Third-party Payment Specification for MaaS

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Traveller receives a compensation with third-party payments (TPPs)

Shopping in Leuven tonight? Try the cargo bike. The first hour is free between 16:00 and 19:00

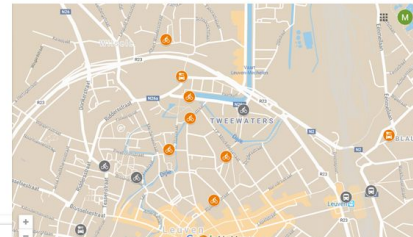https://leuven.be/freebike

Partners with a TPP agreement

Stad **Leuven**

Home / Mobiliteit en wegenwerken / Mobipunten

Locaties mobipunten

Tegen 2020 installeren we 50 mobipunten. Enkele locaties liggen al vast.

- Leuven
- Heverlee
- Kessel-Lo
- Wijgmaal
- Wilsele

Cargo bike action!

Download here the app for the first hour free between 16:00 en 19:00

TPPs are currently ad-hoc and not MaaS driven

Genk
  〉 Free bus card for new residents / discount for residents (De Lijn)
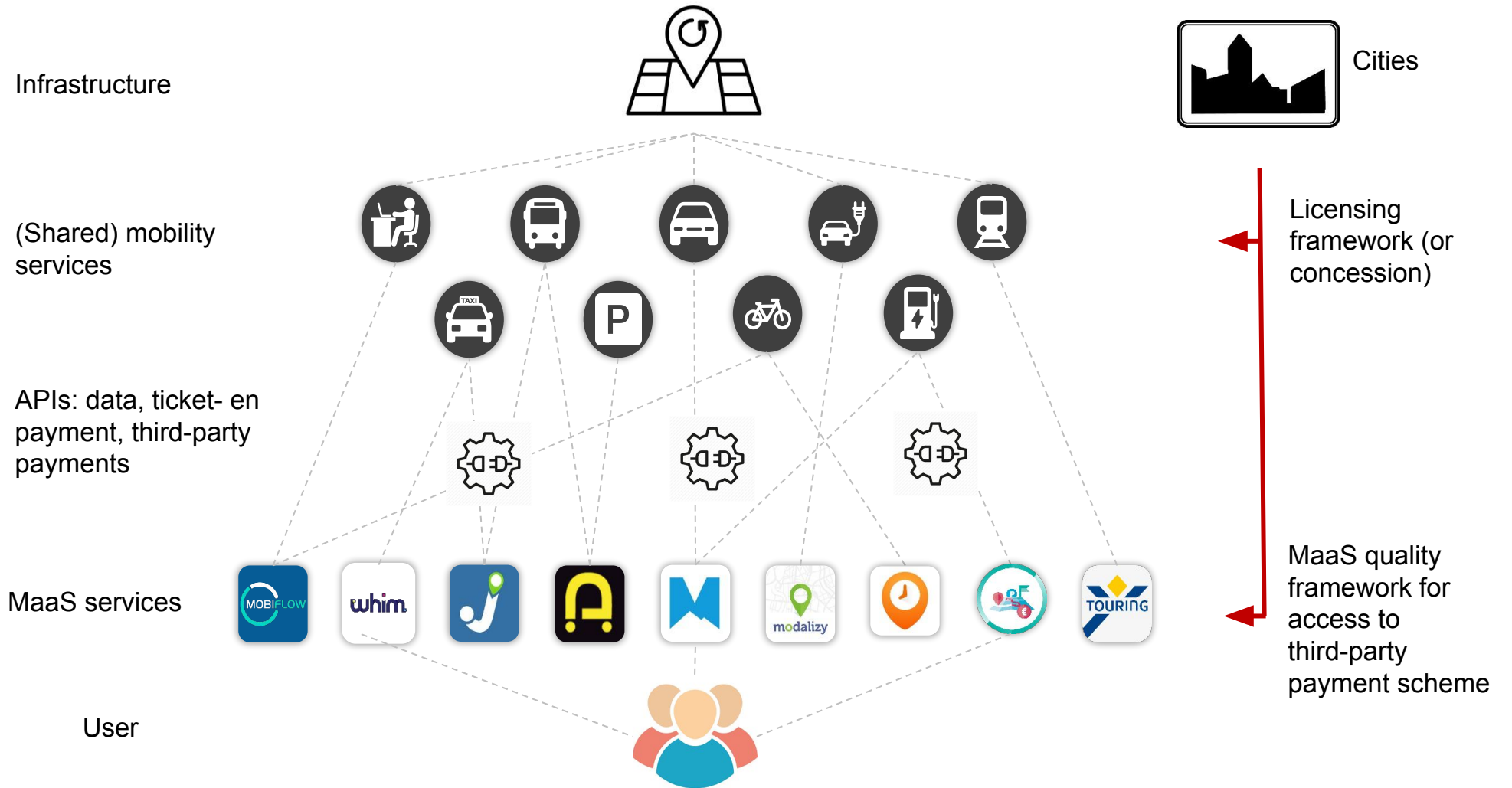Deinze
  〉 Free rides with Shared Bikes (Blue Bike)
Schoten
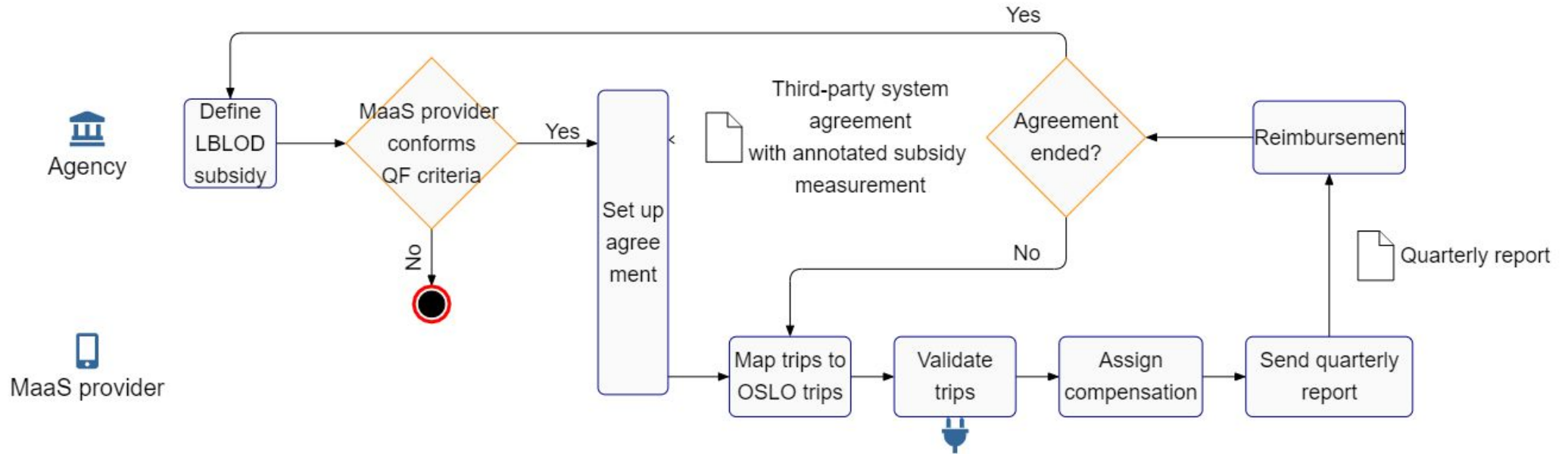 〉 Free rides with Shared Bikes of 20 minutes during events (Mobit)
Leuven
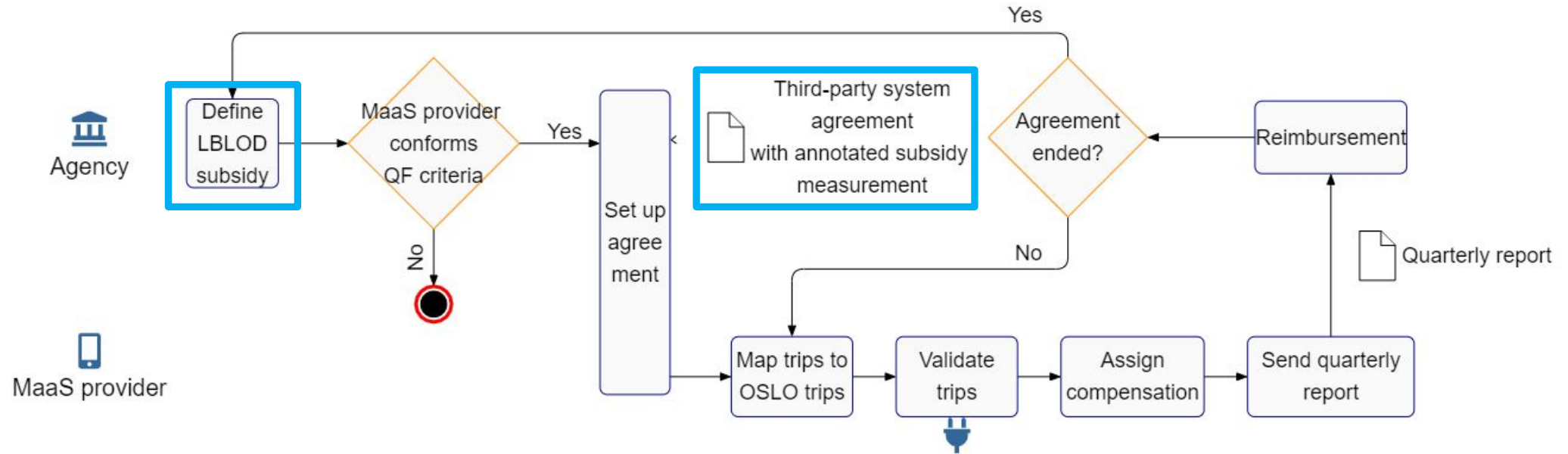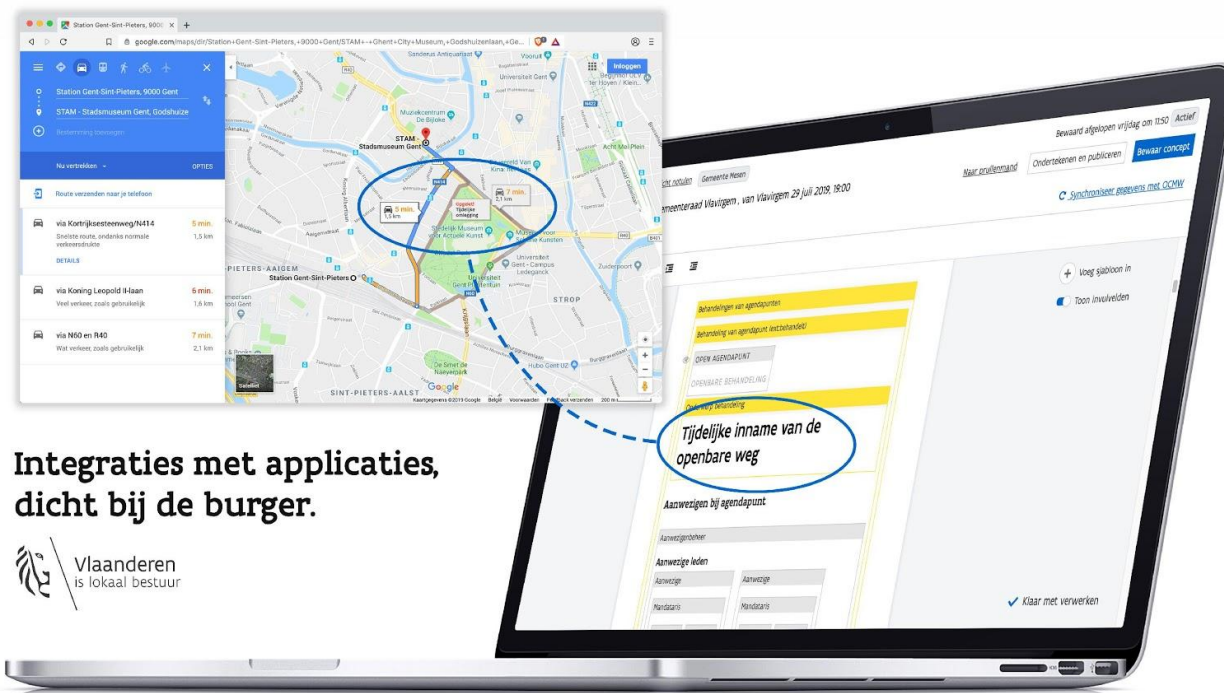 〉 Parking + Bus formula: free bus for 4 people per parking ticket

