and which planning mode may be effective? What is the resulting toolbox of methods and instruments that planners should apply? What future roles can be drawn for public administration?

II.1 Basic conception of transformation

The term ‘transformation’ is to be understood first of all as fundamental social change, whereas the term is also used to describe the change of e.g. political system or organization (Heyen *et al.*, 2018). From a sovereign perspective, the term transformation is used to designate the areas of society, economy or even the physical space, which are to be fundamentally rebuilt for sustainable development. Instead of repairing deficits in the existing structures it is important to comprehensively change these structures over the long term and to raise a system that today is insufficiently stable to a new level of persistent operability. Profound change can be triggered by disruptions, e.g. war, famine or a sudden regime change and caught in a brief period of time, but it can also happen over several decades and often only be identified in the historical context. Particular to the present situation is that we as planners observe and are part of a transformation, e.g. the transformation of the urban space, but the future date of completion and the associated spatial development perspective are still unknown to us.

Within the wide range of contributions to the discourse and research on transformation three main starting points can be identified:

(1) Type and extent of necessary change

The European Commission has committed to implement the 17 global goals for future development. Even though these goals are normative and show no paths to fulfillment, they partly represent the global dependencies at a most urgent level and provide reference points for the development of more specific goals on the regional and urban level.

The German Advisory Council on Global Change, in short WBGU, calls the sustainable global transformation of the economy and society a "Great Transformation". The aim is to reduce global greenhouse gas emissions to an absolute minimum and to create climate-friendly societies. To this end, production, consumption patterns and lifestyles in the three central transformation fields of energy, urbanization and land use must be fundamentally changed. The WBGU takes a comprehensive global view of the economy and society, and identifies the urban level as a key field for transformation. Though, conclusions for the spatial organization at the level of cities or neighborhoods are not part of the WBGU's main report (WBGU, 2016).

The research organization DRIFT for transition positions itself in the field of system innovation and sustainability transitions according to the Sustainable Transition Research Network and other research literature, and derives from it the urgent need to deepen the understanding of the ongoing changes in planning related sectors, cities and regions (drift, 2019). Both terms, ‘transition’ and ‘transformation’ are used to describe fundamental changes in society but for this paper we understand the term ‘transition’ to describe a field of research i.e. to observe it, whereas ‘transformation’ aims to describe both organizable and non-organizable change i.e. a designable process.

(2) Aim of future viability

The various contributions to the issue of transformation converge at the point where they address the viability of an economic, social or spatial system. Therefore, there are strong overlaps with the discourse on sustainability, especially when sustainability is understood as a process rather than a goal or condition (Thierstein and Walser,

2007). In order to reach future viability, transformation is then described as a targeted change towards sustainability (Heyen *et al.*, 2018).

Dealing sustainably with a complex system also means to reduce its complexity. Instead of developing evermore capacities for collecting facts and framework conditions, i.e. data collection, it is necessary to reduce the 'information overload' by recognizing essential patterns that shape the interaction of crucial aspects of networks (Vester, 2007). Vester calls this 'interconnected thinking' and understands it as a quest for practicability, because it reduces the need to find data and at the same time expands the scope of inquiry (Ulrich, 2005). Mastering complexity is a crucial task in gaining future viability.

The Wuppertal Institute conceives cities as real-time laboratories for research on and for transitions to sustainable development. In order to be able to measure transitions and gain knowledge about their path of development, urban landscapes or cities offer good opportunities for research and experimentation. What is measured and tested in the city itself is already contributing to change and, if appropriate communication structures, e.g., through intercultural research networks, are trained and in place, can initiate and accelerate development in a particular direction.

(3) Steering a complex system

Transformation refers to a mostly multi-layered process of change in which different variables closely interact. Given the basic understanding of a complex system, transformation is based on interventions within the system that are supposed to bring about desired changes. These go beyond simple cause-and-effect relationships. It is essential to understand the system's previous development path in order to identify possible starting points for effective interventions. In the transformation process, time simultaneously becomes a variable that can be formed, since for the most part different time horizons of the interventions and their effects are intertwined.

DRIFT's transitions perspective puts cities in focus and understands their complexity as a system in transition. Cities are the ground on which multiple system transitions emerge, arrive and react with each other. Putting this into a spatial perspective, DRIFT expresses that 'a city is [not only] related to other cities, its direct surroundings and to rural and natural areas worldwide' but also connected to other cities in its economic and ecological development, political actions and climate as well as its social and cultural status and trends (drift, 2019).

It is widely accepted that concepts of transformation understand transformation as a systemic change. This means that change comes about co-evolutionary and that its relevant interacting variables – relating to technological, economic, socio-cultural and institutional aspects – need to change concurrently and thereby influence each other again (Heyen *et al.*, 2018).

