Analyzing and Assessing the Experience of Traveling by Public Transport

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Abstract

The experience of traveling (as an aggregate of sensory impressions in relation to social and psychological needs) has so far rarely been considered as a factor influencing travel and modal choice. This paper proposes a practical way to disaggregate the “travel experience” into its separate components and suggests a procedure to assess the “experiential qualities” of (mainly public) transport services. This assessment allows planners to compare different user groups’ expectations as well as the provider’s strategic objectives. The procedure then is discussed in relation to several recent strands of transport/mobility research that are approaching the travel experience from different points of view. The discussion concludes that much of this recent work has analytical objectives, whereas the present procedure is oriented towards the practical, service planning, and development context. However, the various concepts should be seen as complementary rather than competing, and there is much potential for mutual learning in further developments.

Travel Experience and Transport Planning – Two Different Worlds?

Since the activity of traveling is an integral part of transport (in the sense of moving people or goods), one would expect that transport science has taken some interest in the various ways in which travel can be performed and the different effects these forms have on people and their mobility. However, this has, by and large, not been the case so far. The demand or desire for travel is often considered as a “derived” phenomenon, shaped and explained by time, costs, and spatial factors. From this perspective, studying the journey itself appears to be of secondary importance (for a more detailed critique of this perspective, see Schiefelbusch 2010).

Fortunately, the situation is changing: For some years, the research community has started to broaden its view, and to some extent this can be said about the non-academic professional world as well. Several strands of activity can now be identified which approach what will be called the “travel experience” from different perspectives, although the object of interest is not necessarily referred to as such (see the next section).

This paper presents one of these new approaches—it discusses the experiential dimension of travel and explores possibilities for handling it in transport planning, in particular in the design of public transport services. The “travel experience” is considered as a complement to the existing views, with the overall aim of getting a deeper, more comprehensive understanding of travel behavior and to develop more suitable policy responses.

The ideas presented here are based on research that had two main objectives: first, to identify ways of capturing and structuring the travel experience as such, and second, to establish the way this dimension was handled in planning and implementing public transport services. Due to limited space, this paper focuses on the issue of establishing and assessing the “experiential qualities” of a transport service. It sets out the assessment procedure developed as part of that research together with the terminology used, but leaves aside most of the theoretical framework and empirical results. Readers interested in those aspects are referred to Schiefelbusch (2008, 2010) for further information.

The research and concepts discussed here were developed in the (Western) European context, which is reflected in the material collected (Schiefelbusch 2012), but probably also in an implicit understanding of the role of public transport for society that may be European rather than American or “global.” However, the way in which public transport is organized (as an industry under strong public sector influence) and the ways in which it is produced (as predominantly fixed-route, fixed-timetable bus, light and heavy rail services) does not differ that much. Some specificities are discussed further below. The topic of this paper and its basic idea should therefore be of interest for American as well as for European readers.

The paper proceeds with a synthesis of the research strands that have over the last about 10 years started to address the “travel experience” before the assessment procedure is presented. This is done in four stages: setting out the aim and scope of the process, providing the main definitions used, describing the various stages of the assessment process, and discussing the findings, further development needs, and the potential policy implications.

The Travel Experience as an Evolving Research Topic

A growing interest in the experiential dimension of travel can, without doubt, be observed in the recent past. This applies both to transport research as such and to its neighboring disciplines such as social science mobility research, psychological mobility research, cultural studies of mobility, and marketing. A greater interest in customer orientation, commercial thinking, and efficiency in the public transport sector also plays a role (Schiefelbusch 2010). Technological developments, in particular the rapidly-growing diffusion of ICT devices, offer new possibilities to use travel time for other activities. As a result, the perception of travel time has changed significantly over just a few years (Lyons, Jain, Susilo 2011; Gripsrud, Hjorthol 2012).

Table 1 provides a very brief overview of the main strands of recent research. Such a synthesis inevitably includes generalizations and imprecision. In particular, it should be

noted that interrelations between the different approaches can exist. Furthermore, the allocation of the studies shown to just one of these approaches cannot always do them justice in terms of the issues and methods they deal with.

