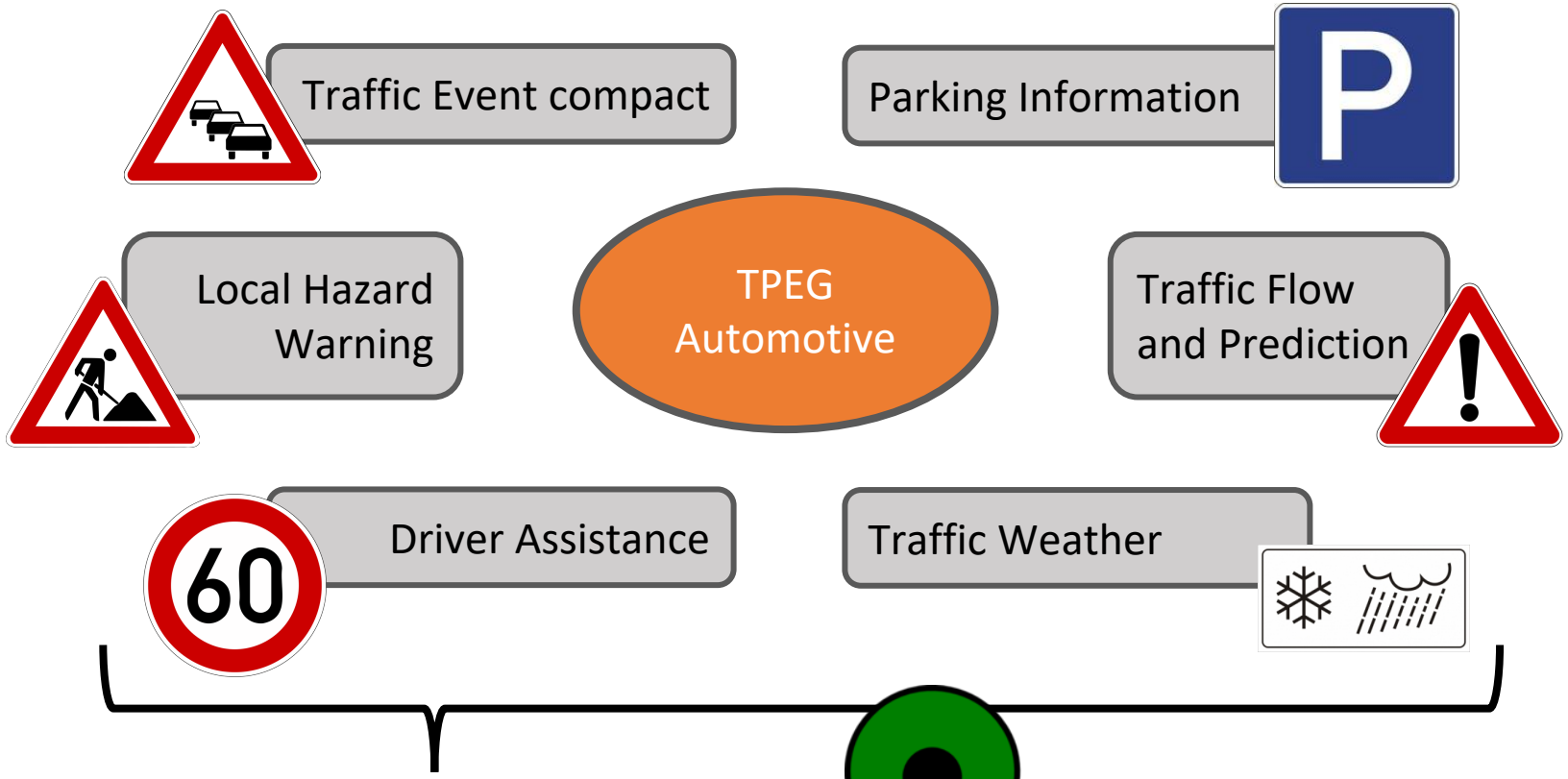
ECODyNIS

Sichere Elektromobilität und nachhaltige CO2-Reduktion durch Dynamische Navigation In Städten mit Verkehrsinformationen über Digital Radio