MaaS ecosystem

Infrastructure

Cities

(Shared) mobility services

Licensing framework (or concession)

APIs: data, ticket- en payment, third-party payments

MaaS services

MOBIFLOW whim. modalizy TOURING

MaaS quality framework for access to third-party payment scheme

User

Process to enable TPPs between cities and providers

Step 1: city defines subsidy measure

Aligned with LBLOD subsidy measures
(Local Decisions as Linked Open Data)

https://lokaalbestuur.vlaanderen.be/lokale-besluiten-als-gelinkte-open-data/gelinkte-subsidies
https://lokaalbestuur.vlaanderen.be/lokale-besluiten-als-gelinkte-open-data

Goal: embedded criteria in decision

https://github.com/brechtvdv/third-party-payment-maas-specification/tree/master/samenwerkingsovereenkomst
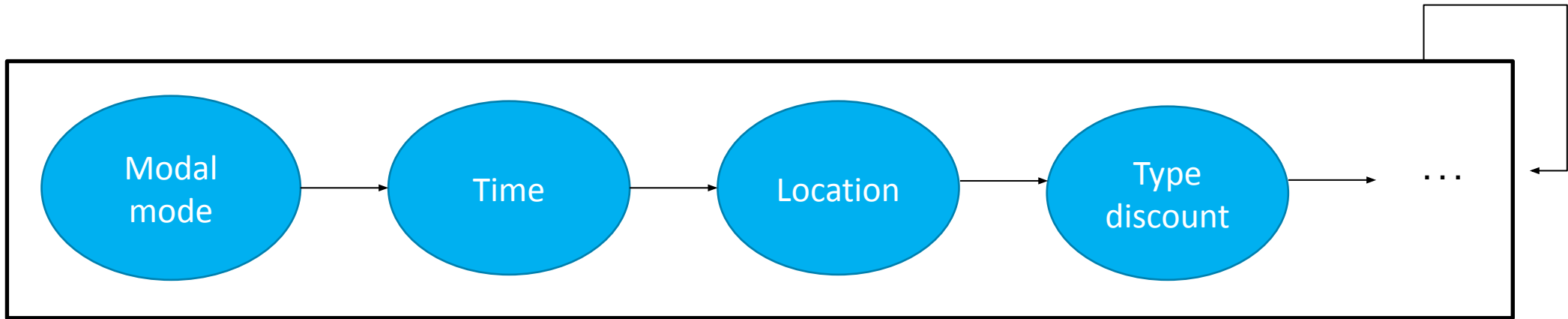
1. Derdebetaler ritten

Uitgangspunt: de stad xx sluit een derdebetalersregeling af met *<naam aanbieder>* voor het gebruik van het *<naam aanbieder> <deelvoertuigcategorie>* deelsysteem, waarbij de gemeente voor €x tussenkomt in de door de klant te betalen ritprijs van de *<naam aanbieder>* ontleningen op haar grondgebied. In het geval de Vlaamse overheid besluit ook een derdebetalersregeling beschikbaar te stellen, komt dit bedrag van de Vlaamse overheid eveneens tussen in de ritprijs voor de klant. De kortingen worden telkens verrekend op het rittarief van de klant, waardoor deze een korting krijgt zodanig dat de kostprijs van een rit binnen de 60 minuten niet hoger is dan de kostprijs van een busticket bij De Lijn (momenteel €2,5 incl. btw per rit binnen de 60 minuten). Opgesomd gelden de volgende voorwaarden:

- De tussenkomst door de stad xx in de gemaakte ritten bedraagt €x (incl btw) per gemaakte rit.

- Een eventuele bijkomende tussenkomst door de Vlaamse Overheid zal automatisch in de gemaakte ritten verwerkt worden, waardoor de klant nog minder betaalt per gemaakte rit.

- Om de korting te mogen aanbieden mag de ritprijs van de aanbieder per 60 minuten niet hoger zijn dan de kostprijs van een busticket bij De Lijn[1] + €x.

- Indien de kostprijs van een rit lager is dan €x (incl btw) bedraagt de tussenkomst door de stad x enkel de werkelijke kostprijs van de rit (kostprijs rit kan nooit negatief worden).

