

Multimodality against coronavirus: How mobility platforms enrich public transport in times of crisis and beyond

At the peak of the coronavirus crisis, the mib published the study *Beyond the lockdown*. This study analyzed the pandemic's impact on urban mobility and public transport (PT) in the medium and long terms.

Since then, Europe has entered into the second predicted phase of the COVID-19 pandemic. During the calibration phase, a lot has happened. One notable trend has been a relaxation of restrictions established during the crisis phase. However, in many regions, the number of cases is rising rapidly again. As predicted in the previous study, this is accompanied by renewed, stricter containment measures in the affected regions.

Given the renewed increase in infection numbers and the uncertainty it causes, it is crucial to take a closer look at how the pandemic has impacted mobility over the first few months of the crisis. This paper focuses on multimodal mobility offers and its changes during the early months of the pandemic.

Expansion of multimodal offers is an important component of PT strategy during the pandemic

Multimodal offers can help keep customers connected to the network of PT operators. This is particularly important during the pandemic, as risk perceptions can sometimes change quickly, leading to general volatility in transportation choices.

Mib, together with Jelbi, dove into the data to explore this hypothesis. To do so, booking behavior was analyzed in the multimodal app Jelbi and compared to booking behavior in the purely PT apps of the Berliner Verkehrsbetriebe (BVG) (FahrInfo and Ticket app).

Our key findings are:

- During the lockdown, **booking patterns of PT and shared mobility offers on Jelbi reversed**. In pre-pandemic times, around 80% of bookings were for PT services, and during the peak of the crisis, it dropped to 20%. Meanwhile, four out of five bookings were for shared mobility services.
- **Customers switched to short-term PT tickets**. After the lockdown, the purchase of short-term tickets recovered much faster than longer-term tickets.
- **Customers returned faster to short-term PT products using multimodal platforms**. Compared to other BVG apps (FahrInfo and Ticket app), bookings for short- and medium-term tickets in Jelbi recovered significantly quicker.

Shared mobility services are more attractive than PT during crisis phase – effect persists

Jelbi, the BVG MaaS project, integrates PT and shared mobility options, including the BVG ridesharing service BerlKönig into a single solution for Berliners to find, plan, book, and pay for all their trips with one account.

In April, the purchase of PT tickets in the Jelbi app fell by 88% compared to January. At the same time, bookings of shared mobility services increased by 6%.ⁱ The latter have increased significantly compared to PT bookings during the crisis period (see Figure 1).

