

AUTOMATIC PASSENGER COUNTING SYSTEM IN BADEN-WÜRTTEMBERG



STRUCTURE

- Introduction
- Objectives and legal framework
- The project
 - Organisation
 - Technical realisation
 - Contractual arrangements
 - Financing
- Outlook

BADEN-WÜRTTEMBERG

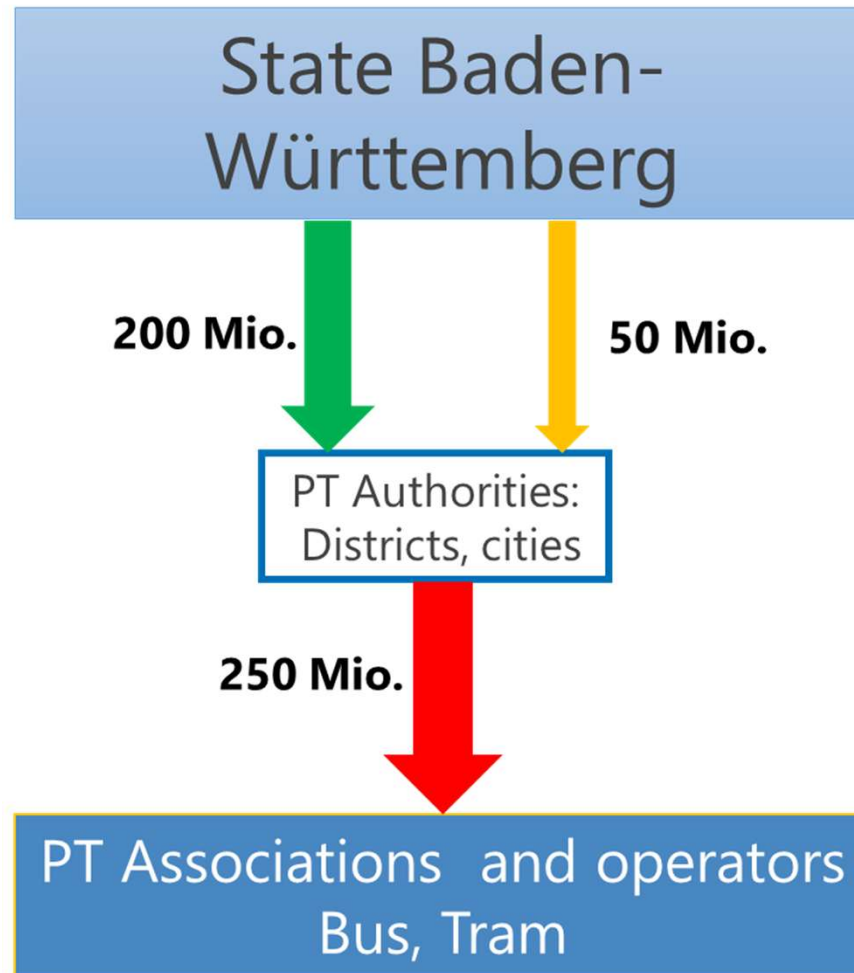
- 1 of 16 German States
- 11 million inhabitants
- 25,000 km² Area
- 44 districts and cities
- Bordering France and Switzerland



BADEN-WÜRTTEMBERG



FINANCING OF PUBLIC TRANSPORT BY THE STATE FROM 2025 ONWARDS (EURO P.A.)



LEGAL FRAMEWORK: PUBLIC TRANSPORT ACT (ÖPNVG) AND ASSOCIATED PUBLIC TRANSPORT ORDINANCE (ÖPNV-VO)

- Financing of local public transport authorities (§ 15 ÖPNVG)
 - Level 1:
 - Five regional categories, according to population density
 - Fixed distribution ratio of the funds between the regional categories
 - Level 2:
 - Variable allocation of funds to the pt authorities per regional category
 - Combined distribution key (area, number of pupils, timetable offer, **number of passengers**), defined in ÖPNV-VO
- Financing of Transport Communities (§ 9 ÖPNVG)
 - Status quo of amounts granted on a contractual basis until 2020 will be maintained
 - The recipients of the funds are, in principle, the task bearers, however, they are usually allocated to authorised representatives on an association basis.
 - Earmarked funds (financing of the interconnection tariffs and the cooperation-related burdens of the interconnections)
 - Allocations subject to conditions
 - regulated in § 9 ÖPNV, paragraph 6, Annex 5 of the ÖPNV-VO as well as in administrative regulations yet to be created.