Precise locating of traffic information



- **Needs to be mapped**
  - **Location Referencing**

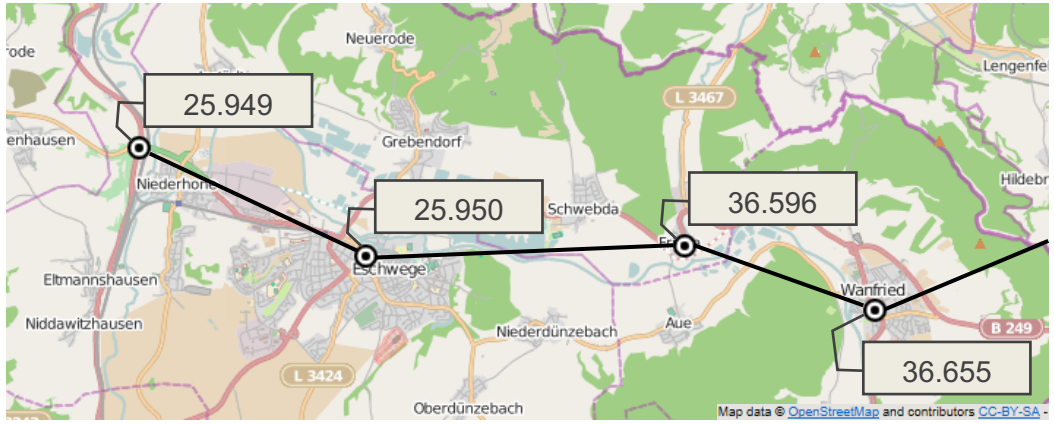
TMC Location Referencing

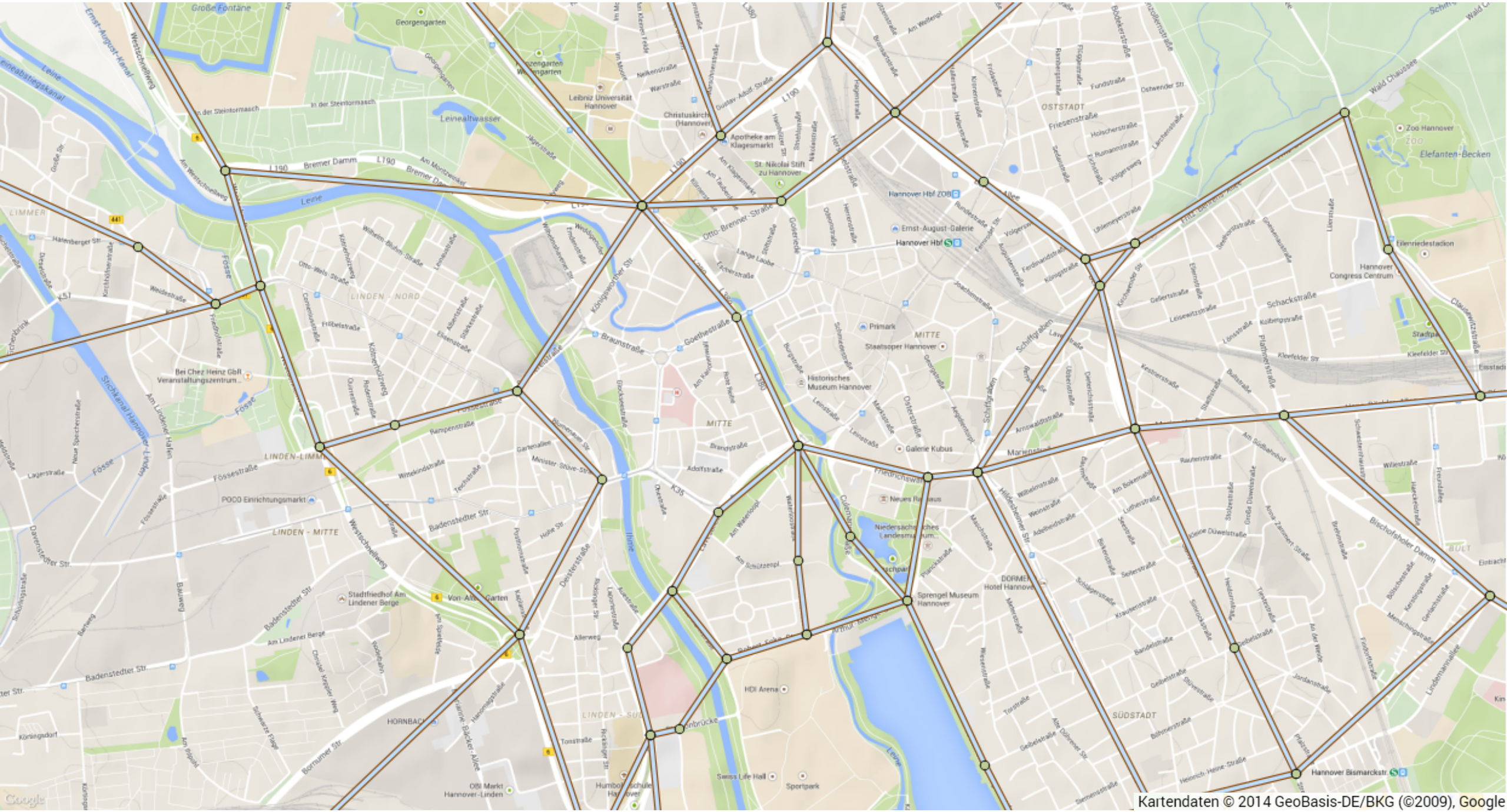
- Currently still state of the art in TPEG