TABLE 1. Synthesis of Research Strands

Type of Approach	Studies (Examples)	Relation to Travel Experience
(1) Travel time use	Flaig, Kill (2004), Lyons, Jain (2007), Jain, Lyons (2008), Tillema, Schwanen (2009), Berry, Hamilton (2010), Lyons, Jain, Susilo (2011), Gripsrud, Hjorthol (2012)	Travel time (in public transport) is conceptualized as a potential occasion for other activities, which can be both work and leisure-related. In addition to activities, it may also be useful as "transition time." This challenges the traditional classification of travel time as unproductive or useless.
(2) Travel as activity in its own right	Heinze (1979), Mokhtarian, Salomon (2001), Mokhtarian (2005), Ory, Mokhtarian (2005), Diana (2008)	The notion of mobility as purely derived from external demands is modified by acknowledging that it can to some extent/in some circumstances have an appeal in its own right (see Figure 1).
(3) Sensory dimension of physical mobility	Schulz et al. (2000), Steg (2005), Gardner, Abraham (2007), Dick (2009), Lois, Lopez-Saez (2009), Basmajian (2010)	Physical/corporeal mobility is perceived as exposing the traveler to sensory and cognitive experiences (acceleration, lateral forces, driving skills, etc.), with much variation according to situation and mode. These experiences can be seen positively or negatively.
(4) Mobility and lifestyle	Götz et al. (1998), Zahl; Götz (2001), Hunecke (2009), van Acker et al. (2010)	Mobility is embedded in the way of life and as such influenced by personal values, priorities and attitudes, including importance given to mobility (see Figure 1).
(5) Mobility as practice of everyday life	Schwanen, Dijst (2002), Lyons, Chatterjee (2008), Poppitz (2009)	As before, the focus may be seen more on the practical requirements of organizing everyday life by means of mobility.
(6) (Perceived) quality of service of (public) transport	Werner (2001), Susniene, Jurkauskas (2001), Hensher et al. (2003), Kittelson & Associates (2003), Hensher, Mulley et al. (2010), Friman (2010), Rietveld (2005)	Following from the general definition of quality as fulfillment of pre-defined criteria, the quality perceived by the users of a transport service is related to the experience during the trip and influenced by both measurable and subjectively perceived parameters.
(7) Transport and well-being	Ettema et al. (2010), Olsson, Gärling et al. (2011), Jakobsson Bergstad, Gamble (2011), de Vos et al. (2013)	Based on the concept of well-being as an overarching objective, the potential contribution of mobility is examined.
(8) Comfort and convenience in transport	Crockett, Hounsell (2005), Cantwell et al. (2009), Buys, Miller (2011), Blainey et al. (2012)	Convenience or comfort quite often emerges as an important parameter of mobility in several surveys, which has a clear link to the experiential dimension. A major challenge lies in the operationalization of these concepts.
(9) Policy impact assessment	Kottenhoff (1999), Bamberg (2011)	Evaluation and impact analysis studies of policy measures that take into account their psychological effects
(10) Design of vehicles, services, etc.	Kottenhoff (1999), Bates (2004), Dziekan (2008)	The travel experience is shaped by the design of the travel environment, whose perception by the users is captured through surveys, experiments, observations, etc.
(11) Customer experience research (in general)	Kagelmann (1999), Oriade (2008), Carrera et al. (2013)	Assessment of the perception of a service, based on a holistic, customer-focused view (for example, in tourism and leisure studies)
(12) Travel experience as a result of service features and psycho-social needs	Schönhammer (1998), Klühspies (1999), Perone et al. (2005), Guiver (2007), Stradling, Carreno et al. (2007), Urry (2007), Lois, Lopez-Saez (2009), Carrera et al. (2013)	Experiential needs can be linked to psycho-social requirements. Different ways of being mobile are characterized by psycho-social parameters (in addition to others).

One conclusion from this highly-condensed review is that the travel experience can be approached with a range of methods and from a wide range of perspectives. They range from studies that discuss mobility on a very general level to works that seek to evaluate different transport services. Some (in particular, the first two entries) can be seen as evolutions of travel behavior studies that seek to provide data and models on mobility patterns. In most other cases, a social or psychological interest is more dominant.

Very few of the studies listed above discuss the practical consequences of taking such a broader view of travel behavior. An analytical and modeling interest is, by far, the dominant approach. This is not surprising (and legitimate) given the relative novelty of the field and the broad range of research interests behind the above list. However, this means that it is difficult to derive conclusions for transport planners, designers, and managers on how to consider the travel experience as part of their respective roles and tasks. This is the more true the more concrete issues related to the shape of a specific service are considered. In this situation, an awareness of the complex and multi-faceted nature of the travel experience is only of limited value—it is necessary to “break down” this awareness into parameters, procedures, and possible measures that can be understood and applied in this environment.

The procedure presented in this paper seeks to respond to this situation. In the conceptual work, priority was, therefore, given to making the travel experience as a whole accessible for the language and philosophy of transport research and planning. While it has taken inspiration from the different perspectives developed in neighboring disciplines (Schiefelbusch 2008, 2010), the conceptual work itself was undertaken in parallel with most of the works mentioned in Table 1. A comprehensive coverage of the subject with its many dimensions was favored over a high level of differentiation and precision in specialized sub-areas.

Of the research strands listed in Table 1, only those considering the design of vehicles (#10) and, less so, to the quality of service (#6) and the last one can be said to combine an interest the travel experience with a look at the circumstances of different travel environments. In studies analyzing design features, it is to some extent common to compare user reactions to different solutions for seat layouts and the like. However, by focusing on the material dimension, many other influences shaping the travel experience are left out. Quality-of-service research has gained importance in recent years following the growing interest in measuring and assessing the performance of transport providers together with performance-based payment. While the quality perceived captured through surveys is influenced by the travel experience, these measurement methods usually capture aggregates of user impressions, and the range of items included is often not detailed enough to go into more detail.

The approach chosen is most closely related to the last group of studies listed in Table 1, by comparing requirements with product features. The difference lies in the level of analysis and detail—the process was developed with an applied rather than academic focus to allow planners to compare different user groups’ expectations regarding the travel experience and evaluate service concepts in the light of different strategic objectives of the provider.

Aims and Scope of the Present Work

A Wider Perspective on Mobility

The discussion of the travel experience's different aspects has to start with the question of why somebody is making a journey. There is no doubt that the need to get from A to B is the main driver for mobility, and it is this instrumental perspective which has by far dominated the thinking and doing of transport research so far (Schiefelbusch 2010). But to determine the "travel experience" both in analytical and practical ways, it is necessary to go beyond this understanding of mobility by acknowledging that traveling can also be an *activity in its own right*, performed for its own ("intrinsic") sake; the *embeddedness of mobility into people's personal life*—not only as a geographical, but also as a mental link between activities (Meier-Dallach 2004; Jain and Lyons 2008), and the possibility (function) of travel to *serve other needs* such as a desire for social status, distraction or liberty.

Figure 1 aims to illustrate this by defining three perspectives on mobility—from left to right, "mobility as an activity" focuses on the act of traveling as such, whereas "mobility as a means to an end" is another way of phrasing the traditional, instrumental view of transport planning. Finally, "mobility as a part of life" refers to the fact that traveling has to be seen as part of a wider setting of activities, cultural practices, but also norms and values.

FIGURE 1.
Dimensions of
Personal Mobility

The travel experience, as defined in this paper evidently is linked to the activity of traveling, but can also be influenced by factors not directly related to a specific journey. Moving from left to right in Figure 1, the focus of interest shifts from specific to general, and it becomes more and more difficult to link, for example, the results of lifestyle-related studies, back to concrete manifestations of travel behavior.