II.2 Characteristic features of transformation

For planners, the task to actively influence transformation processes comes with certain challenges. However, certain features and findings from the research and practice on transition and transformation provide starting points to proactively shape transformation. We know that the fundamental changes bring notions of complexity, uncertainty and unpredictability to all levels of society. We find that transformation as a process is dynamic and, to begin with, non-linear. How do we steer into a future that is unclear? How do we maintain openness in defining our goals? How do we interact with the multiple processes, not knowing how change will come about?

The multi-level perspective poses a widely accepted transition framework. Initially developed as a conceptual model in innovation research (Geels, 2011), it identifies three analytical levels that form transitions: niches, socio-technical regimes and socio-technical landscapes. We understand e.g. the change of mobility as a transition in the above sense. From a planner's perspective we may describe it by multiple transformation processes, which we can observe and partly shape on the city level. A simplified description of the transformation process we find in research on the diffusion of innovations and distinguishes four phases: a pre-development phase with high

experimental content (1), a take-off phase with first changes out of the niche (2), a breakthrough phase with structural change through accumulation of changes (3) and a stabilization phase in which a new regime equilibrium emerges (4) (Heyen *et al.*, 2018). At this point it remains a challenge to directly translate these phases into planning practice: to which extent can planners trigger these phases? Or from which level can a next phase be initiated? And is the stabilization phase –waiting for the next phases to come– in line with the overall goal of a sustainable world?

Furthermore, we know that drivers and catalysts for transformation processes are not singular, nor are the provoked processes running independently. Drivers and catalysts may be economic or technological factors and exert pressure on regimes. Ecological or technical crises may pose so-called 'windows of opportunity' in which change is accelerated which could be, for example, observed after the reactor incident in Fukushima when an energy transition became possible through a political majority (Heyen *et al.*, 2018). As a matter of course, obstacles arise in attempts of changing the system: one is, that existing paths for development already have a direction and limit decision-making (Heyen *et al.*, 2018).

DRIFT claims that the building of what they call 'transformative knowledge' forms a basis for planning in transition. Transformative knowledge is translated into 'taking an integrated approach and treating the system as a whole' and holds planners to question the status quo, to reflect their own actions and create deeper learning processes (drift, 2019). This approach then should form a knowledge base that is needed for fundamental and irreversible change.

II.3 Shaping transformation – three basic planning models

It is widely assumed that social transformation processes are neither easy to foresee nor are they malleable as a whole (Heyen, 2017). This is due to the fact that transformation processes follow their own dynamic and path, they are complex and are influenced by a variety of inhibiting and acceleration factors. The WBGU believes that 'great transformation' is difficult to control, but can be deliberately shaped to some degree – even though this is estimated to be optimistic (Brand, 2017, Rink, 2018, Shove, 2007). Taking into account the characteristic features of transformation and translating them into planning approaches and methods should be a first step in the right direction (Kristof, 2010).

But how to apply the basic understanding of transformation to contemporary planning models? Planning models support the understanding of the tasks and procedures planners and designers face. According to Archibugi, planning theory is an action-oriented analysis, that creates knowledge for the purposeful design of planning processes in order to enhance target achievement (Archibugi, 2004). By this, planning theory shall provide for a real added value in practice.

In the following section we will describe three planning models in order to translate the discourse on transformation to urban and regional planning processes. The models do not need to be mutually exclusive. Rather they focus different levels of complexity that are inherent in transformation processes. They reflect on the role of professional planners as part of a public planning authority and his capabilities of adopting effective planning methods and instruments. The sketch-like models help to understand the possibilities and limits planners, in order to steer or rather shape transformation processes.

Model 1: **Planning as problem-oriented communication process to explore, agree upon, carry out interventions and assess their effects**