- Pre-coded IDs are transmitted

- Uses a Location Table
  - ➢Causes update issues
  - ➢Limited by the number of locations

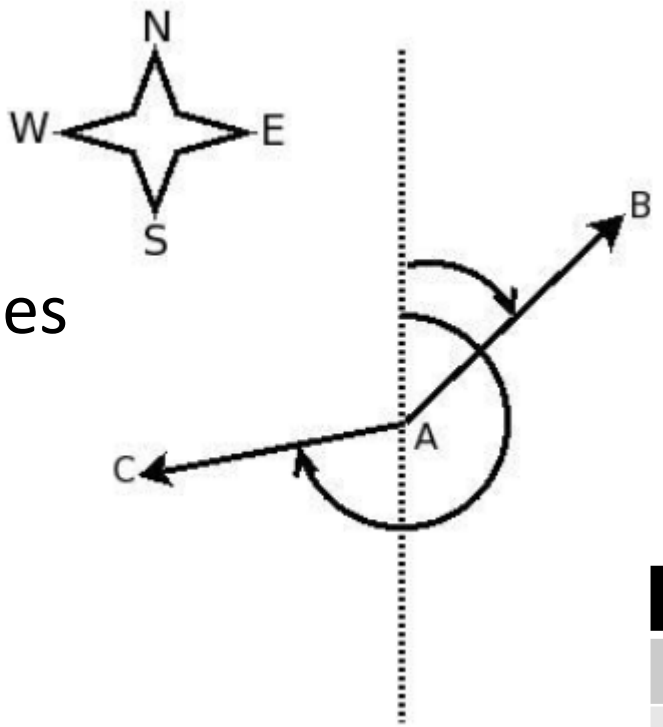
LOCATIONCODE	POSITIVE_OFFSET	ROADNUMBER	…
25.949	25.950	B249	…
25.950	36.596	B249	…
36.596	36.655	B249	…
36.655	45.764	B249	…