DISTRIBUTION KEY FOR GRANTS FROM THE STATE AS OF 2025

Regional category	Area	Pupils	Timetable offer	Number of passengers
1. "Large cities with trams" and 2. "High-density area"	30	10	30	30
3. conurbation and peripheral area	30	10	35	25
4. "Rural area condensed" and 5. "Rural area"	30	10	40	20

ANNEX 5 TO THE ÖPNV-VO:

"Definition of data quality for the determination of passenger demand in stage 2 from the year 2025".

- Data on passenger demand must be of **comparable quality throughout the country**.
- The exact definition of this quality is made by administrative regulation/guideline by the Ministry of Transport after participation and consultation of the public transport authorities, the associations and the business associations.
- The data must cover **all traffic days in a comparable manner throughout the country** and be **determined annually with statistical certainty according to recognised scientific standards**.
- The **method of data collection is not regulated uniformly throughout the state** and does not necessarily require a census. **If the data is collected via automatic passenger counting, this collection should be based on the catalogue of requirements for AFZS in Baden-Württemberg.**

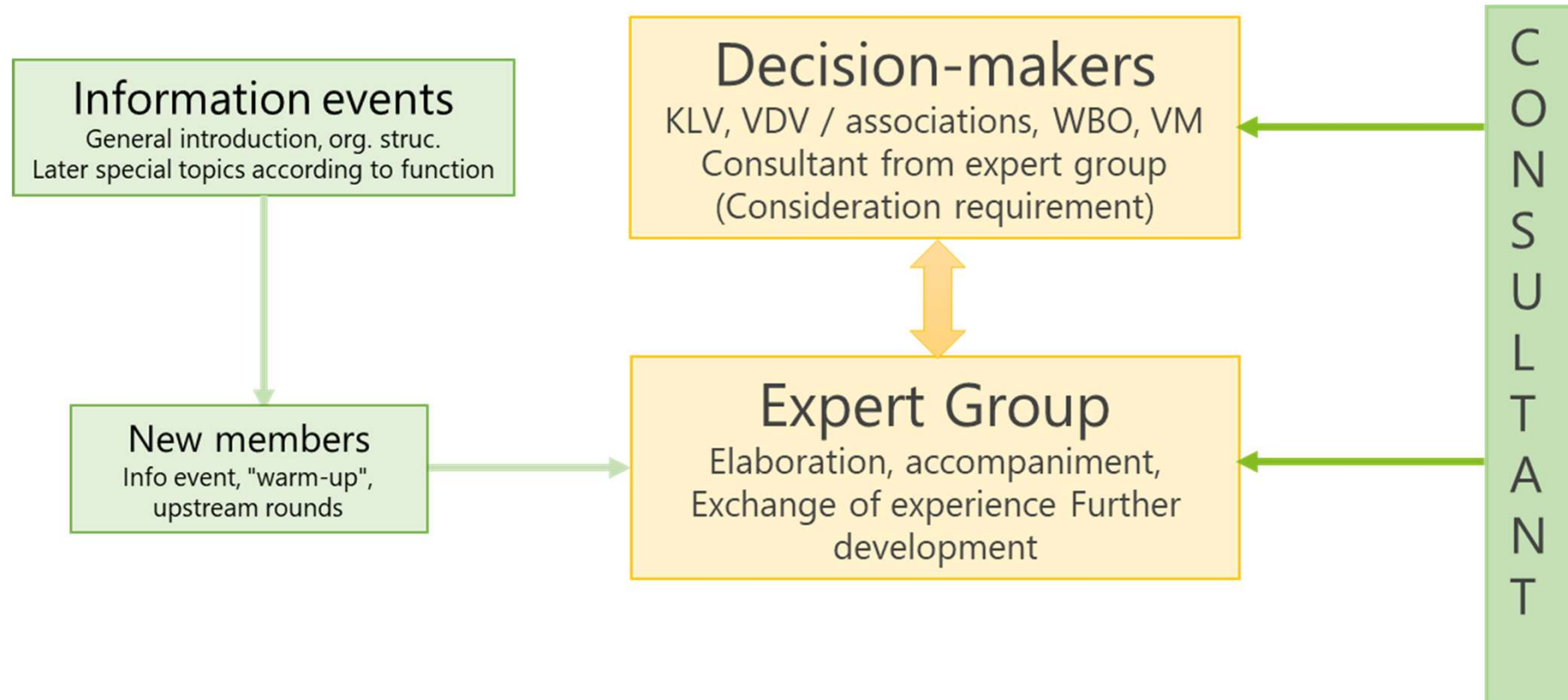


The Project: Advice and Support for the Ministry of Baden-Württemberg

OBJECTIVES:

