



CENTRAL LONDON FREIGHT QUALITY PARTNERSHIP

26th October 2016 | Douglas Gilmour
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TomTom  **MAPS**

AGENDA

- Introductions
- About TomTom
- Truck Routing problems in urban areas
- TomTom map-making technology
- Data sourcing and the Logistics layer
- Technology-led solutions
- Questions





ABOUT TOMTOM

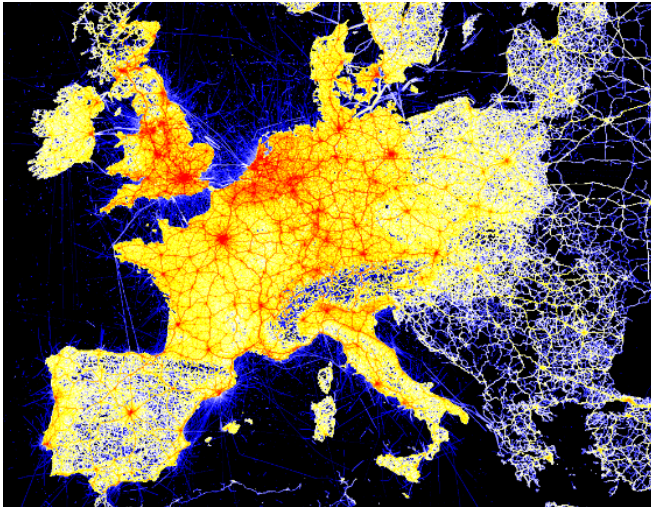
WHO ARE WE?

MAPS

CONSUMER

AUTOMOTIVE

TELEMATICS



MAP THE WORLD



ENABLE SMARTER DECISIONS



POWER PARTNER SOLUTIONS

MAP FACTS



BILLIONS

OF PROBE TRACES
COLLECTED DAILY



>78 MILLION

POINTS OF INTEREST

**MOBILE
MAPPING VANS**

THAT DRIVE OVER

3 MILLION KM

EACH YEAR



256 MILLION

ADDRESS POINTS



NAVIGABLE MAPS FOR

**135
COUNTRIES**

**GLOBAL MAP
COVERAGE**

>47.1

MILLION KM

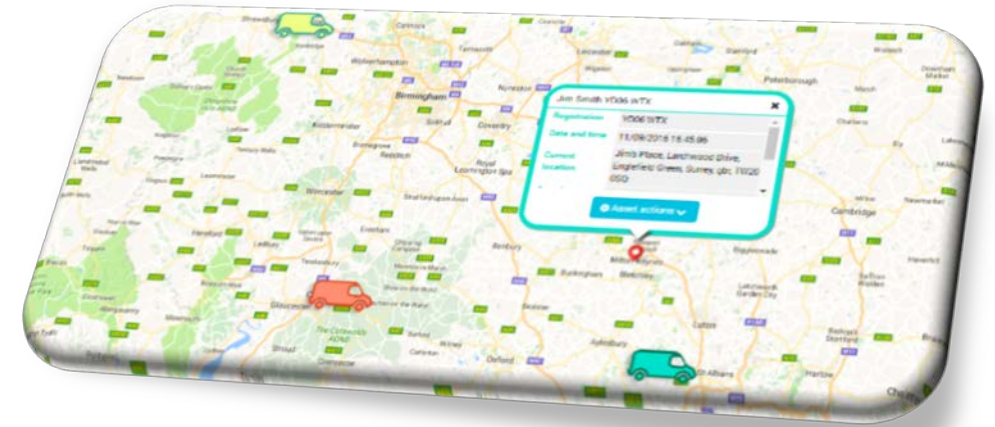
OF ROADS



TRUCK ROUTING PROBLEMS IN URBAN AREAS

TRUCK ROUTING PROBLEMS IN URBAN AREAS

- **Plans vs Signs vs Road Orders vs Maps vs Reality**
 - Temporary vs Permanent changes to the road network
 - Multiple stakeholders
 - Under-resourced data & signage owners/maintainers
 - No framework for the systematic recording, structuring, storage, maintenance and sharing of data
 - **Poorly integrated existing systems**
 - Geoplace/NSG/ETON/TROs
 - Complex IPR issues inhibiting sharing of (theoretically open) data between users
 - Alternative definition/treatment within devolved nations
 - Inconsistent and poor coordination of trip/route planning e.g. abnormal loads
- Leading to....