Criteria are extensible

combination

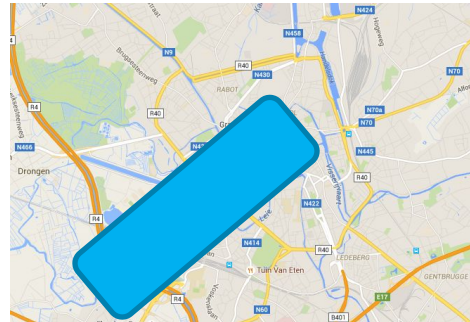| Modal mode | Time | Location | Type discount | … |

Trein
+
Deelfiets
+

On week days, between 16:00 and 17:00

From station to centre

Fixed amount or percentage (with maximum)
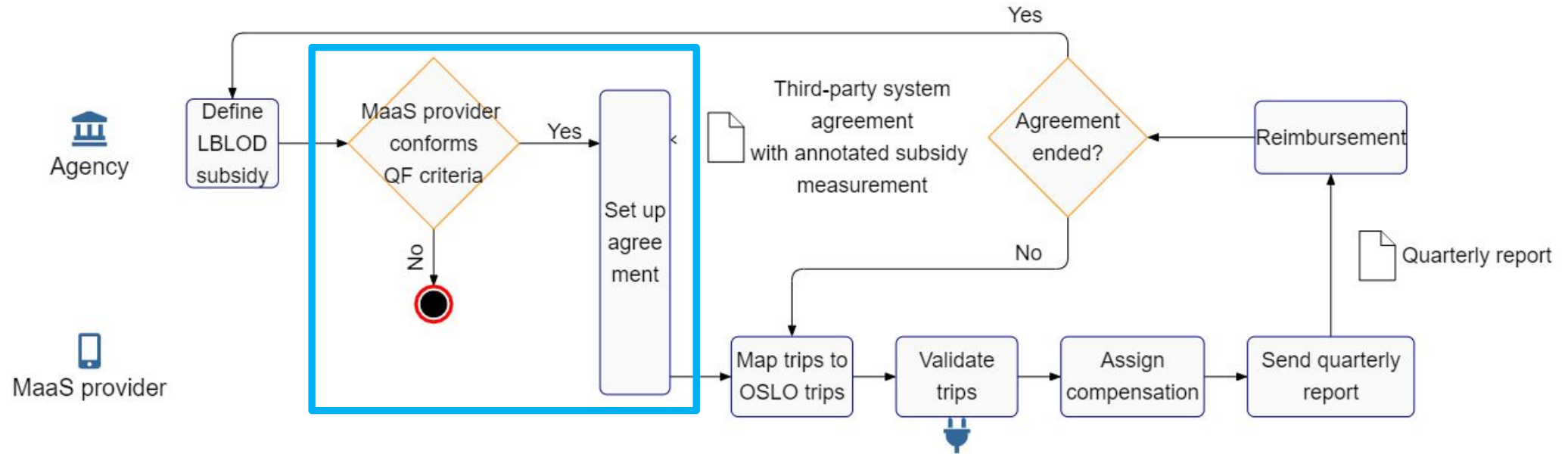
Specification to describe the criteria

Criterium requirement

```
{
        "@type": "RouteSegmentRequirement",
        "description": "...",
        "meansOfTransport": "...",
        "location": { ... },
        "time": [ ... ]
}
```