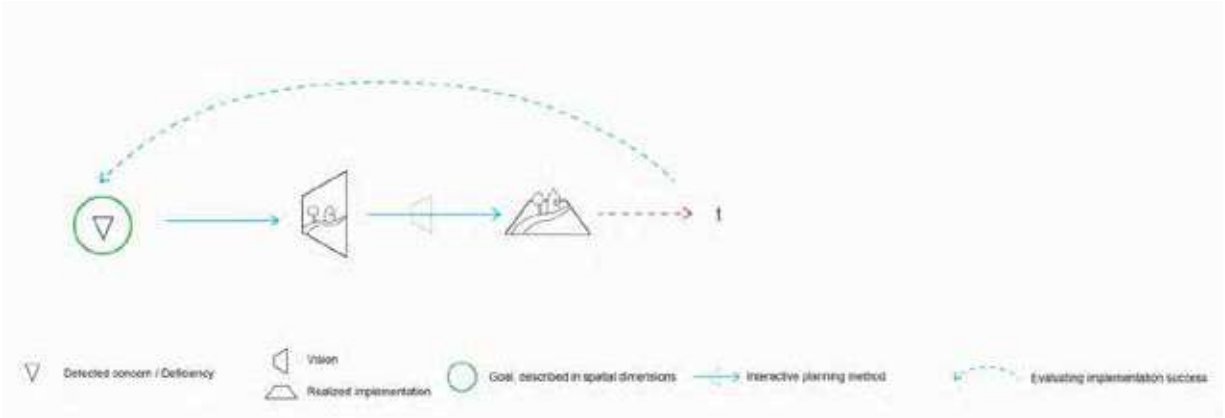

Figure 1: Model 1

This first model refers to a generic planning cycle. A time axis is integrated in order to relate and compare to the following models 1 and 2. In this model, planning is understood as a problem-solving process, that consists of various relevant work steps that stimulate interaction between the professional planning world and the day-to-day world. The handling and managing of those work steps happen in cycles and repeats itself over time (Schönwandt, 2008).

A detected problem or deficit, often in an urban context, serves as the foundation for developing alternative solutions, that are proposed by the planning authority. Problem-finding and problem-solving are described as an iterative process of generating knowledge and refining and clarifying norms and objectives (v. Eisinger, 2012, Schönwandt *et al.*, 2011, Getzels, 1975). In the next step the choice of one solution occurs in a communication process that involves planning professionals as well as political, market and civil society actors. At the end of that planning phase a single future plan is adopted. Its implementation often relies on a set of responsibilities that are distributed among different players such as approving authorities, property owners, investors, organizations or committed users and citizens. When the implementation is finished, an evaluation process is introduced to compare original intentions with the results, and to share experiences or obstacles obtained during the process.

This model is both universal in its application to different issues and spatial scales of planning and fundamental in its systemic understanding of planning as an interplay of system structures and processes. The cycle may be passed through rapidly or slowly and relate to the close or farther future. However, the model remains unclear in describing a path into the future, as it does not show to which extent planning contributes to fundamentally changing a system. Many existing planning tasks draw upon this model in order to provide for reliable solutions: developing a new city-quarter, a bypass road or a waste management system, only to name a few. To achieve this, important preconditions have to be met: Planners need professional knowledge and skills, personnel and financial resources and the capacity to steer the implementation of the plan. The political, corporate and civil spheres have to equally bring in knowledge, skills and resources based on their willingness to cooperate and to provide for legitimacy of the specific planning process. The failure and crisis of planning has to be largely attributed to gaps and weak points within these preconditions which has led to widespread criticism of the prevailing planning approach and system.

Model 2: **Planning as collaborative process to analyze and negotiate long-term alternative futures, define the path for transformation and implement subsequent steps of intervention**