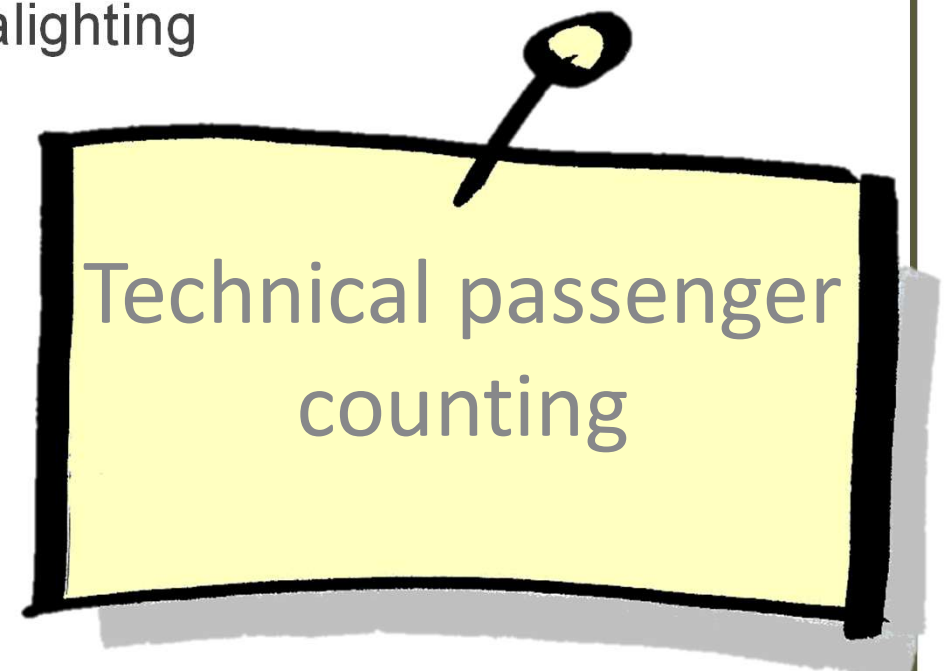
- Structuring the Decision Making Process
- Developing technical and organisational requirements
- Evaluating financial contribution for investments and operation
- Supporting implementation