Conceptual Issues for Assessing the "Travel Experience"

Comparison, assessment, and selection of alternative solutions to a problem or task are key elements of any planning process. A large number of procedures has been developed to ensure a balanced and comprehensive evaluation of the available options and to arrive at the best possible choice.

Regarding the "travel experience," the question arises how this can be defined and how this "soft" dimension can be linked to the planning sphere with its traditional focus on "hard" issues such as time, cost, reliability, and capacity. This requires criteria for the description and comparative assessment to be developed, the presence or absence of which can be used as an indicator for the "experiential quality" of the service.

To do so, a compromise has to be found between the multi-faceted nature of the “travel experience” and of the large variety of possible instruments and the need for structuring, standardizing and quantifying the characteristics of all planning processes.

It is, thus, necessary to reduce the complexity of the travel experience to a practicable number of elements and to develop a list of criteria and an assessment scale that allows meaningful comparisons in spite of the often limited quality of the input data. Furthermore, the assessment procedure should take account of, and be practicable for, different objects and contexts such as various kinds of interventions and customer groups.

This paper outlines such a procedure for the assessment of the “experiential qualities” of public transport services as well as and of “travel experience instruments.” The following elements need to be part of such an assessment:

1. A comprehensive description of the scheme (transport project, service etc.) under consideration—in particular, regarding its sensory appearance and usability from the users’ point of view.
2. An assessment of the scheme’s impact on the “emotional requirements”—which of these are positively influenced, which ones are compromised?
3. A review of the scheme’s user groups (if possible including their market share) and their expectation—features should be weighted according to the importance given to them.
4. Consideration of the potential users’ reactions to the scheme—both direct and indirect ones.

In this way, the “emotional” strengths and weaknesses of different options become apparent. Combined with data about the resources (costs) required by the schemes, the most viable option can then be chosen. Caution should be used, however, in conducting an economic appraisal (in the strict sense of the word) due to the qualitative nature of many criteria and frequent time lags before the effects can be seen.

Defining and Structuring the “Travel Experience”

Definitions

Travel experience—A commonly-agreed definition of the “travel experience” has not been developed so far. It may be associated with “comfort,” a criterion at least familiar from vehicle design, capacity planning, and also occasionally included in transport models. Yet, a closer look shows that not all aspects that shape the travelers’ perception are related to “comfort.” Aspects such as en-route activities or the outside view can for example hardly be put in the category of “comfort,” but certainly influence the way the journey is perceived. Moreover, these examples (also) show that the “travel experience” is a multi-faceted phenomenon which can mean many different things to the travelers. We define, therefore, the “travel experience” as “the aggregate of sensory impressions a driver or passenger experiences during the course of his or her journey.”

This description includes a variety of impressions—that can be of different origin and can be experienced through all senses, a variety of elements causing these impressions—both “hard” and “soft,” both main roles of traveling—the “active” driver and the more “passive” passenger,” the journey in all its parts, including access/egress, change of modes and breaks or stopovers, and, importantly, the notion of the experience by the mobile person himself; hence, the subjective perception.

Some clarifications may be necessary regarding the scope of “travel” and “experience.” The former may be associated with “traveling” long distance, as in case of going on holiday, and thus linked to relatively rare journeys. However, a focus on such trips is not intended here—the journeys which have to be analyzed can be of any length. Likewise, an “experience” might be understood as a “spectacular,” unusual event that creates a lasting impression. Again, the concept of the “travel experience” must not be considered as limited to such occurrences. The general concept can also be applied to different modes of travel as well, despite of the focus on public transport in the present paper.

Travel experience instruments—Based on the “travel experience” as a user-focused phenomenon, we now turn to the “input” activities that are capable of shaping this experience. In public transport, the facts that people who do not necessarily know each other travel together in one vehicle, services are shaped (in terms of service patterns and vehicle design) and operated according to a pre-established plan, and services are provided by an operator rather than the travelers themselves, providing an important, and challenging, framework condition for the development of the overall “travel experience.” We will refer to these activities as “travel experience instruments” or “schemes,” defined as “elements of a transport service that are provided during the journey (including access/egress and waiting times) in order to create emotional impressions, entertainment, or experiences, and, presuming that these elements are usually provided with positive intentions, with the aim of a more attractive and successful product.”

This definition implies a link to a specific journey; hence, general marketing/publicity activities conducted by transport providers—for instance, through advertising—would not be included. These instruments can be conducted by or on behalf of the service provider, but, of course, the travel experience can also be shaped by the passengers and their fellow travelers themselves.

A large variety of interventions can be used here, ranging from small-scale customer service features to vehicle and infrastructure design. Possible solutions also differ in their duration, the number and kind of users targeted, and the service provider’s intentions. The range of options is described in other works by the author (Schiefelbusch 2008, 2012).

Emotional attractiveness—The third important term used in this paper is the so-called “emotional attractiveness.” This is part of the assessment process proposed here and described in more detail later in the paper. Based on the considerations provided so far, the “emotional attractiveness” can be defined as “the aggregate of the sensory qualities provided by a transport service or a travel experience instrument, based on a comparison of the service’s or instrument’s characteristics with the range

of psychological, physiological and social expectations the service users may have.” This definition requires two main inputs: first, a comprehensive description of the instrument under examination, and second, a set of criteria that can serve as a frame of reference for the assessment.

The Travelers’ Needs

The discussion of the travel experience’s different aspects has to start with the travelers’ expectations. To determine the “travel experience,” it is useful to look at social science mobility research, and psychology in particular. In focusing on the individual and, thus, the transport users’ view, this provides a further set of criteria that can be used to describe the potential user needs. The following list summarizes the items used by the author, based on a review of relevant studies from these disciplines. It combines items that also have a “practical” dimension (the first five items), as well as less tangible criteria, which are referred to as “psycho-social needs” in the following.¹

- The *transport function* refers to the usability of the available services for a concrete transport need, as defined by origin, destination, time of travel, and the passengers’ needs for a direct journey, as well as assistance in boarding due to a disability, etc. Good or poor fulfillment of these features has obvious implications on the propensity to choose the service and on the users’ satisfaction. It would be wrong, therefore, to exclude them from the elements influencing the “travel experience.”
- *Physiological comfort* may be understood as comprising all issues related to the passengers’ physical accommodation during the journey, such as the design of seats, temperature and ventilation, or luggage storage arrangements.
- *Psychological comfort and relaxation* refers to the ability of using the service without the need to perform driving duties, with confidence and free from interferences that create stress (for instance, in cases of crowding, dominant behavior of other passengers or feeling disoriented). The freedom from driving duties (but not necessarily from other potentially stressful tasks such as finding one’s way through the transport system) is a distinguishing feature of public transport and a prerequisite to perform other activities (e.g., reading, working, listening to music).
- *Entertainment and stimulation* refers to the already-mentioned fact that travel can generate sensory impressions and experiences that may be perceived as valuable in their own right. Entertainment may be provided by the travelers themselves or by the operator—for example, through performances during the journey or on-board video equipment.
- Travel time may be *used for other activities* and, thus, serve other needs. An obvious example is the possibility to eat or to work on the train.

¹ The sequence of presentation does not indicate relative importance or priority. The definition of the criteria has been slightly modified since the original work of the author.

- *Communication and contact opportunities*—possibilities for contact with others as a basis for the fulfillment of other needs such as inspiration, mental and corporal vicinity, or appreciation. A simple example is a conversation between passengers sharing a compartment.
- *Image and prestige*—the individual transport user's possibilities to "produce" his/her image and influence the others' view of oneself by the way mobility is performed. This may be influenced through image-building for the service in general or branded services for certain groups, like "premium services" (Rideout 2009; a recent example being the "Leap" service in San Francisco, Weinberger 2015).
- *Substitution for a friend or a partner*—possibility to build up a "relationship" with the vehicle, which offers the feeling of being understood and to compensate other communicative deficits.
- *Physiological stimulation* refers to the sensory effects caused by the movement itself (acceleration/deceleration, vibrations, lateral forces). Trips on historic vehicles, open cars, or the like (e.g., the San Francisco Cable Car) provide such experiences.
- *Feeling of freedom and thrill* goes beyond this. It describes the stimulation obtained by a self-controlled exposure to "exciting" influences. In the regulated public transport environment, such experiences are evidently difficult. A now-historic example is the well-known London Routemaster bus with its open rear platform onto which passengers could jump on and off with the vehicle moving.
- *Regulation of aggression and social fears*—possibilities to "let loose" one's emotions, to let emotions run free, in particular to compensate previous negative experiences elsewhere, in order to re-obtain the personal psychological balance. A passenger playing a simple video game on his/her computer after a stressing day of work may serve as an example.
- *Finding identity and meaning*, contribution to a meaningful and satisfactory life. Mobility can contribute to this as an activity, but also indirectly as an objective to which one devotes time and resources (such as volunteering for a transport heritage scheme or saving money for a long holiday).
- *Regulation of privacy* sums up possibilities to delineate a personal territory and to obtain a "personal space" that can be designed and controlled independently. Public transport can respond to this—e.g., by differentiated seating arrangements.

When using these criteria, some limitations of the present list must be kept in mind. First, it aims to be comprehensive but does not exclude overlaps between the individual criteria. Second, the items should not be understood as the "final word" in terms of their terminology and delineation. They are open to refinements and modification in detail in subsequent research. However, the basic layout of the procedure presented below should be considered independently from such modifications. Third, there are obvious incompatibilities between some of the criteria (for example "relaxation" can

hardly be reconciled with “thrill”), so it is unlikely that any service will ever be able to fulfill all requirements at the same time.

The Service Providers' Views

Whereas the previous section has dealt with the possibilities to shape the “travel experience” as a service provider, the “content” of such activities is, of course, not the only issue to consider. Travel experience instruments can be of large or small scale, permanent or temporary, and can be used on a variety of services.

Furthermore, the provider’s interests have to be considered as well. Although operators can, of course, introduce such offers in response to customers’ needs, they will most likely consider the costs and possible profits from such activities in addition to the mere satisfaction of their clients. Other interests and expectations—for example, the image of the company and longer-term objectives—also may come into play. The provider’s assessment therefore will be based on different criteria. Table 2 presents a set of items to describe “travel experience instruments” from this perspective. As discussed below, these criteria do not have the same relevance on each occasion.

TABLE 2. Provider’s Criteria for Selection and Development of “Travel Experience Instruments”

Criterion	Definition	Unit of Measurement
Resources for development	Resources required for conceptual work and practical preparation, e.g., investment, planning and preparation costs, time spent by own staff	Monetary units, time (per instrument)
Operating costs	Costs for providing the service (own and external staff, material, licenses, etc.)	Monetary units (per period or occasion of use)
Possibility for standardization	Possible duration of use, ease of repetition in different places and/or at a different time	Time span, qualitative assessment
Transferability of an idea	Independence of the content to concrete locations/occasions	Qualitative assessment
Practical flexibility	Independence of the concept of other features of the service, e.g., requirements of vehicle space or equipment	
Potential for differentiation	Possibility to provide the service on a smaller scale, such as only in parts of the vehicle or on a personal level	
Compatibility	Impacts of instrument on operations and other services	
Willingness to pay	Possibilities to implement and market the instrument in a way that additional revenue can be obtained (either for a separate premium service or as a part of a general service upgrading)	Qualitative assessment, possible measurements in monetary units
Publicity	Attractiveness for media reports due to novelty value or other characteristics, suitability for use in other public relations work	Qualitative assessment, possibly estimate based on experiences

The potential for differentiation and the (users’) willingness to pay also are not necessarily connected. The same is true for the decision on the introduction of the instrument and on special charges for it—the provider may, for example, renounce to generating extra revenue for practical reasons. In addition, there are goal conflicts between some criteria as well—for example, between “publicity” and “potential for differentiation.”

Those interested in creating “experiences” also need to be aware of the practical issues and criteria to choose the right elements for their concrete application. The issues to be considered relate, for example, to the type of transport service, customers of the service and possible target groups for experience elements, the necessary resources and the time required for preparation, implementation and—on the users’ side—actual consumption of the experience instrument (such as time needed to watch a film, etc.).

Assessment Procedure

Basic Layout and Case Study

Having defined the assessment criteria as the “ingredients” of the procedure, this section describes the assessment process itself. It is disaggregated into several stages. For this presentation, the stages are numbered from 1 to 6, but as Figure 2 shows, they do not necessarily have to be undertaken in this sequence. Each of these stages covers one segment of the overall evaluation and can be used as a separate procedure as well. This also has the advantage of reflecting the various criteria relevant for users and providers (see above) and of making the process more transparent. Different interests can be integrated as well. Figure 2 illustrates the process, which is described more fully in the following sections of this paper.

FIGURE 2.
Stages of the
Assessment Procedure

Travel experience instruments usually are introduced in an environment of existing public transport services—for example, as a feature of a new series of vehicles or as a service operated for specific occasions or customer groups. Looking at the public transport system as a whole, persons who benefit from these instruments will therefore be found alongside people who do not. In practice, it will not always be possible to distinguish clearly between these two groups. From this, and for the sake of simplicity, the following procedures refer only to those customer groups that have access to the new “travel experience” elements and to those service characteristics the “travel experience instrument” brought into play.

The procedure is demonstrated in the following section using the “Sparrows’ tram” (Spatzenbahn) as an example, a rebuilt light rail vehicle featuring different games for children in a specially-designed interior (Schiefelbusch 2008).

FIGURE 3.
Rear interior view of
Sparrows' tram

Photo courtesy of GVB

The Sparrows' tram vehicle was rebuilt from a standard tram car type KT4D, originally to provide a special service and to link the city of Gera with the children's film festival held there (which has the sparrow as its symbol). It was equipped with several games and simple entertainment features for children of pre-school age to allow them to play during their journey. The seat layout was changed to provide facing seats with tables in between, and an original tram drivers' dashboard was installed for playful use. Local kindergarten staff advised the transport company on the modifications required.

The tram was in regular service from 2003 to 2013 and was used both for private group hire and in regular service on several days per week. For private hire, a commercial rate was charged whereas during scheduled operation normal fares apply. In regular service, the tram operates coupled to a normal vehicle which provides room for other passengers.

The application of the procedure is presented for this case study in its implemented form, but its greatest value arguably lies in the possibility to compare different instruments in different settings in an easy and transparent way.

The present case study may appear as an unusual example as it refers to a "niche" service targeting a specific customer group and offered only on a single occasion. This observation is correct to some extent, but it is also a reflection of the actual use of travel experience instruments at the time the research was conducted. As discussed in detail elsewhere (Schiefelbusch 2012), initiatives undertaken so far are considered mainly in terms of their publicity value rather than their contribution to service development.

As mentioned earlier, the empirical material for the present work was collected in Europe, specifically in Germany, Austria and Switzerland. The possibilities for developing ideas for the travel experience are perhaps better in this environment than in other parts of the world, because there is a relatively comprehensive public transport offer, based on a political consensus that such an offer is necessary for various reasons. In other words, public transport is neither limited to the most essential commuter

and school services nor stigmatized as a “poor persons’ means of travel” not worth further development efforts, nor are services so heavily used that experience-related interventions are impractical for reasons of capacity.

In this respect, there are certainly differences between countries—in particular, if the situation in North America is considered. However, the situation is quite varied. There are places where public transport has a good reputation and position on the transport market, either traditionally or as result of recent policy changes. Two popular types of “travel experience measure” that are found also in North American are the use of heritage vehicles (either original or re-constructed after historic designs) on light rail systems (Harris 1997; Hobe 2001) and the use of art in the public spaces of metro or train stations (Harnack 2010; Iseki and Taylor 2010).

The Procedure in Detail

Stage 1: “Emotional Attractiveness” from the Users’ Group View

What is considered “attractive” depends on personal preferences and needs. An assessment process suitable for general use cannot be built on one specific set of such preferences. Rather, it must be valid for a variety of such sets that covers all cases relevant in practice.

The passengers’ possible needs regarding the “experiential qualities” of a transport service have been disaggregated into 13 elements. These items are used as criteria for the “emotional attractiveness” in the assessment process. The features of the “travel experience instrument” are analyzed to establish whether they influence any of the criteria described. Points are given for the fulfillment of each criterion. As information on the relevance of the individual criteria is not always available, the scale used is limited to one point for a clear impact and a half point for a limited impact on a criterion. Negative point values also are possible. As mentioned above, conflicts between some criteria do exist as well. Tables 3 and 4 show a model assessment. A total point score is the final result of this stage, defined as the net value of points given for all 13 criteria.

TABLE 3.
Assessment of
Experiential Criteria—
Sparrows' Tram Example

- A *transport function* is given because the service can be used for normal "A to B" journeys (not just round trips).
- *Physiological comfort*—neutral as the instrument involved no changes in this respect.
- *Psychological comfort and relaxation*—the journey may be passed in a more relaxed way due to the enhanced possibilities for other activities, but stressful situations may also be experienced, such as in the case of arguments over the use of the facilities.
- *Entertainment and stimulation* is provided by possibilities to play and re-enact tram driving at the second drivers' desk.
- *Other uses of travel time* are facilitated by the games provided, but as these can also hinder other activities, the effect is only considered to be of limited effect. The fact that children probably prefer to use the Sparrows' Tram may contribute to a more quiet atmosphere in the other part of the train, facilitating other activities there as well.
- *Communication and contact opportunities*—positive impacts because the modified interior design with facing seats and games supports interaction between passengers. Limited positive impacts, because the games used are not specifically aimed at groups.
- *Image and prestige*—potential positive impacts can be assumed because the service is targeted at a specific group (children/parents).
- *Substitution for a friend or a partner*—limited positive impacts because of the finite possibilities to play, which can lead to new acquaintances or distract from feelings of loneliness.
- *Physiological stimulation*—neutral as the instrument involved no changes were made in this respect.
- *Feeling of freedom and thrill*—neutral as the features of the instrument can be assumed to have only a marginal impact in this respect.
- *Regulation of aggression*—positive effects due to the possibilities for playing.
- *Finding identity and meaning*—limited positive impacts assumed because a figure with relevance for the city's identity (the sparrow) features in the design of the service and its presentation to the public.
- *Regulation of privacy* is supported because the seating arrangements structure the vehicle into pseudo "compartments"; furthermore, playing offers further possibilities to designate a "personal" space.

Criteria for which no impact was established (neutral) are not mentioned here.

Stage 2: Weighting According to User Group Preferences

In the first stage, an inventory of the overall emotional attractiveness has been made. This is now adjusted to the interests of different customer groups. These interests are to be derived from market research or other suitable sources and need to show the respective group's attitude to the criteria used in the previous stage of assessment. Depending on the quality of these descriptions, weighting factors can be applied to the criteria.

The example shown in the two right-hand columns of Table 4 includes two such "profiles" of customer groups—one interested in experience and entertainment, the other preferring a high level of comfort and personalized service. Target group definitions of this type can be found in the literature; however, their appearance here should be seen as exemplary and does not preclude others. The "weighting" used in this example consists in the elimination of all criteria that can be considered of little or no relevance for these

groups. These are shown as “xx” in the Table 4. The overall assessment result is again a point score, but reduced by the number of criteria that has been eliminated in this way.

TABLE 4.
Establishment of “Emotional
Attractiveness” – Results of
Stages 1 and 2

Criterion	Example Value		
	Stage 1 General	Stage 2	
		“Entertainment-oriented”	“Comfort-oriented”
Transport function	+ 1	+ 1	+ 1
Physiological comfort	0	xx	0
Psychological comfort and relaxation	+ 0.5	xx	+ 0.5
Entertainment/stimulation	+ 1	+ 1	xx
Other use of travel time	+ 0.5	+ 0.5	+ 0.5
Communication and contact	+ 0.5	+ 0.5	+ 0.5
Image and prestige	+ 1	xx	+ 1
Substitute for a friend/partner	+ 0.5	+ 0.5	xx
Physiological stimulation	0	0	xx
Freedom and thrill	0	0	xx
Regulation of aggression	+ 1	+ 1	xx
Identity and meaning	+ 0.5	+ 0.5	xx
Regulation of privacy	+ 1	xx	+ 1
Results – Stage 1			
Maximum/minimum possible score	+/- 13		
Points obtained (example)	+ 7.5		
Points obtained as percentage of total	57		
Results – Stage 2			
Group-specific maximum/minimum score		+/- 9	+/- 7
Points obtained (example)		+ 5.0	+ 4.5
Points obtained as percentage of total		55	64

xx = criterion not considered for this target group

n/a = not applicable

Stage 3: Characteristics of the Instrument from Provider's View

To consider the “travel experience instrument” from the provider's point of view, the items shown in Table 2 were used as assessment criteria. The value under review has to be analyzed regarding its impact on each criterion.

As a general rule, solutions that offer the best possible “benefit” with lowest possible costs are evidently the most attractive ones from an economic perspective. However, what counts towards both benefits and costs is not necessarily clear-cut; neither is it easily possible to quantify or monetarize all possible items, in particular when the limitations of data availability that often exist in practice are considered. Furthermore, the “size” of possible solutions varies greatly, ranging from short-term small-scale interventions to long-term investment decisions. Hence, costs and benefits also have to be seen in proportion to the level of resource inputs.

The scale used, therefore, is again kept intentionally simple, allowing the assessment to be made based on qualitative evaluations. The value of the travel experience instrument's contribution to each criterion is expressed as "low," "medium," or "high." A value of 1, 2, or 3 points, respectively, can be allocated per criterion, as shown in the second column of Table 5. Intermediate results have been permitted as well. If the solution can be developed in different ways, the results have to be distinguished according to the circumstances. In the example, this applies to the different degrees of willingness to pay for the instrument if it is offered as a part of normal operations on the one hand or as a separate activity (private hire of the complete vehicle for a group) on the other. As in Stage 1, a total point score for the proposed instrument can thus be established.

TABLE 5. Service Characteristics from the Provider's Strategy Point of View

Criterion	Example Value				
	Stage 3 General Assessment of Importance (c)	Stage 4			
		“Public Attention Strategy”		“Comfort Strategy”	
		Importance	Weighted Score (d)	Importance	Weighted Score (d)
(1) Resources for development	2	high	4.0	medium-high	3.0
(2) Operation costs	3	medium-high	4.5	high	6.0
(3) Possibility of standardization	3	low-medium	1.5	medium-high	4.5
(4) Transferability of an idea	3	low-medium	1.5	high	6.0
(5) Practical flexibility	3	medium	3	medium-high	4.5
(6) Potential for differentiation	2.5	low	0.625	high	5.0
(7) Compatibility	3	low	0.75	medium-high	4.5
(8) Willingness to pay	(a) in scheduled service: 1 (b) for private hire: 3	low	(a) 0.25 (b) 0.75	high	(a) 2.0 (b) 6.0
(9) Publicity	2	high	4.0	low	0.5
Results Stage 3					
Maximum possible score	27				
Points obtained	(a) 22.5 (b) 24.5				
As percentage of total	(a) 83 (b) 91				
Results Stage 4					
Interest-specific maximum score			24.75		42.75
Points obtained			(a) 20.125 (b) 20.625		(a) 36 (b) 40
As percentage of specific total			(a) 81 (b) 83		(a) 84 (b) 94

(a) In scheduled service.

(b) For private hire.