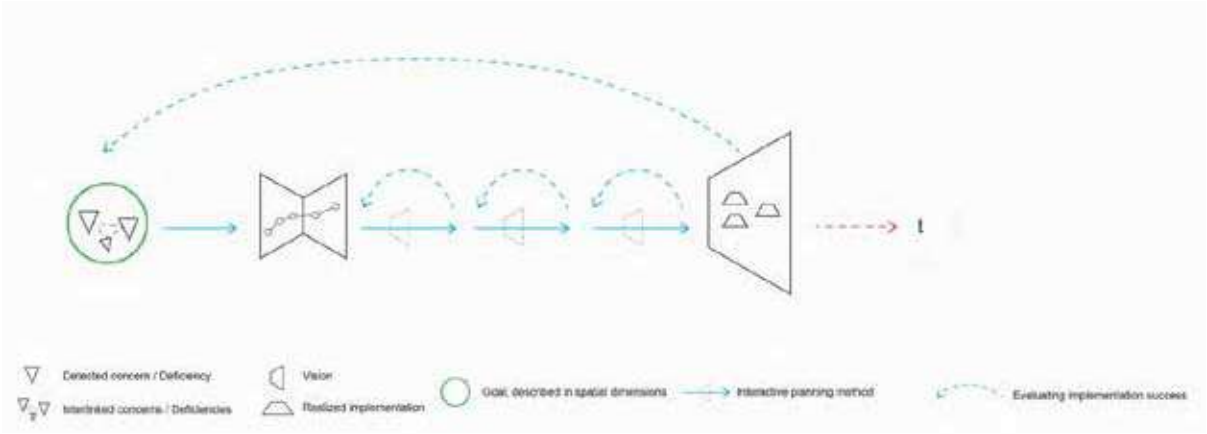

Figure 2: Model 2

The second model focuses on a long-term transformation of a complex system as in the case of structural change of an urban or regional area or the reconfiguration of an urban mobility system. Rather than looking for an immediate spatial solution, the planning group recognizes a pattern of networked problems and expresses goals in a positive vision of the future. As a result, there is a stronger focus on a systems analysis at the beginning of the process. In the next phase, visionary transformative scenarios are developed and translated into a transformation path that will consist of multiple implementation steps. What in the first model is done in one compact step, is here separated into more phases: a longer period of gaining orientation at the beginning and a road map of step-by-step implementation that happens over a longer period of time and allows for monitoring and readjustment throughout the process. As a result, the time horizon of this transformative path exceeds the one in day-to-day business that is often closely linked to election cycles.

According to current literature on transformation research, the development of an integrative and systemic knowledge base for creating transformative solutions is necessary (Jacob, 2018, Roorda, 2014). But how to push actors to deal with a long-term perspective? When starting a process, appealing narratives, that relate to people's perceived problems may serve as a positive trigger. Therefore, communicating future visions, mission statements or narratives is key when transforming a complex system (Heyen *et al.*, 2018). Hence, opening up the scope into a more complex starting position that is related to a long-term transformation process demands for a shared view of the future instead of a fixed goal or plan.

Cites can be seen as real-world laboratories for transformation processes. In their existing urban context they have to address and involve a broad variety of participants, stakeholders and citizens. In view of the range of their interests as well as the complexity of the system to be transformed, the creation of alternative scenarios and the definition of robust transformation steps that allow multiple futures might be a promising approach (Wiese, 2014, Alaily-Mattar *et al.*, 2014).

Model 2 defines a collaborative process that bridges system analysis, future scenarios and long-term implementation. Therefore, a common will amongst capable actors and financial and personnel resources for starting such a broad orientation and planning process are necessary preconditions. Another important prerequisite refers to the need to continuously steer and readjust the ongoing transformation process – as there is no blueprint to be implemented. When heading for a transformative path, the starting position needs to be redefined periodically. We might also be forced to readapt our previously developed positive vision of the future, our narratives and even our transformation path itself.

Model 3: **Planning as multi-step communication and learning process to open-up and explore paths for transformation oriented towards the greater good and their successive assessment and readjustment**

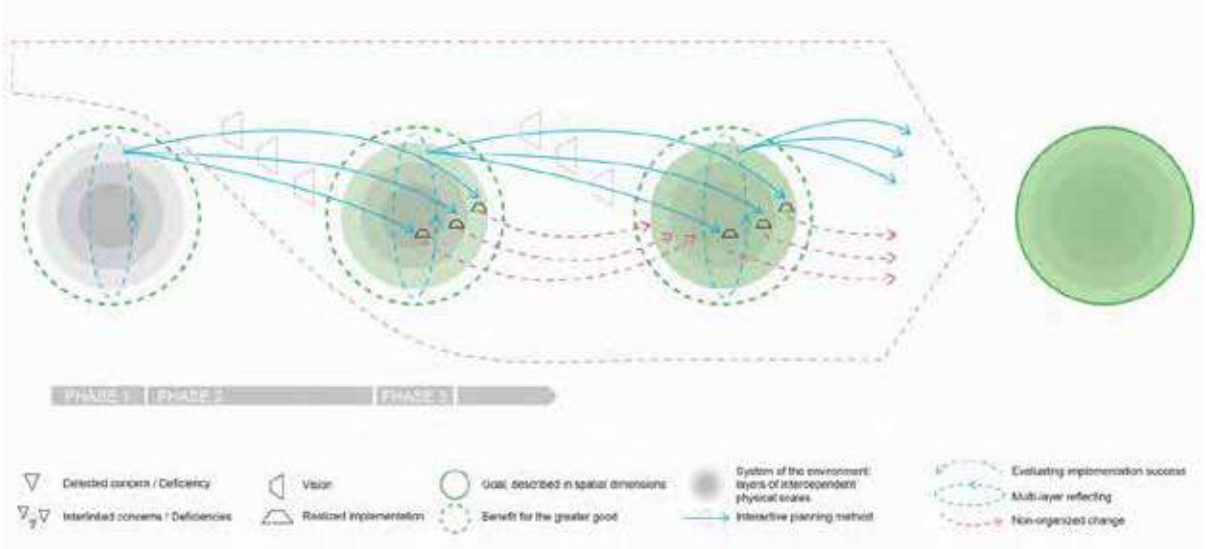

Figure 3: Model 3

The third model highlights planning steps that aim at triggering transformation processes oriented towards a greater good. We understand these planning actions as parts of a continuously changing system that comprise organized as well as non-organized change. The purposefully set planning steps are associated with the on-going non-organized change – be it two processes running independently or by correlation because of the intended and non-intended effects of the planning steps. So, rather than trying to masterplan a process architecture directed towards a greater vision, this model emphasizes the potential of organized smaller steps that aim at opening up paths for transformation.