DECISION MAKING PROCESS

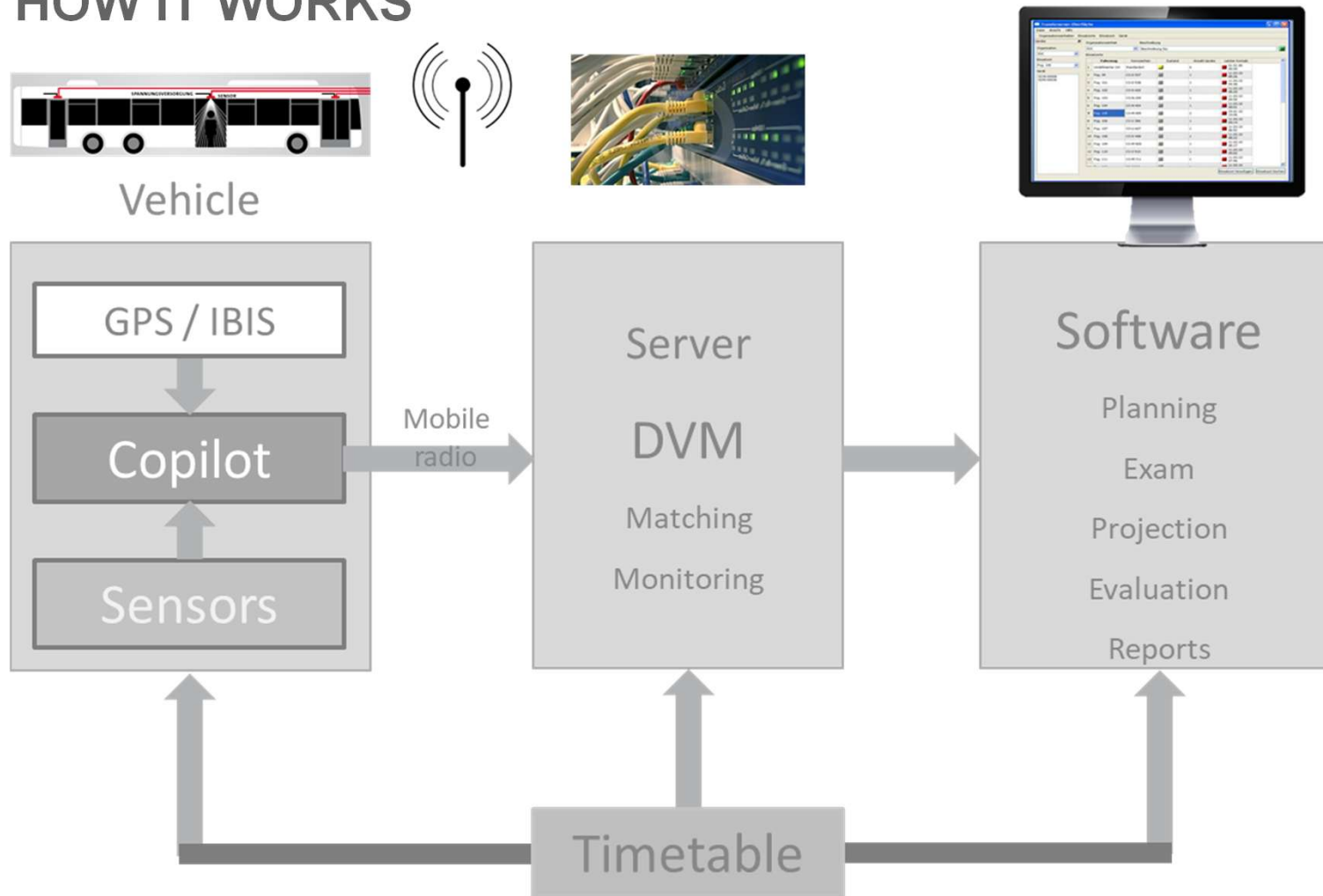


TECHNICAL REQUIREMENTS (1): AUTOMATIC PASSENGER COUNTING (APC)

- Counting Passengers boarding and alighting
- Each ride
- Each stop, each door



TECHNICAL REQUIREMENTS (2): APC HOW IT WORKS



TECHNICAL REQUIREMENTS (3): INFRARED SENSOR



ORGANISATIONAL REQUIREMENTS: REPRESENTATIVE SAMPLE

- The aim is to count each timetable trip
 - in the day types „Monday to Friday school“ at least twice per period (winter, spring, autumn, holidays), and
 - in the day types „Saturday“ and „Sunday at least twice per year.

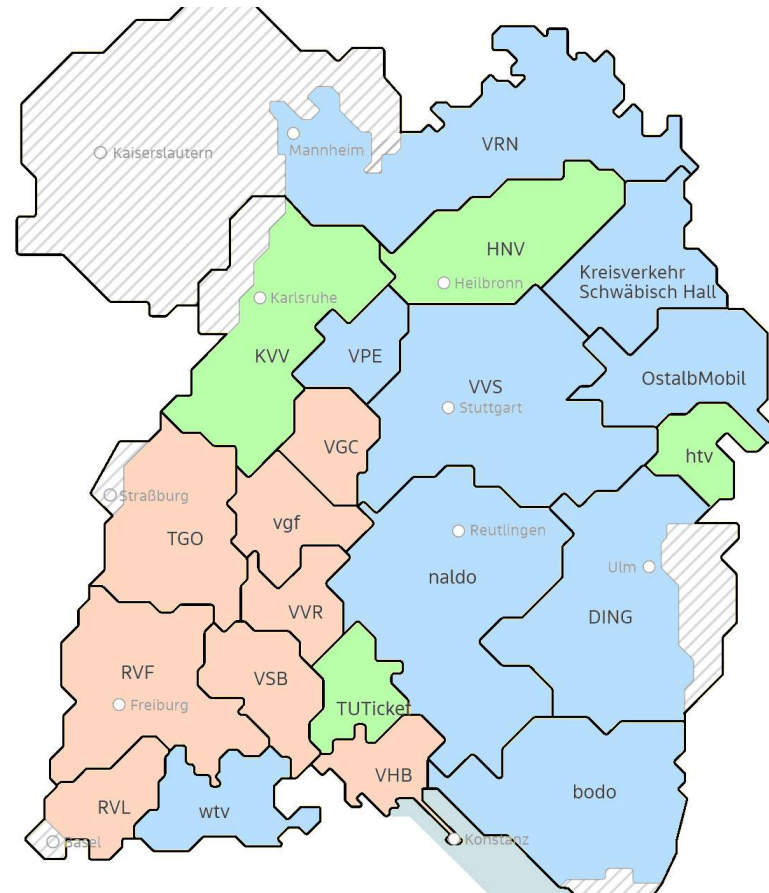
Fahrplanjahr	2023	
Beginn	11.12.2022	
Ende	09.12.2023	
Winter	11.12. - 09.04.	
Frühjahr	10.04. - 26.07.	
Herbst	11.09. - 09.12.	
Sommerferien	27.07. - 10.09.	
MF-Schule Winter		70
MF-Schule Frühjahr		61
MF-Schule Herbst		59
MF Ferien		60
Samstage		52
Sonn- + Feiertage		62
GESAMT		364
24.12. und 31.12. werden zur Tagesart "Samstag" gezählt.		
	= Herbstferien geschätzt	
	= kleinste Anzahl verfügbarer Tage	
	= größte Anzahl verfügbarer Tage	