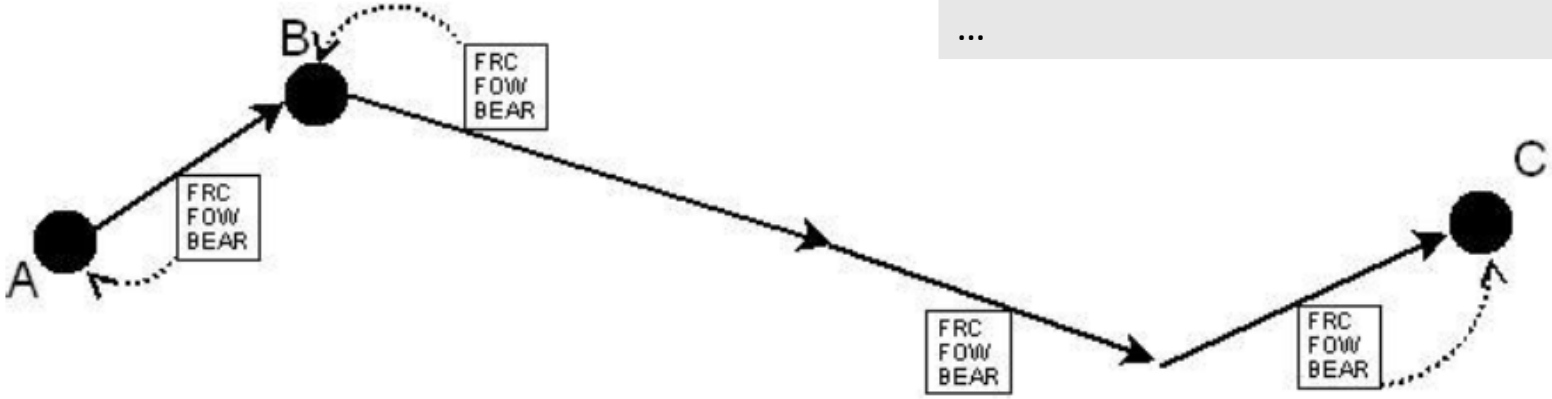

Georgengarten
Leibniz Universität Hannover
Christuskirche (Hannover)
Apotheke am Klagesmarkt
St. Nikolai Stift zu Hannover
Hannover Hbf ZOB
Ernst-August-Galerie
Hannover Hbf
OSTSTADT
Zoo Hannover
Elefanten-Becken
Eilenriedestadion
Hannover Congress Centrum
Stadtpark
LIMMER
LINDEN - NORD
LINDEN-LIMMER
LINDEN - MITTE
MITTE
Primark
Staatsoper Hannover
Historisches Museum Hannover
Galerie Kubus
Neues Rathaus
Niedersächsisches Landesmuseum
Sprengel Museum Hannover
DORMERO Hotel Hannover
Bei Chez Heinz GbR Veranstaltungszentrum
POCO Einrichtungsmarkt
Stadtfriedhof Am Lindener Berge
Von-Alten-Garten
HDI Arena
Swiss Life Hall
Sportpark
HORNBACH
Obi Markt Hannover-Linden
SÜDSTADT
Hannover Bismarckstr.
Leine
Fösse
Ihme
Leinealtwasser
Stichkanal Hannover-Linden
Ernst-August-Kanal
Leinebastegskanal
Kartendaten © 2014 GeoBasis-DE/BKG (©2009), Google

OpenLR

- Uses topologies and geometries
  - Coordinates
  - Road class and type
  - Angle to north
  - Length
- No pre-coded Data
  - Map independent
- On-the-fly coding
  - Dynamic