We do not consider this model to be better that the two other models. Model 3 comes into play as important preconditions of model 1 und 2 do not apply as, for example, a common will and political mandate for coordinated and strategic planning towards a shared vision of the future.

In this model, the goal is defined in a much broader sense. Planning is directed towards the greater good, e.g. reducing CO2-emissions state-wide or globally or creating better mobility for a better way of life. There is, however, no common view of how this goal would materialize spatially nor of the ways how to achieve it. Given this very open normative focus, three layers of analytical thinking and social and political awareness and learning are especially important: 1) The city is part of an interrelated multi-scalar regional or metropolitan system. 2) Cities have the capacity to create and initiate new solutions and act as trendsetters for others. We should therefore gather knowledge of what is happening in other cities. 3) We have to take into consideration global boundaries and thus recognize what consequences current city planning has on natural and rural areas worldwide (Wuppertal Institut, 2019).

According to model 3, the transformation process starts with a growing awareness of the status quo and the desire of collective reflection. This means to initiate communication among committed players that are open to mutual learning (Phase 1). In the next phase, a process is initiated that organizes multiple and often small-scale interventions that are networked on multiple scales. Careful preparation and implementation go hand in hand – as if the work steps of planning model 1 were passed through rapidly (Phase 2). Based on the understanding that the chosen interventions trigger transformation processes that may not be organizable a recurring evaluation is started. Taking into account the context of all three layers including the non-organized processes a new baseline is defined

that has developed a step towards the greater goal (Phase 3). This is a starting point for another set of networked interventions. Re-evaluating methods and interventions, taking steps ahead and back are part of the process. It rather describes an approximation or a development into a certain direction, which may gradually change the system.

III Rethinking communicative planning methods

What can be derived from these models for the activities of planners? And then how can transformation be shaped by which planning methods? We understand planning methods as intentional planning practices preparing interventions with a focus on tangible planning action. It is widely recognized to distinguish between methods and instruments to the degree that methods prepare instruments as spatial interventions. Methods generate knowledge, prepare objectives and solutions and support between the parties involved (Förster, 2014). Planning instruments may then be classified along their different types of interventions (Schönwandt *et al.*, 2007, Jung, 2008). Methods shall constitute effective building blocks within a purposeful planning procedure directed towards the achievement of the objectives set. They can be regarded as a not accidental sequence of activities that demands for careful preparation (Schönwandt and Voigt, 2005). In the planning cycle, methods are planned, resources provided, commissioned and carried out and then a success control is undertaken.

The spectrum of available planning methods is closely related to a broad variety of understandings of planning (Fürst, 2004). Despite the large differentiation of planning methods, one basic conception points to the understanding of planning as a social interaction – if not generally stated, then at least related to certain planning phases or work steps. Therefore communication is a prerequisite for the effectiveness of planning activities (Förster, 2014).

In order to overcome important shortcomings of planning, a renewal of planning is conceived from improved methods and instruments. This is significant as complex systems may be changed through improved processes that gradually reshape system structures. The latest version of the St. Gallen management model, which explains its complex organizational model through interwoven processes and structures, highlights the possibility to bring about change in action and points to the intrinsic motivation as a key to long-term and fundamental change (Rüegg-Stürm, 2017).

When we envisage how planners may shape transformation processes, we should go beyond the optimization of individual methods. Instead, our basic conception of methods should be questioned and reconsidered. According to our understanding of planning, which is supposed to influence transformation processes, we put the communicative aspects in the foreground and have generated three perspectives that are not contradictory but focus on complementary aspects:

(1) In the first planning model, a broad variety of methods is linked to the different steps in the planning cycle. A main focus lies on the dialogue between different planners and their multifaceted setting. The different work steps in the planning cycle refer to a range of different, complementary skills and abilities that are necessary for planning processes as a whole – and how these different skills can be linked and integrated. They range from analytical to visual and communicative as well as design-oriented techniques. Instead of mobilizing a wide spectrum of individual skills, it seems to be particularly relevant to focus on productive interfaces and synergies in order to let them work together (Harris, 1999).