PUBLIC TRANSPORT ASSOCIATIONS

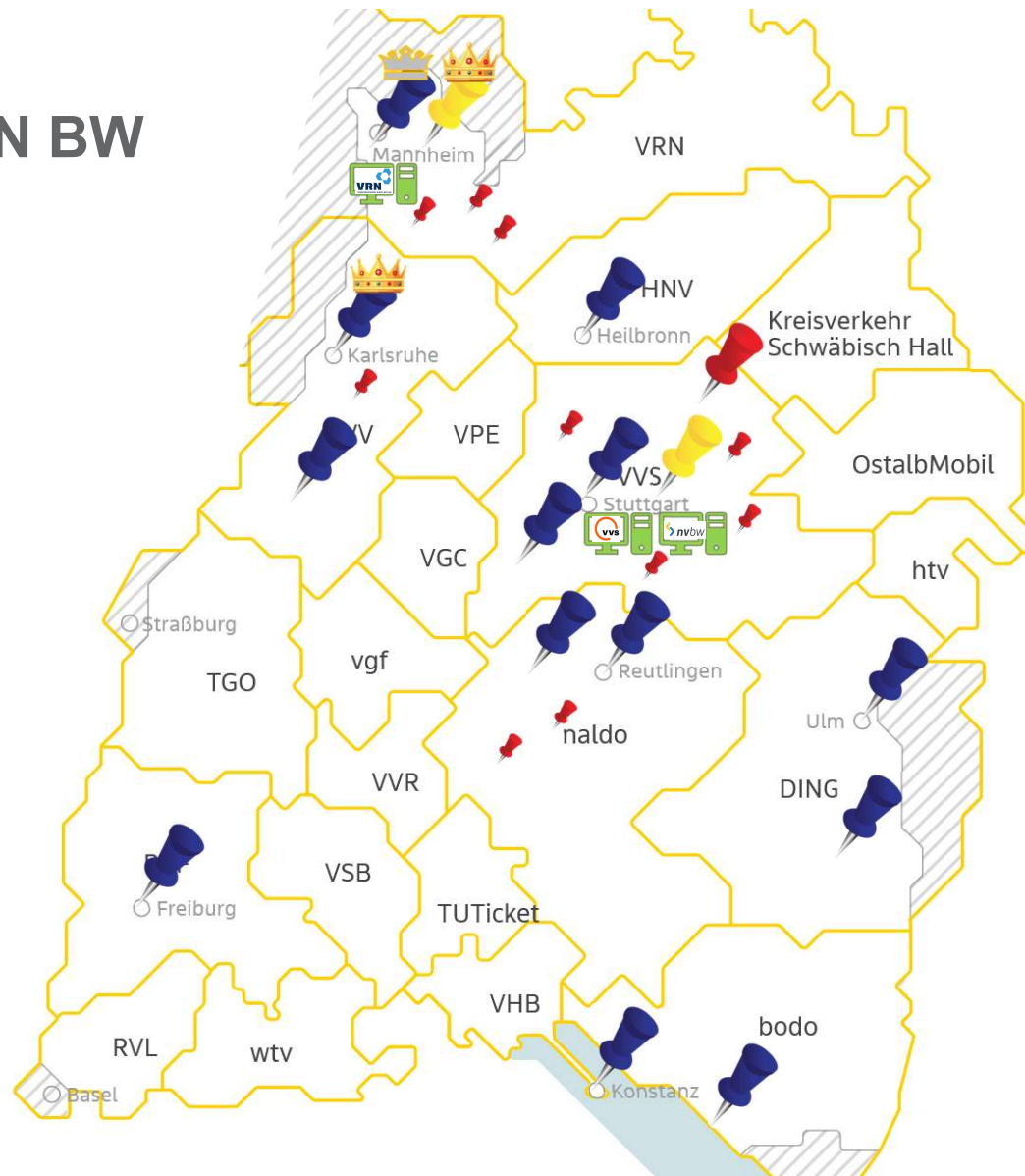
Associations of public transport authorities