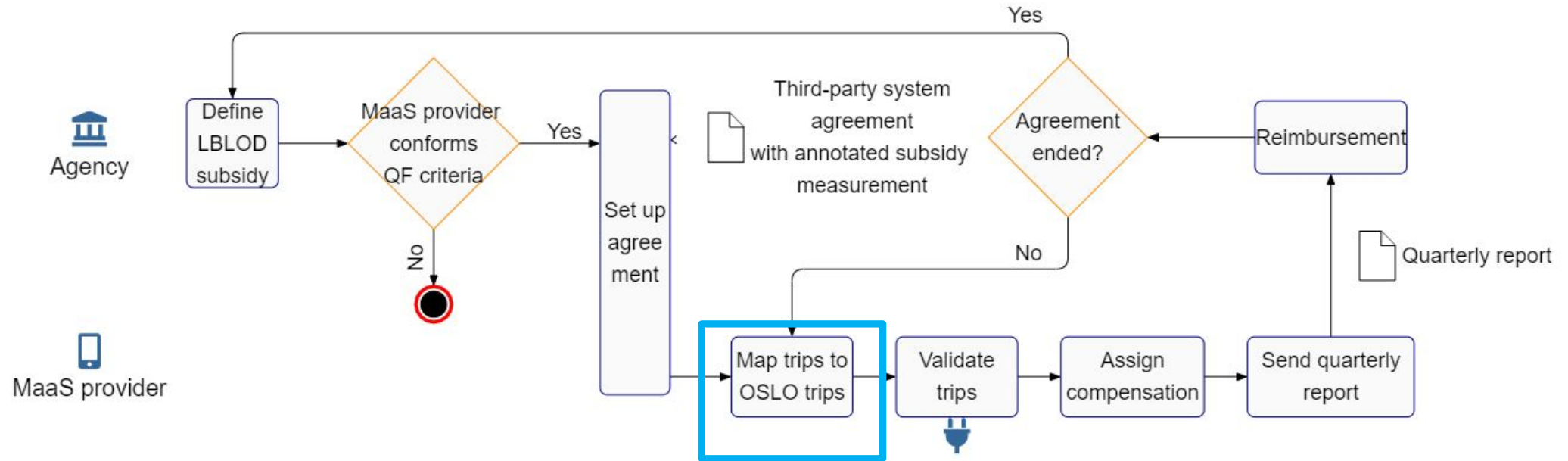| Field	Type	Description	Example
description	String	Description of a requirement that a route segment of the trip of a user must comply with.	Only shared bikes, on monday between 4pm and 6pm and used in the centre of the city."
meansOfTransport	Enum	Means of transport Type: which mode of transport or more specific (e.g. electric bike) the user must use for the route segment.	http://www.wikidata.org/entity/Q11442
location	Location	Location that the route segment must be covered with.	
time	OpeningHoursSpecification	Description of the hours during which the route segment must have happened.	

Step 2: agreement with MaaS provider

Agreement TPP with MaaS providers

1. **Subsidy of the city** when conform with TPP process and aligned with open standards (LBLOD Subsidies en OSLO-Mobility Trips and offer)

2. **Preconditions MaaS-app:** conform the criteria from the quality framework MaaS

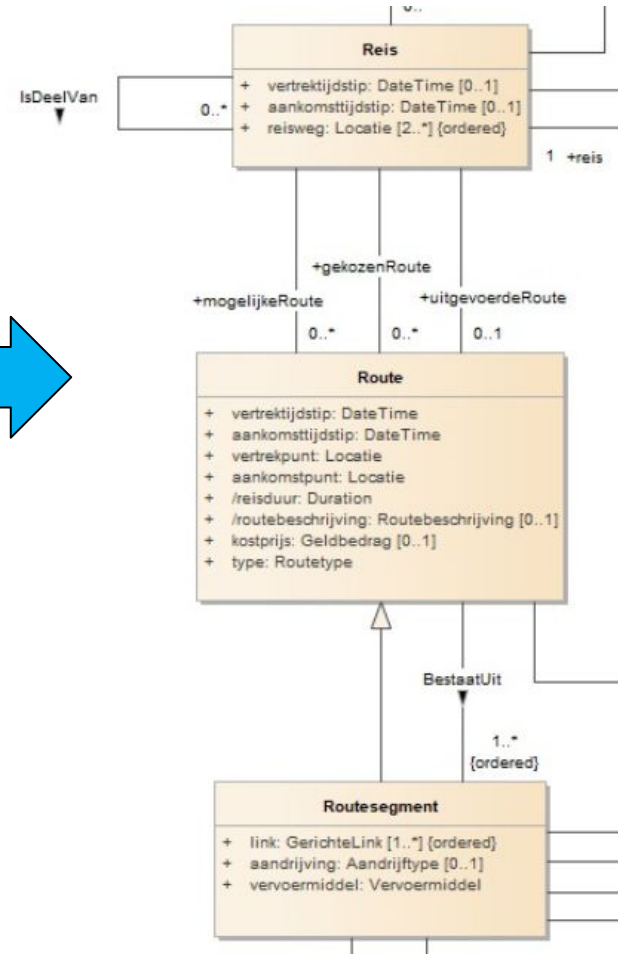3. **Reporting and payment:** periodically, *split bill* between traveller and city per trip