(2) The second model focuses on a sequence of methods with which long-term visions of the future can be developed and then translated into a sequence of interventions, e.g. a roadmap. A specific mix of approaches forms a coherent planning process over a longer period of several months up to some years that involves key players up to a wider public. In many cases, an interdisciplinary approach is necessary

in order to systematically design this larger process, i.e. a mandate must also be available for this assignment, which can be difficult for some clients (Wiese, 2014, Wirth, 2019).

(3) This open process as conceived in the third planning model demands for approaches that stimulate learning in the system without necessarily involving or pre-arranging a larger or more comprehensive planning process. Here, the interaction between processes and structures is at the center of consideration. "One cannot jump into the same flow twice". The mutual interplay of processes and structures is at the heart of the St. Gall Management Model, with the processes being everyday events and the current system structure being the result of past processes. This means that further development takes place in direct connection with the collected experiences up to the present time (Rüegg-Stürm, 2002). So, if we want to achieve 'system learning' with regard to our abstract goal – to improve the common good – we have to change our system structures in a relatively short time. Suitable planning methods and instruments should initiate a process, that produce a next round – in accordance with the French saying: “L’appetít vient en mangeant’. Methods and interventions become tightly linked. These triggers for change should be applicable even if there is no significant budget, no clear political mandate and no clear objective. It is important to anticipate and take critical stages and reach thresholds in order to take new steps from there.

IV Urban Mobility: 4 key dimensions of communicative planning methods as agents of change

According to model 3, planning methods are conceived as incremental steps that trigger system transformation. Thereby, communication is a key to involve stakeholders, transport knowledge, start acting and perceive and evaluate the results. When translating this to the transformation of urban mobility, we hypothesize that four interrelated dimensions are particularly important.

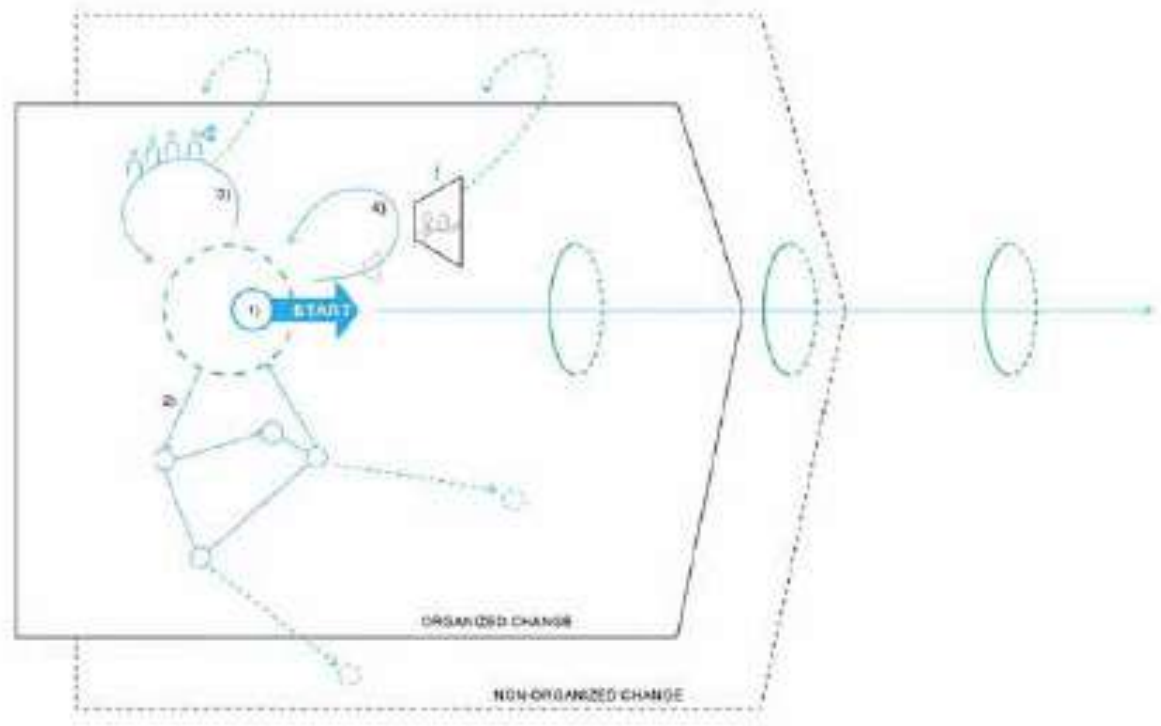

Figure. 4: Four key dimensions of communicative planning methods as agents of change.