Associations of transport operators

Mixed association



COUNTING SYSTEMS IN BW



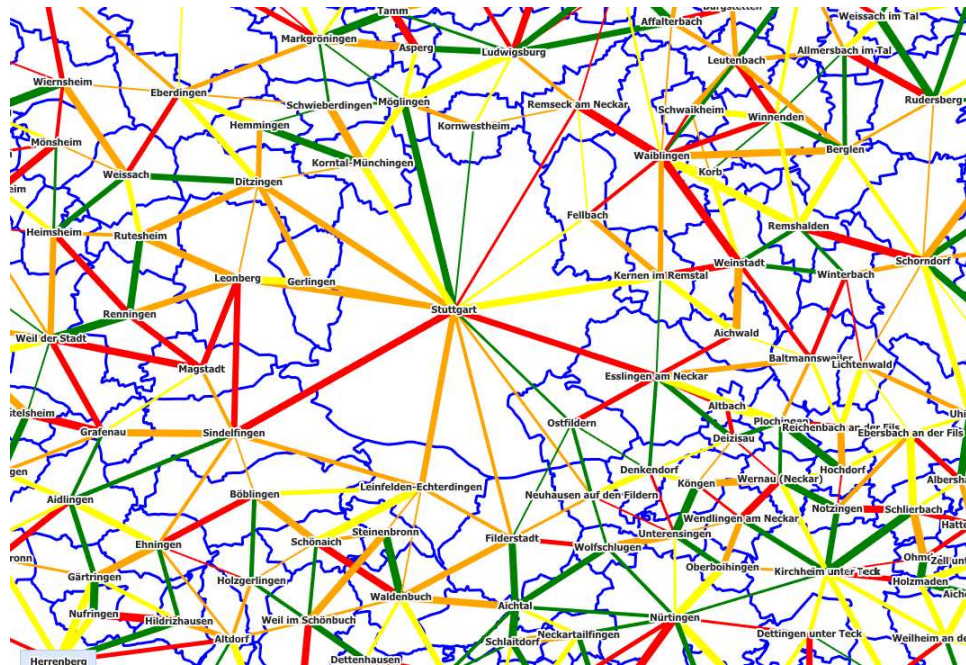
- DB-Region
- SWEG
- Abellio
- Go Ahead

Legend

- VU municipal
- VU private
- Composite HGS
- Taskmaster
- Certified
- In certification
- Background system

OUTPUT:

- Number of Passengers per transport authority and year
- Number of passengers crossing borders within and between transport authorities per type of day and daytime
- Input for multi modal transport model



FINANCIAL CONTRIBUTION – BASIC PRINCIPLES

- Infrastructure: Investment and Reinvestment
 - Equipment level up to 35% without justification
 - more than 35% possible with justification by the applicant
 - Funding via flat rates (per vehicle, certification, interface)
- Operation:
 - Depending on the number of pt authorities and counting systems
 - Amount growing with number of counting systems
 - Funding via lump sums (per vehicle, per pt authority)

SOME WORK ACCOMPLISHED – A LOT REMAINS TO DO

Year	2020	2021	2022	2023	2024	2025
WP1 Project Organisation						
WP2 Technical and Organisation Requirements						
WP3 Market Analysis						
WP4 Developing Financial Contribution						
WP5 Implementing Funding Instruments						
WP6 Interfaces						
WP7 Support Operation						

Thank you



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