Criteria MaaS quality framework

1. **Multimodal**
2. **Integration with public transport**
3. **Realtime overview**
4. **Minimal usage modalities (B2C, pas-as-you-go)**
5. **Service level**
6. **Exchange usage data**

Step 3: provider maps trips

Provider maps trips to OSLO-mobility "trips and offer"

Specification to guide providers with the trip mapping

https://github.com/brechtvdv/third-party-payment-maas-specification/tree/master/provider
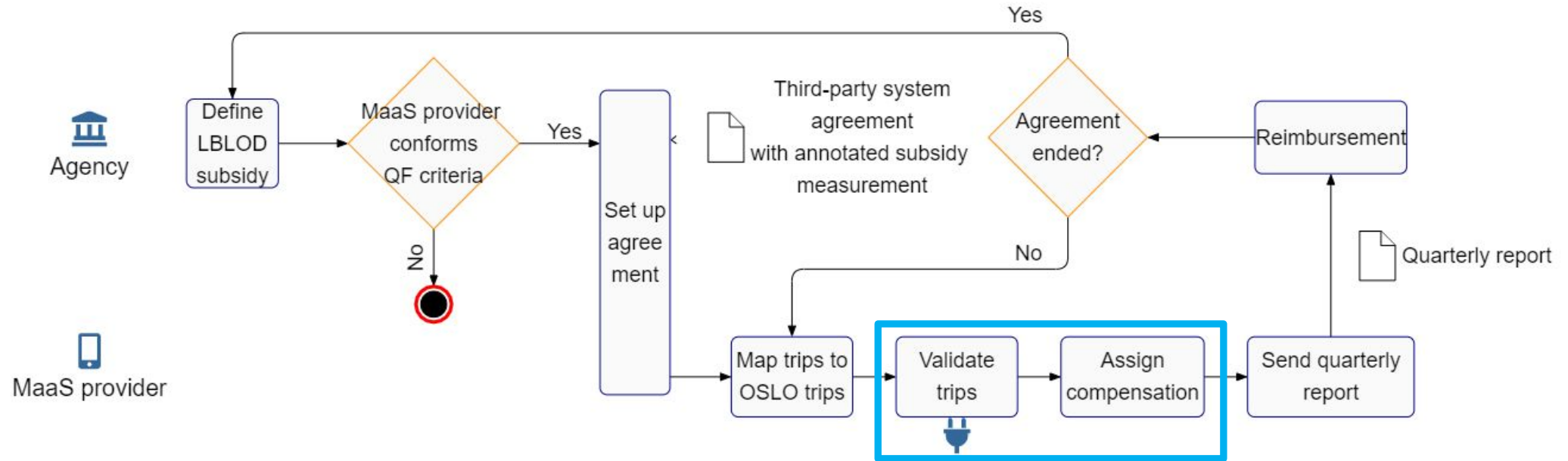
Route segment

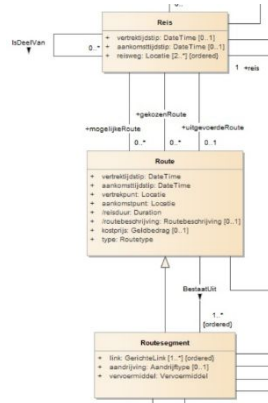Part of a Route taken without a Transfer using the same means of transport.

```
{
    "@type": "RouteSegment",
    "departureTime": "...",
    "arrivalTime": "...",
    "telemetry": [ ... ],
    "price": { ... },
    "meansOfTransport": "..."
}
```

Field	Type	Description	Example
departureTime	xsd:dateTime	When the user departed.	2018-01-01T01:01:00
arrivalTime	xsd:dateTime	When the user arrived.	2018-01-01T03:10:00
telemetry	Directed link	Set of links that represent the GPS trajectory of the route segment.	
price	Monetary amount	Monetary amount that the user has paid or must pay without discount.	
meansOfTransport	Enum	Means of transport Type: the used modality or more specifically	http://www.wikidata.org/entity/Q11442