Form of Way (FOW)
MOTORWAY
MULTIPLE_CARRIAGEWAY
ROUNDABOUT
…



OpenLR™: White Paper. Amsterdam (Netherlands), 2009


Große Fontäne
Georgengarten
Prinzengarten
Wellengarten
Leinealtwasser
Leine
Ernst-August-Kanal
Leineabstiegskanal
Wernschenweg
Hannover Hbf
Primark
Staatsoper Hannover
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Humboldtstraße
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Tiergartenstraße
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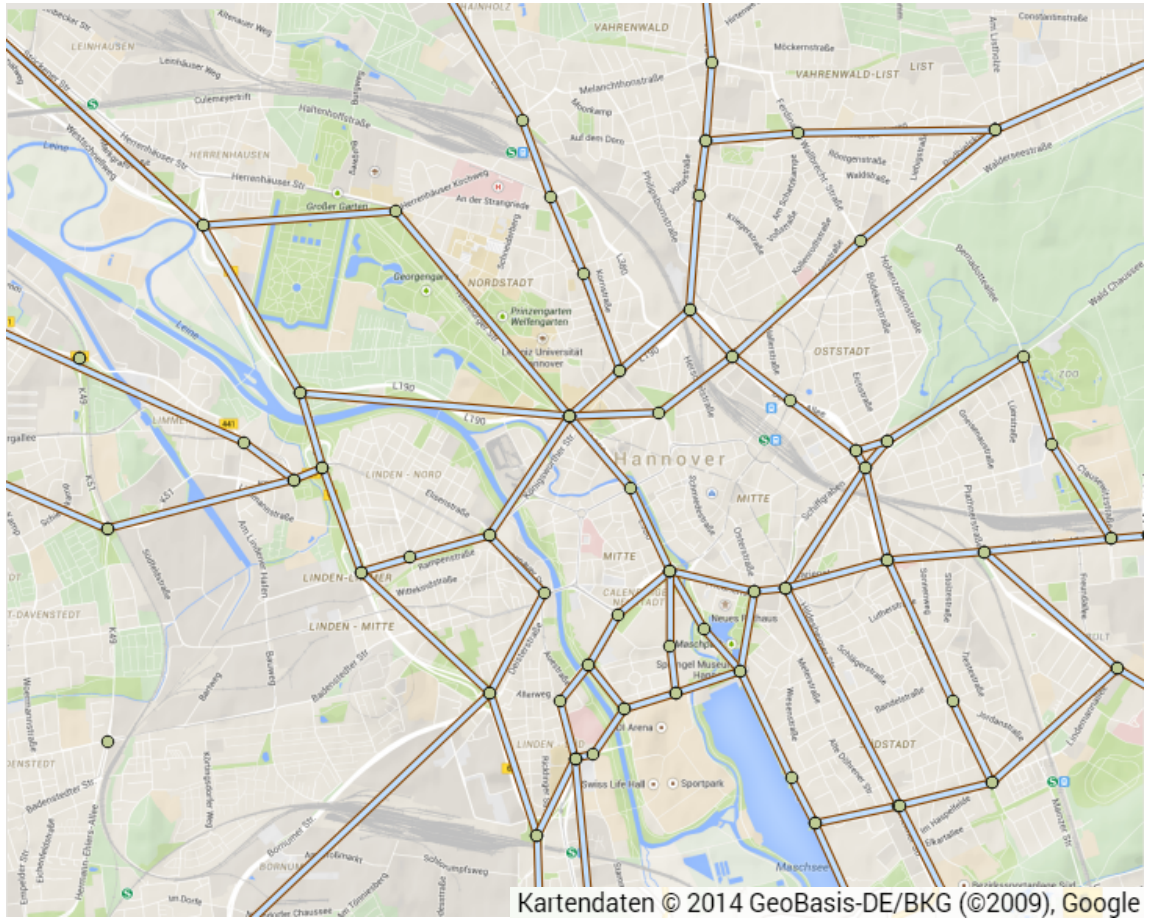
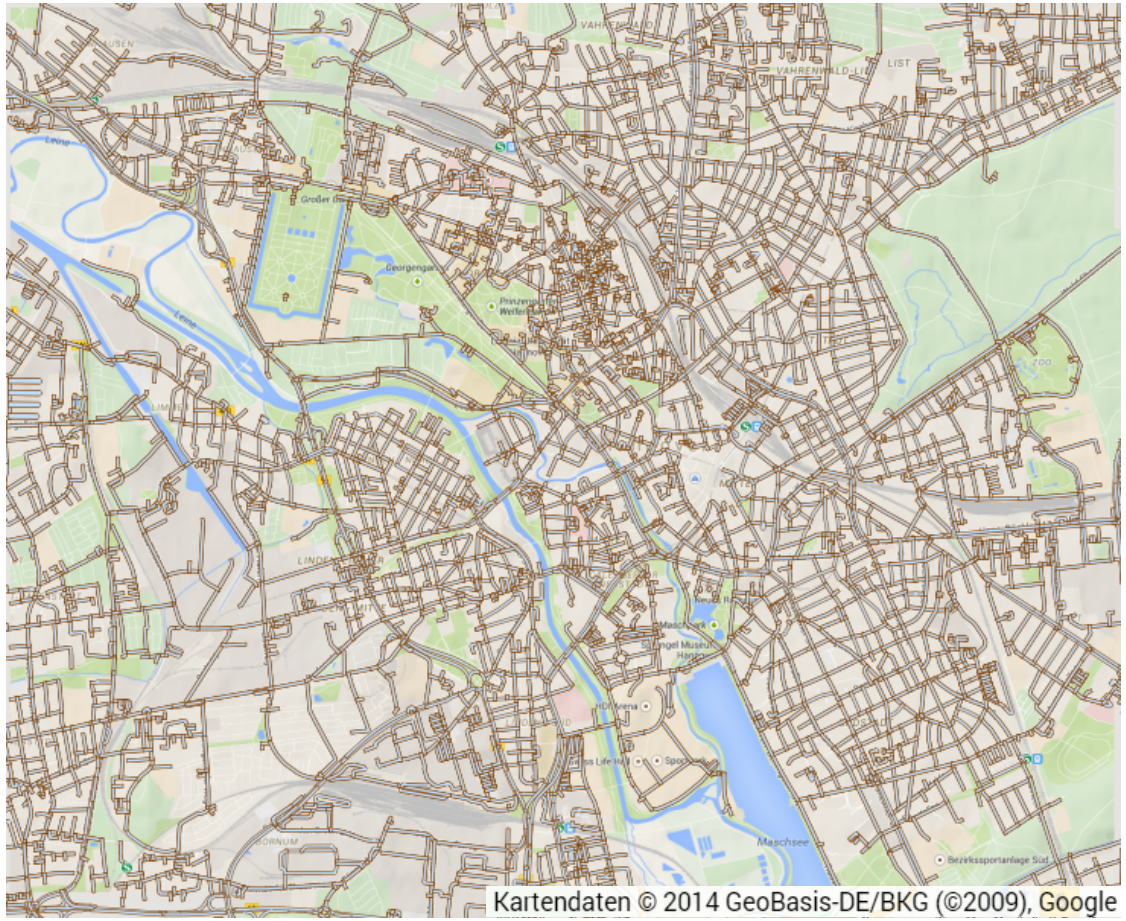
Hannover:

TMC vs. OpenLR



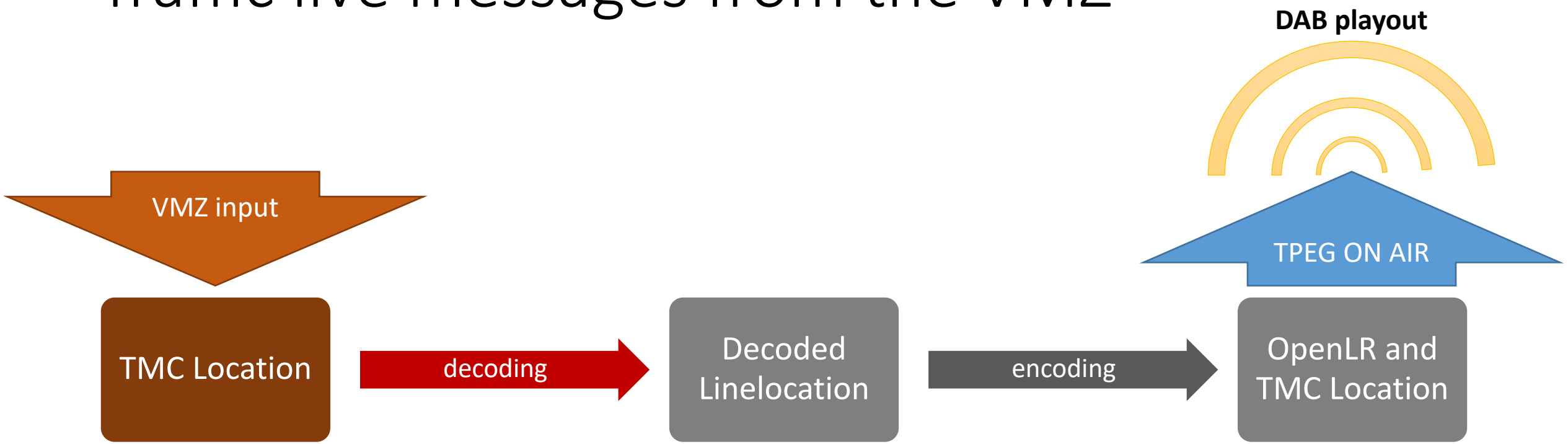


QGIS Chugiak; Map Data © 2012 Google,

ECODyNIS

- Aims for better dynamic navigation in cities
  - More sophisticated Location Referencing
- Implementation of OLR for TPEG
  - OLR representation of current TMC data
  - Generation new inner city traffic information from roadwork information

Traffic live messages from the VMZ



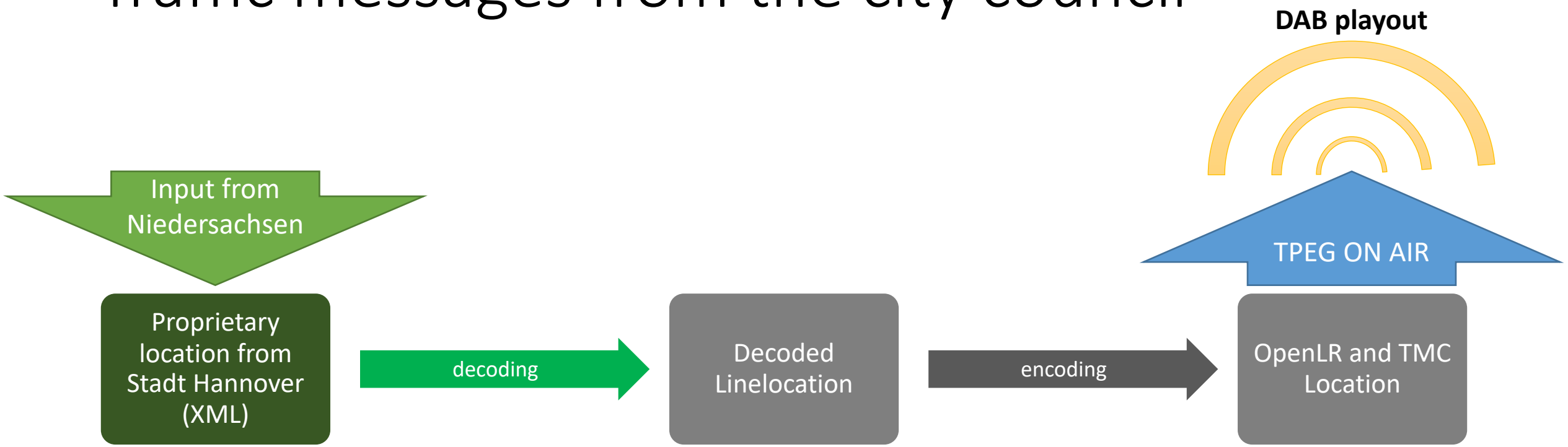
TMC decoding:

- Points do not match properly
- Where to start/end?
- …

TPEG encoding:

- Translation to TEC codes
- Location encoding
  - Using the OpenLR™ toolkit
  - OSM as map base
- …

Traffic messages from the city council



Location decoding:

- From- and to-streets
- Topologic differences
- …

TPEG encoding:

- Detailled OSM as map database
- Using the OpenLR™ toolkit