1) Start here today with tangible steps: Which processes and steps are particularly relevant at the beginning of a transformative process? There is a need to set up a strong basis for the starting position. Communication plays a particular role in forming transformative knowledge and since knowledge goes both directions informing and collecting, we may actively influence the so-called non-organized change. The sooner we interact and intervene, the sooner our intentions and actions can become part of the transformative process as e.g. experiences, which then may be passed on and trigger more – 'Like a stone thrown into a pond'.

2) Networked thinking and design: Our actions, ideas, strategies and transformation concepts are doomed to fail when they have to tackle such big changes all by themselves. A coordinated set of smaller actions on multiple layers – those may include spatial design proposals, a town hall meeting or the invention of a new ticketing system – may legitimize a process more effectively. Also, it is important to understand and know what other plans and strategies are currently employed. Collecting experiences on how mobility is developing in other cities or regions is crucial, given that it is such a pressing and complex task.

3) Involving players beyond ideologies and gridlocked positions: The dissemination of change is significantly dependent upon the spectrum of participants, stakeholders and users we address and have on board. However, how to communicate and what has to be communicated is particularly relevant. When we argue for a mobility change for the better, those involved need to agree on a path towards a greater good. Mobility change is very much influenced by multiple factors and powerful parties. Therefore, it is particularly important to gather a most complete group around the table.

4) Use spatial interventions to make a difference in space: Spatial interventions may trigger experiences and change motivation and behavior through a most effective learning. The scale of a spatial intervention may also determine how well it is perceived, how intense the experience is and how far it may reach. There is a threshold to the scale of a spatial intervention for them to work as messengers.

We call methods following these dimensions agents of change as they may kick-off transformation processes. While planners apply these methods in the field of organized change, communicative interventions also transfer knowledge and experience to the non-organizable part. This framework is used to discuss the change of mobility in the context of a seminar for continuing education of professionals in all planning disciplines, as described in the next chapter. The transformative capacity of communicating planning methods are discussed along several cases from practice and research.

V Pt.Seminar on methods of triggering long-term change in urban and regional mobility

Pt.Seminar is a dialogue format on current planning methods run by the Chair of Planning Theory & Urban Development at RWTH Aachen University. The seminar encourages the exchange of knowledge between academia and practice. Practitioners from public planning authorities as well as private planning offices are currently looking for new ways to handle the ever growing complexity in their everyday work. Transforming urban and regional mobility is a particularly demanding task. In many cases, planners find themselves in hybrid situations with vague political mandates and outdated development plans that lack implementation in many respects. During the half-day session we focused on innovative planning methods that have been employed to actively take part in mobility change. Experts presented current approaches which then were discussed along those four previously illustrated dimensions: 1) start here today with tangible steps, 2) networked thinking and design, 3) involving players beyond ideologies and gridlocked positions, 4) use spatial interventions to make a difference in space.

Figure 5: Impressions from the Pt.Seminar

This event took place only recently in May 2019 and helped us to gain preliminary feedback to the relevance of our conception of transformative planning methods as triggers of long-term change in urban and regional mobility. The presented cases ranged from a research approach to mobility design, a GPS-supported method for the investigation of use and perception of space, a progressive mobility concept with an elaborated set of measures for a large city initiated by a public-private coalition, the conception of a cycle fast track and regional cycle path network, mobility in rural areas to a real-laboratory for sustainable mobility culture. The joint discussion of these cases in relation to the four dimensions revealed capabilities and limitations and important fields of tensions when applying communicative planning methods as triggers of change.

The presented examples of 'starting here today with tangible steps', released an intense discussion on the culture of the experiment. Experimental pilot projects should not be regarded as precursors of permanent solution only. Instead, the experiment could be installed as a principle, as a stand-alone planning approach. Selective experiments could be disseminated throughout the whole quarter, city or region. In that sense, experiments are not to be held as a demonstration of the right solution, but they push forward an open learning process. Therefore the evaluation of experiments is crucial. This rather playful approach can be supported by a set of rules that give room for maneuver.

Following up this idea, the representatives from public administration stated a lack of knowledge of how to adjust their rules to the experiments they are ready to support. Furthermore, the case of the Stuttgart Laboratory of Sustainable Mobility Cultures demonstrated, that experiments as planning approach need to be managed and

supported with resources (Mobilitätskultur, 2018). This would be a new field of activity for public authorities. At the same time, a loose coupling of step-by-step activities on the ground to mid- and long-term planning strategies and frameworks at the level of the city or region would be important. Starting here and today can operate as pre-testing for overall strategies, they may pave the way to successfully transform the system.