Step 4: provider validates trips and assigns compensation

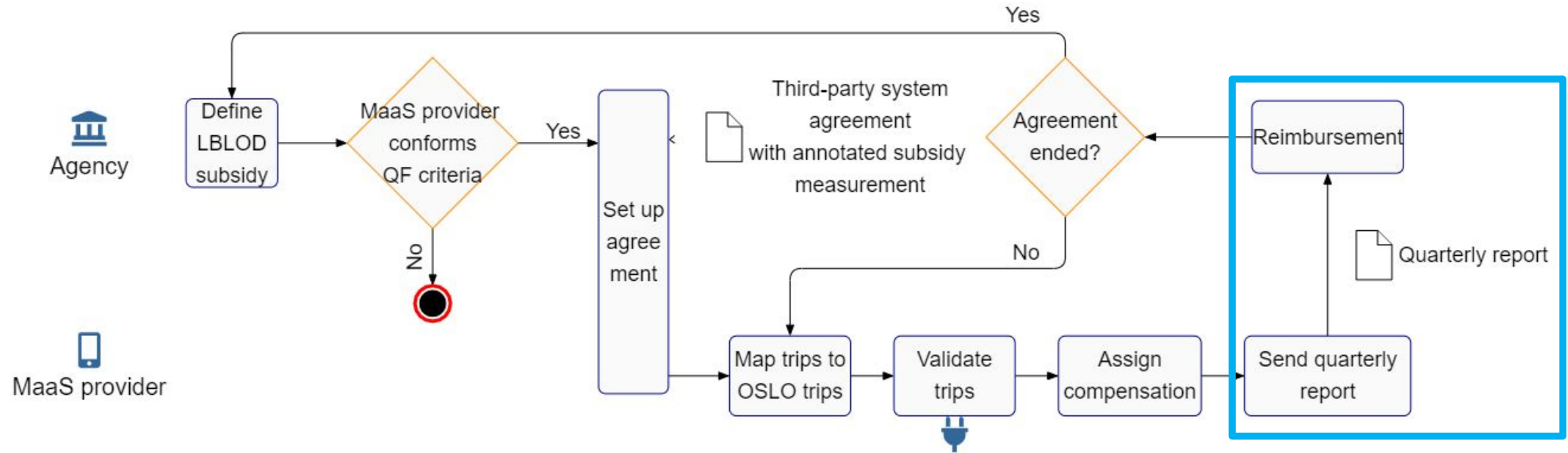# Rule engine (PoC) to validate trip with measure
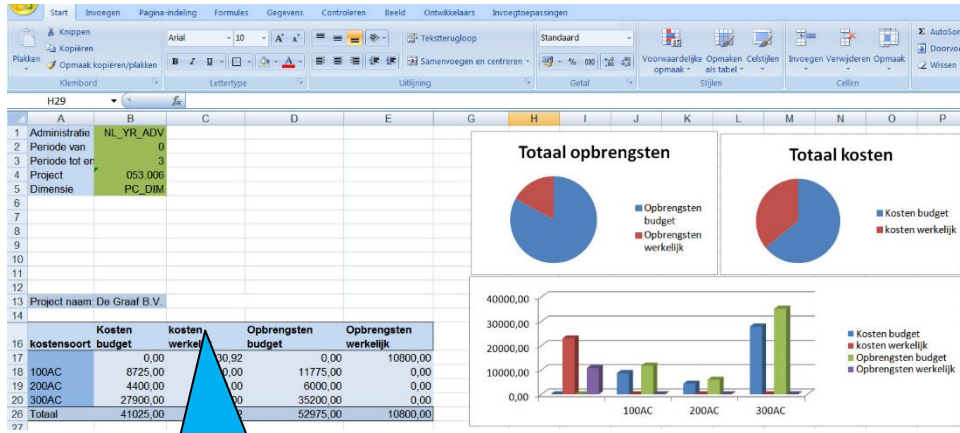

Open source: maintained by cities and providers

The rule engine is executed by the provider to calculate the trip compensation

https://github.com/brechtvdv/third-party-payment-maas-specification/tree/master/provider/validator

Step 5: report to retrieve reimbursement

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Provider reports the number of trips and discounts.

City can use this report to monitor the effect of the subsidy measure

Provider retrieves per trip:
1. travellers part, e.g. €3,50
2. Service expenses, e.g. €0,10

Suggestion to work with reimbursements in advance

Future work

Short term: incentive platform

> Can be any type of subsidy measure

> Across city domains and companies

> Profile-based criteria

> Handles the authentication/authorization part for the provider

Long term: Solid for personal data storage

> Rights (based on social background)

> Performed trip

Q&A