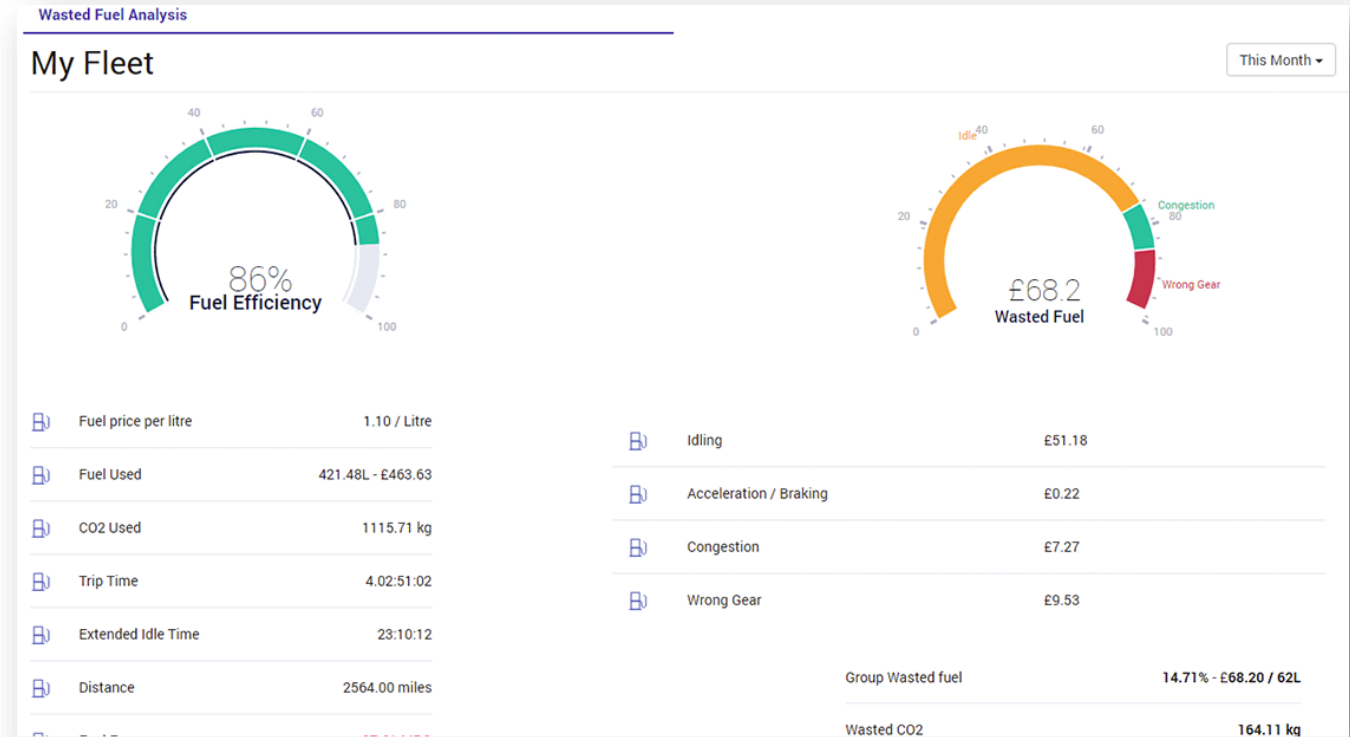
UNDESIRABLE / ILLEGAL MANOEUVRES

- Disregarding restricted turns
- U-turns
- Reversing
- Additional traffic congestion & costs to road users and non-road users
- