UPPER

Measure MAN_03: Data-driven platform for supporting PT planning and operations based on the concept of Mobility-as-a-Right

Description of the measure and main outcomes expected

The Rhein-Neckar-Verkehr (rnv) is still facing challenges with exponentially growing data volumes that are underutilized, amongst others with regards to wholistic and inclusive transportation planning as well as tailored user information.

To address these issues, rnv aims to leverage its data resources more effectively. This involves enhancing data quality, processing capabilities, and infrastructure. By establishing a robust data governance, including metadata management and cloud integration of key data sources, rnv seeks to develop tailored solutions for various use cases while ensuring data integrity.

Initial steps include deploying basic statistical models for use-cases like the monitoring of railroad crossing closures. Subsequently, rnv plans to explore advanced Machine-Learning techniques for applications such as demand forecasting and predictive maintenance. The initiative also emphasizes identifying and addressing gender-specific gaps in data collection to mitigate the Gender Mobility Data Gap.

The outcomes include integrating two data sources into rnv's cloud environment, implementing three basic statistical use cases, and installing one complex machine-learning use case. These efforts aim to optimize data utilization, enhance decision-making processes, and promote fair mobility solutions.

Preparation of the measure

The Rhein-Neckar-Verkehr (rnv) has undertaken significant steps to enhance its data governance and integration processes, setting a solid foundation for future initiatives.

Firstly, rnv has defined and finalized principles for data governance. These principles serve as clear guidelines, outlining responsibilities and ensuring consistency in data management practices across the organization. By establishing these principles, rnv aims to foster transparency, accountability, and data integrity throughout its operations.

Secondly, rnv has begun integrating data sources into its cloud environment in alignment with the newly defined data governance principles. The initial data source integration adheres closely to established protocols, ensuring that data is extracted, transformed, and loaded with accuracy and adherence to privacy and security standards. Despite encountering delays related to shortages in available resources, rnv remains committed to completing the integration of data sources by December 2024.

Overall, these steps reflect rnv’s initiative-taking approach to harnessing data as a strategic asset. By enhancing data governance, integrating critical data sources, and advancing analytical capabilities, rnv is poised to unlock significant opportunities for operational efficiency, customer service enhancement, and innovation in public transportation services.

Challenges & Mitigations

Due to a lack of expert staff to implement the necessary changes, the progress of this measure was slower than initially planned. Nonetheless, rnv remains committed to the scope of this measure. To achieve this, some steps were parallelized while milestones had to be pushed backwards such as the integration of the 2nd data source and the Machine-learning use cases implemented. The staff situation also has significantly improved since early 2024 due to intensified recruiting efforts.

Next steps towards implementation

In the next steps, rnv is actively engaging selected stakeholders to define specific requirements for various use cases. This collaborative effort ensures that the identified use cases align closely with stakeholder needs and organizational objectives, thereby maximizing the value derived from the integrated data sources.

Moreover, rnv is progressing with the design and implementation of three basic statistics use-cases. These use-cases are designed to leverage the integrated data for detailed analysis and actionable insights, contributing to informed decision-making across operational areas.