

Data for multimodal transportation services



Digitalization has introduced new opportunities for improving multimodal transportation systems in Switzerland. To help ensure the effective exploitation of these opportunities, the Swiss Federal Council instructed the Swiss Federal Department of the Environment, Transport, Energy and Communications (DETEC) to examine the current situation and determine any need for action. In the framework of this larger undertaking, EBP was commissioned by the Swiss Federal Office of Transport (FOT) to complete a study of key transportation data and their availability. The FOT subsequently used the results of the study to draft a report for the Federal Council.

The application of digitalization to the transportation sector has emerged as a major theme for the Swiss government. Digital transformation can enable a combination of various modes of transportation and enable new multimodal transportation services of the sort promoted by the Mobility as a Service (MaaS) concept. In order to ensure the exploitation of these opportunities, the Swiss Federal Council commissioned the development of two action plans centering on transportation data and incentivizing the sharing of the data used by public transportation companies with other transportation service providers. The “Transportation Data” action plan is to include measures for supporting the gathering of data and providing a core dataset for multimodal services.

Issues

Working on behalf of the FOT, EBP analyzed the current situation relating to relevant sources of data for multimodal transportation services and issued recommendations for

Client

Swiss Federal Office of Transport FOT

Facts

Period	2018
Project Country	Switzerland
Number of identified transportation datasets	28
Interviewed transportation service providers	7
Recommended measures	16

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improving data access. The FOT used the results of the study as a basis for drafting the action plan.

Our study-related tasks included:

- Identifying and describing key data for future multimodal transportation services, as well as any critical data gaps
- Weighting key data according to their significance
- Identifying roadblocks to data exchange between transportation service providers
- Defining measures for closing data gaps with respect to private transportation services providers
- Defining the measures that can be expected to have the greatest impact on the development of innovative transportation services

Our approach to these tasks was guided by a position paper issued by the FOT and a report on the risks and opportunities associated with sharing public-transportation data.

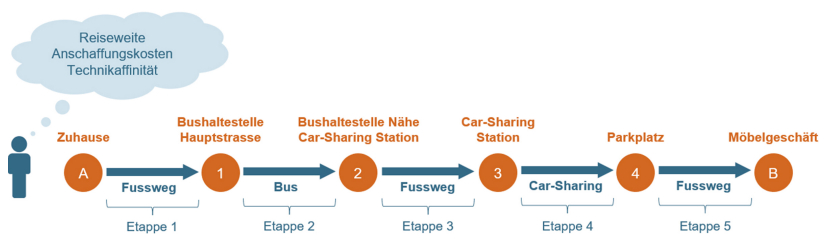
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Data for multimodal transportation



Example of a multimodal (in some contexts, intermodal) travel chain, including pedestrian transportation, public transportation and car sharing

To clarify the need for data that would facilitate various forms of multimodal transportation, we defined standard travel chains and described their stages (including transfer points) in terms of data need. In doing so, we drew a distinction between three categories of data:

- Operational data (e.g. for real-time travel information)
- Spatial data (e.g. for route selection and tracking travel)
- Sales data (e.g. for drafting price comparisons involving different combinations of transportation service providers)

We then examined the current situation relating to the availability and significance of transportation data on the basis of our prior expertise and current research. We listed and described the relevant datasets and identified possible data providers for each of the three data categories. The relevant datasets include, for instance, vehicle stops in the public transportation network, road networks, pedestrian walkways, information relating to detours, traffic information, weather-related information, parking opportunities, car-sharing services, location-tracking profiles, prices, reservation options, and sales data.

The estimates provided by the FOT on the existence and availability of the most important datasets were subjected to plausibility tests and made more precise whenever necessary. We then evaluated each dataset in terms of its quality

(operationalized as the combination of completeness, accuracy and currency) and significance, making sure to take account of each mode of transportation (train, bus, streetcar, private motor vehicle, car sharing, etc.). Finally, we used our assessment of the current situation to identify measures that need to be taken by public agencies with respect to each of the most significant datasets.

The prospects for sharing data among transportation service providers

We then ascertained data availability and need in the case of private providers of transportation services on the basis of interviews with seven selected stakeholders. The stakeholders were asked in the context of structured interviews about the ways in which they gather and use data, their willingness to share data and any outstanding data needs. The results of our interviews enabled us to identify roadblocks to the sharing of data among market participants. EBP then developed a number of proposals for improving the availability of data for all transportation service providers. In this connection, quick wins in particular were identified, i.e. measures expected to lead to quick and substantial improvements. Moreover, we also outlined specific approaches to implementing the proposals and described the anticipated impact.

The study concludes with recommendations for implementing the action plans and the enumeration of developments in the area of transportation data that policymakers should continue to observe, including the ongoing development of data politics and policies.