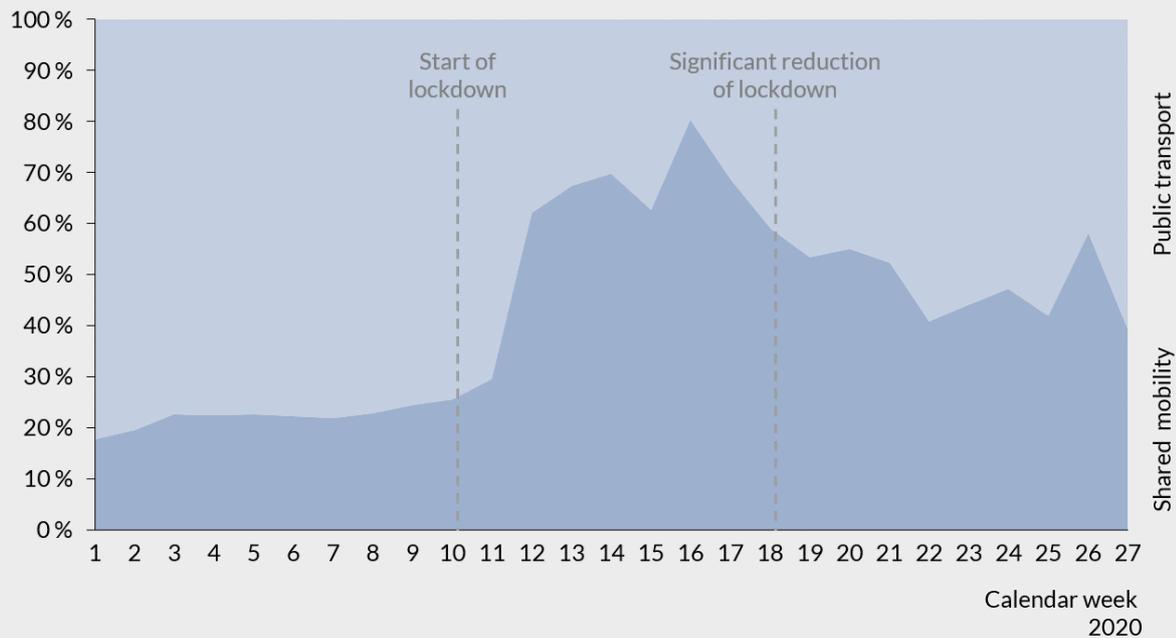


Figure 1: Proportion of bookings of shared mobility and public transport services via Jelbi (from 30.12.2019 - 05.07.2020)

In the pre-pandemic period, PT tickets accounted for about 80% of all bookings within the Jelbi app. During the peak of the crisis, this figure dropped to 20%. At that time, four out of five bookings were for shared mobility (calendar week 16 from April 13th to 19th).

By the beginning of July, as the effects of the pandemic had eased up, the share of PT bookings recovered. However, shared mobility services remained at 40% of all bookings.

Customers are switching to shorter-term PT tickets - flexibility remains important

After the peak of the crisis passed, PT ticket sales recovered. However, an evident change in the type of tickets sold was observed. The sale of single and 4-trip tickets recovered significantly faster than medium- and long-term products such as daily, weekly, and monthly tickets (see Figures 2, 3 and 4).ⁱⁱ

Looking across the different BVG apps - FahrInfo, the BVG Ticket app and Jelbi - sales of short-term tickets recovered by 62% by calendar week 26. Medium- and

long-term ticket sales recovered significantly slower during the same period (39% and 37% respectively by calendar week 26ⁱⁱⁱ). These findings suggest that customers choose to buy more flexible products as the situation develops.

The booking of short-term tickets recovers faster in multimodal app than in purely PT apps

The comparison between the multimodal Jelbi app and purely PT apps provided by the BVG is striking. In the mib study *Beyond the immediate crisis*, it was argued that multimodal solutions like Jelbi could strengthen customer loyalty by keeping users in their PT-centric app environment, even through volatile periods. If the number of infections were to increase, users could quickly and easily switch from bus to shared mobility services within one mobility ecosystem. More importantly, when the number of infections drop, users can return to buses and trains just as quickly.

The comparison of booking figures across the BVG apps supports this hypothesis: After lockdown restrictions were relaxed, booking figures for short-term products through Jelbi recovered faster than through

the purely PT apps (especially from week 20-26, see Figure 2). Bookings of day tickets, tourist products, and 7-day tickets also recovered faster on Jelbi from May to June (week 19-23, see Figure 3). Only the bookings of monthly tickets recovered slower in Jelbi than the other apps (see Figure 4).

Multimodal integration in a PT platform offers significant opportunities

The numbers show that multimodal solutions like Jelbi provide customers with flexibility in times of crisis and make it easier for them to return to PT. In the long term, the trend toward higher flexibility could become even more critical for any PT company, especially in the next few months, after passengers have gotten used to more flexible modes of transport.

Therefore, it is crucial that multimodality is consistently considered by authorities and PT companies when planning their mobility services. As the example of Jelbi shows, the model of multimodal integration into one single platform is particularly attractive. Customers are kept in the PT ecosystem and tend to return to their services faster.

However, a fully integrated multimodal platform solution is not always required. For example, ridesharing providers like BerIKönig^{iv} and MOIA^v offered night-time traffic in German cities during the crisis. In another example, the owners of longer-term PT tickets had the opportunity to use kick-scooters at a discount. Even on this smaller scale, multimodal offers can help ensure mobility in times of increased risk of infection. ■