(c) Values shown are the numerical equivalents of the assessment of importance: 3 = high, 2.5 = medium-high, 2 = medium, 1.5 = medium-low, 1 = low. Note that for the two cost-related criteria (1) + (2), a "low" estimate is desirable; hence, given the value of 3, for the others, a "high" value.

(d) Weighting factor applied: "high": 2.0, "medium-high": 1.5, "medium": 1.0, "low-medium": 0.5, "low": 0.25

The assessment of the “Sparrows’ Tram” case study from the provider’s point of view shown in Table 5 is based on the following considerations:

- *Resources for development*—moderate requirements, because the vehicle was rebuilt in the company’s own workshops using mainly existing spare parts and some donations.
- *Operation costs*—low; the converted unit replaced a normal one, so no extra staff or energy costs were caused.
- *Possibility of standardization*—good; the various parts were robust, required very little maintenance, and the vehicle could be used without modification for a long time.
- *Transferability of idea*—although the vehicle was rebuilt for the occasion of the local children’s film festival, the basic idea of a special “playground” vehicle appears transferable to other locations.
- *Practical flexibility*—high, because the vehicle could be used on the whole network without restrictions as before.
- *Potential for differentiation*—rather good, because the use of the Sparrows’ Tram in a two-vehicle train unit allowed to separate the targeted user group from other passengers. But as adults were not prevented from boarding the tram either, this separation was not guaranteed.
- *Compatibility*—the vehicle could be used alongside others in everyday service and did not require changes to schedules or other procedures.
- *Willingness to pay*—during the tram’s use in regular service, some additional trips may have been made because of its special features, but this effect is likely to be marginal. The implementation of the concept does not lend itself to a special fare (honor system, no permanent staff available for checking). However, extra revenue was generated for private hire use of the vehicle.
- *Publicity*—the start of the instrument provided a good occasion for positive publicity, but only very limited chances to repeat this during the later use of the vehicle.

Stage 4: Weighting According to Provider’s Strategy

As in case of different user groups, transport providers are likely to have different expectations and objectives guiding their decisions. This will impact on their attitudes towards any action taken. The assessment process would have to reflect these differences adequately.

The empirical work done by the author (Schiefelbusch 2012) identified two main reasons why public transport operators implement features to enhance the “travel experience”:

- *public visibility and attention*—such a service is seen as an opportunity for positive media coverage and to position the company as forward-looking, modern, customer-focused and linked to the community it serves

- *customer service and comfort*—“travel experience instruments” are seen as an essential part of providing a high-quality, comprehensive service either in general or for specific markets

These two strategies imply that the assessment criteria described in Table 2 are of different importance. This is operationalized by applying weighting factors for each criterion, as shown in the right part of Table 5. Again, this differentiated view leads to a different theoretical maximum score per strategy and different degrees of fulfillment for the same instrument according to the strategy chosen as reference.

Stage 5: Comparison of User Group and Providers' View (Interest-Specific)

The previous stages have assessed the features of a “travel experience instrument” from different perspectives. All of these views produce a result that is meaningful in its own right. However, decisions on how to proceed with different planning options (in this case, concepts for “travel experience instruments”) also will require an aggregate view that sums up the different stages of assessment.

A comparison of the users' and providers' views is useful to see if they rate the same concept similarly. Stage 5, therefore, consists of a comparison of the perceived worth shown in the user group-specific (Table 4) and provider strategy-specific (Table 5) assessment. The different point scales used in previous stages 2 and 4 can be standardized by expressing the points obtained as percentages of the relevant theoretical maximum score (bottom lines of Tables 4 and 5). These can be compared either manually or by calculating an average of the results for each assessment. Similarities and diverging assessments become apparent. Service developers can then decide how to proceed, using also other background information like the specific costs of the different instruments or their potential customer base.

This assessment at first can be done for specific user groups and provider strategies. The rationale behind this is that each operator has (or should have) an idea of its strategy and objectives regarding the experience quality provided for its customers. From these follow the market segments the operator will focus on. For example, an operator that follows the “comfort strategy” will aim to develop its services accordingly and he will target “comfort oriented” customers in particular. However, in practice it is of course not always possible to “match” user and provider perspectives in this way.

Stage 6: Summary of Interest-Specific Assessments

Stage 5 has produced a result for a specific user group-strategy combination. This setting, however, is not always given in reality. Many public transport providers indeed cater for a wide range of user groups which mix on all services they offer, without (much) the opportunity for creating targeted services.

In a situation in which different user groups are mixed, their preferences should be considered in a comprehensive way by comparing each group's preferences with the features of the proposed service, followed by a weighting according to their market share and summing up of all group-specific results. This would give an “average experiential attractiveness” indicator. In mathematical terms:

$$\text{Total experiential attractiveness} = \sum \text{group-specific attractiveness rating} \times \text{Group's share of all customers}^{(a)}$$

^(a) = expressed as fraction (0. ...) of total

This assessment evidently requires some information about the customers' attitudes towards the "experiential qualities" of their transport service—the more specific, the better. As discussed below, such information is only rarely available to determine the value of specific "travel experience instruments," but some conclusions may be derived from more general travel behavior surveys, provided they include questions on attitudes towards travel and different modes of transport and/or travel time use. In the absence of such information, some issues could be assessed based on small-scale qualitative surveys or focus group discussions or (as a last resort) by trained service developers making practical assumptions based on common sense.

On the provider's side, the absence of a specific strategy directed at certain user groups may be compensated for by defining one general set of operator priorities and weighting factors for the parameters shown in Table 5. Both sides' views can be compared following the same principles as outlined in stage 5.