The dimension 'networked thinking and design' was discussed at two levels: First, planners and designers have to intervene in the system with effective packages of measures. That means combining multiple steps on multiple layers of the system. Second, a network of partners shall be established that supports the transformation process with different knowledge, perspectives and resources. The case of Munich Model City of Mobility 2030, as presented in the seminar, uses the interplay of Transport-Space-User as leitmotif for networked thinking within a dialogue process (Inzell, 2018). This is particularly relevant, as the process brings together partners from industry –including automotive industry– the Chamber of Industry and Commerce, municipal and regional transport services and public administration. Networked thinking serves as an approach to overcome individual interests and individual solutions.

Shifting the perspective from the individual to the common good was also a key issue when discussing the third dimension 'involving players beyond ideologies and gridlocked positions'. Therefore it is important to acquire a broad variety of partners and to encourage them to talk about needs instead of measures first. The user perspective may open-up the discussion beyond clear positions. The reflection of one's own mobility behavior as well as the recognition of the dynamics of mobility patterns in time and space sensitizes for diverse perspectives.

When looking for partners and followers, it is important to address those who are satisfied and encourage their ambition to want more. At the same time, we shall build up relationships to those who think different, to bolster the sceptics, to invite people to jump on the process and to allow others to correct their position without loss of face. Additionally, the discussion highlighted the relation between planning and politics which is in many cases unclear. Who pushes and pulls whom? The dialogue process on the Munich Model City of Mobility 2030 was not mandated by politics but was meant to stimulate an agenda setting process in times of political blockade.

During the seminar it was hypothesized that one can intrinsically motivate citizens, politicians and other planning participants on the basis of spatially experienced experiments which in the case of success at best trigger a next round of planning activities and actions.

The issue of 'use spatial interventions to make a difference in space' stimulated the debate on the question how we actually experience mobility in space. This also refers to our concept of culture and everyday practices. So far, the car not only occupies a large amount of the surface in our cities, but thus also receives high visual attention. Its presence in urban space is a prerequisite for its role as status symbol. Within the seminar, the positive experience of mobility was addressed as a pressing issue for the transformation process towards more sustainable forms of being mobile. This also includes the net quality of mobility.

Based on that, the capacity of space as a transformer was subject to intensive discussion. Visualizing change may be associated with a user benefit or may also be of symbolic value. The project To the Next Place in the village of Heimenkirch in the rural area of Allgaeu in South Germany designed prominent bus shelters produced by local carpenters (Seeholzer, 2017). These shelters are intended as meeting points for lifts, and are at the same time adopted as public gathering place. Shared lifts in cars – once being communicated as credible alternative – will predominantly be arranged via internet or phone calls. So, the shelters can be seen as spatial interventions that create awareness for alternative solutions and stimulate changes in behavior. This illustrates the close link between infrastructure, design and society that is important for the shaping of transformation processes.

VI Reflection

We hypothesize that communicative planning methods as triggers of change have to comply with one or more of the four dimensions as discussed above. When regarded together, some preliminary conclusions might be drawn.

Flexibility and adaptability

The involvement of planners and planning authorities in multi-step processes with recurring phases of reflection, multi-level planning activities, following interventions as tangible steps forward demand for a high level of flexibility. The proposed approach moves the different planning steps closer together and thus may speed up everyday business of planners. Therefore, they need the mandate to make decisions beyond lengthy administrative and political procedures. Otherwise, transformation will proceed without proactive public involvement. Moreover, planners need to be prepared to readjust their methods and instruments according the lessons learnt from the organized and non-organized change they provoke.

Courage and willingness to act

Triggering change goes beyond the elaboration of a plan – it demands for action. Planners have long been paralyzed by the development of too complex, too comprehensive, too long-term planning frameworks. As a result, they tend to have a rather passive role – waiting for comprehensive feedbacks of public agencies, for political decisions, for implementation through other authorities. When shifting to an understanding of communicative planning methods as triggers of change, planners need the mandate, courage and willingness to act.

Role of planners as part of the game

If planners follow these ideas, they will find themselves as players within the transformation process. This is related to a new form of responsibility. Planners as well as public planning authorities cannot refer to the fact that they have to wait for others nor shall they act on their own. They need to actively create networks and win new partners in order to drive the process. They have to learn that the formation of opinion, the declared commitment of key stakeholders and the strong political mandate are no precondition of their activities but a result of a positive learning process.

Multiplicity of communication

Finally, proactively triggering change in a step-by-step process multiplies the communication challenge. Planners need to address and involve more participants, stakeholders and users. Networked thinking and design demands for actively linking different levels and related responsibilities within the system. Interventions demand for a dialogue with target groups, parties concerned, licensing authorities, property owners, operating companies etc. These multiple addressees and related ways of communication may lead to a productive interplay such as communicating–reflecting–negotiating–intervening–experiencing and as such triggering change.

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