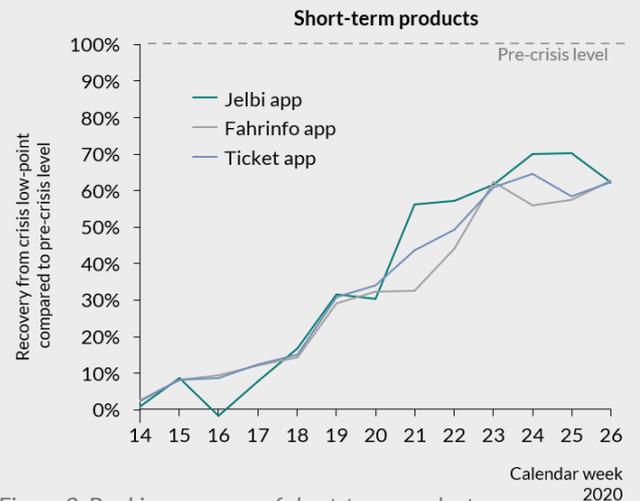


Figure 2: Booking recovery of short-term products (single and 4-trip tickets)

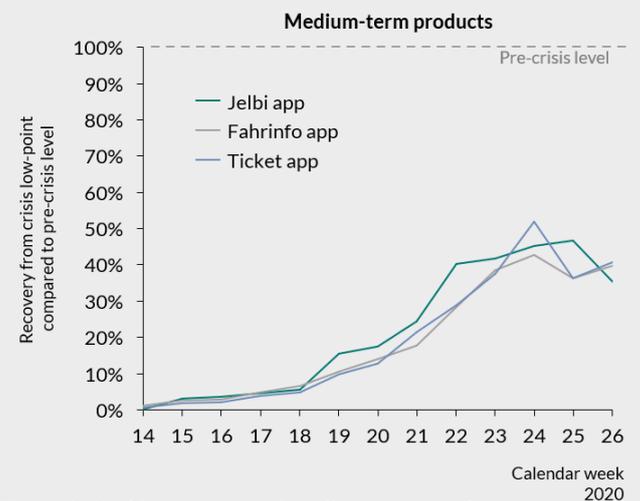


Figure 3: Booking recovery of medium-term products (day tickets, tourist products, and 7-day tickets)

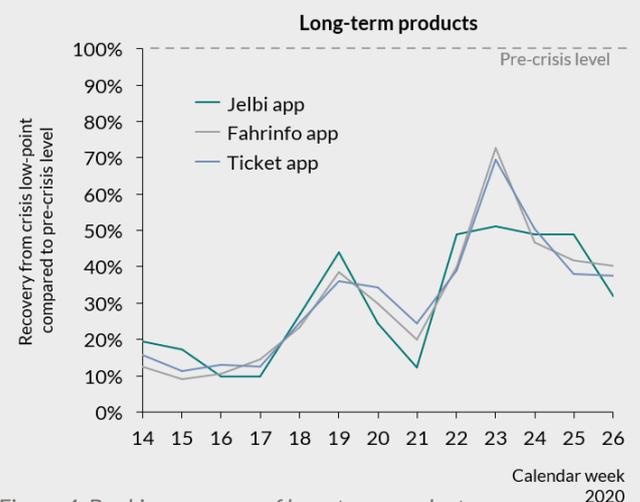


Figure 4: Booking recovery of long-term products (monthly tickets)

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ⁱ mib (2020). *Beyond the immediate crisis- The SARS-CoV-2 pandemic and public transport strategy*. Available at:
<https://mobilityinstitute.com/en/blog-en/news-sars-cov-2-strategy-paper>

ⁱⁱ The zero mark represents the sale at the crisis low point (CW 13, 2020) and 100% the sale at pre-crisis level (CW 8, 2020). The calculation formula for the recovery factor is as follows: (time of consideration - crisis low point) / (pre-crisis level - crisis low point)

ⁱⁱⁱ The figures represent the average recovery across the three considered BVG apps.

^{iv} MOVINC (2020). *Corona: BerKönig fährt Gesundheitspersonal – und das kostenlos*. Available at:

<https://movinc.de/carsharing/corona-berlkoenig-faehrt-gesundheitspersonal-und-das-kostenlos/>

^v MOIA (2020). *MOIA verstärkt Nachtverkehr im Auftrag der Stadt Hamburg*. Available at:
<https://www.moia.io/de-DE/presse/moia-verstaerkt-nachtverkehr-im-auftrag-der-stadt-hamburg>