Synthesis

Across its different stages, the procedure outlined here produces a range of results. These will be more or less useful depending on the specific interest of the user. The indicators described above are probably the more useful, the more they can be put into a wider perspective by comparing different instruments or looking at the expectations of different customer groups. Such comparisons cannot be made here in full detail due to space limitations, but some interpretation of the assessment results from above can nevertheless be provided:²

- *General "emotional attractiveness"*—the total value of 7.5 points or 57% of the theoretical maximum does not appear particularly good at first sight. However, the wider experience with the procedure shows that this rating is at the top end of what is achieved in practice. Reasons for this lie in the inevitable conflicts between some requirements and in the fact that some of these are hard to address in the public transport environment in general.
- *Suitability for different interest groups*—the instrument appears slightly more suitable for "comfort-oriented" than for "entertainment-oriented" customers, which is somewhat surprising given the first impression of the instrument. Two observations can be offered to explain this: first, the instrument addresses some criteria deemed important for "entertainment-oriented" customers not sufficiently (values 0 or + 0.5 in Table 4), and second, a comparison with other instruments shows that more "intensive" entertainment features can be offered to target such an audience. Furthermore, it should be borne in mind that other target groups may be defined as well - in this case for example "parents with small children."

² For more details, in particular on the characteristics of other schemes, see Schiefelbusch 2012.

- *Providers' strategies*—Table 5 shows that the concept is rated positively in most respects, which is reflected in both the general and the strategy-specific results. The main “weakness” lies in the concept’s limited publicity value, contributing significantly to the lower overall rating from a “public attention strategy.” This impression is also confirmed if the Sparrows’ Tram is compared with other concepts.
- *Match between customer and provider perspectives*—the above indicates that the Sparrows’ Tram concept performs quite well in all assessments undertaken so far. Such a synthesis of results must be interpreted with two questions in mind. First, which overall values are achieved; hence, how does the concept “perform” in relation to the requirements and in comparison with alternative solutions? Second, are there conflicts between the various assessments that may result in problems once the instrument is applied and which have to be addressed—for example, if different customer groups have contrasting views about the concept, is it feasible to separate them?

Discussion

Possibilities and Needs for Further Development

As discussed earlier, the travel experience has in recent years become a matter of interest in different strands of mobility-related research. Compared to these, the present concept proposes a somewhat different view. Rather than mutually exclusive, the different ideas have to be seen as complementary. The procedure outlined earlier should be seen as a starting point that needs refinement, which in pursuing this can benefit significantly from other research. At least three possibilities for doing so come to mind:

- Analytical research into travel time use, the sensory perception of travel, and the like can provide information on the perception of different service elements in a much more detailed way. Condensed into suitable indicators, such information can inspire the assessment of concrete planning and policy options, for example, specifying the parameters used here (stages 1 and 2). From a practical perspective, it is not realistic to presume that such values can be established empirically for each single case.
- Furthermore, the longer-term effects of service instruments require attention. Following the choice of focusing the present procedure on the transport service itself, these inevitably are not adequately reflected.
- The present procedure focuses deliberately on the experiential dimension. But in reality, this dimension must be seen alongside with other expectations and transport system characteristics like speed, reliability, or capacity. It may be reasonably straightforward to integrate experience-related questions in surveys for analytical purposes, but the joint use of such information in subsequent planning procedures has yet to be worked out.

The procedure is also an attempt to strike a balance between the structured, often quantitative ways of thinking with which the transport industry is well familiar, and the multi-faceted, subjective nature of this phenomenon.

Another reason for the lack of more detail in the above-mentioned procedures is the scarcity of reliable information. At the time the research was conducted (early 2000s), “travel experience instruments” used in public transport were rarely evaluated comprehensively, sometimes not at all, and often limited to an assessment of their publicity impact (Schiefelbusch 2012). Very little is known at present about the perception of different service elements and their effects on the travelers’ needs discussed above. Growing research in this field hopefully will contribute to changing this situation in the future.

In this respect, it is interesting to note that the current list of transport-related topics in the EU’s main research and innovation program “Horizon 2020” proposes a reassessment of paradigms in transport planning and decision making with explicit reference to the changing role of travel time. Although travel time savings were “often the principal benefit[s] of a transportation project ... as technology evolves ... people can use their time during travel for business or leisure thus reducing the cost of travel in economic terms and allowing other considerations ... to affect their travel time preferences” (anon. 2015, topic MG-8.5-2017). This resonates with some of the recent research strands described in Table 1 (in particular, the first one) and should give rise to a reassessment of other aspects of the travel experience as well.

Policy Interest

A better understanding of the factors influencing the “travel experience” can help to explain why mobility choices are made the way they are and open new “soft” options to change travel behavior. In times where lifestyle and status-driven considerations can affect decisions more than practical requirements, the importance of this field has risen (van Acker et al. 2010; Choo and Mokhtarian 2004).

For products with clear emotional characteristics, a positive image can be developed more easily. This will be of use for marketing these products to the end users, but also improve their in the political arena; policy options that do not have enough political appeal are more easily overlooked when resources are allocated.

The rationale for addressing these issues lies not only at an analytical level. Transport research has from time to time acknowledged the emotional dimension of mobility, in particular the appeal of the private car (e.g., Czerwenka 1998; Marsh, Collett 1991; Redshaw 2007; Verron 2004) but failed to consider it in its actual analytical and planning work. Given the widely- and long-known problems caused by current levels of car traffic, it is timely to address this deficit—in particular, times in which lifestyle and status-driven considerations often affect consumer decisions more than practical requirements (Holt 1997; Zahl and Götz 2001; Ory and Mokhtarian 2005).

But the situation in transport is also characterized by a modal imbalance. Unlike transport planning, the car manufacturing industry has known and used the “emotional appeal” of their products since their invention (Vaillant 1995; Schönhammer 2000;

Langzaam Verkeer 2002; Lois and Lopez-Saez 2009). Over time, car design and marketing has made ever greater use of the emotional dimension of travel, with great success in the transport market. For public transport, the opposite development can be observed—its character as a “collective” service already leads to a different emotional profile and limits its possibilities to compete with the car (Klühspies 1999). But regulation, lack of political interest, and the focus on technical issues and operational efficiency have equally led to a neglect of these issues. It may seem a novel idea, but concepts for “emotionally attractive” public transport (and also walking and cycling possibilities) are a necessary step to secure its role in the future.

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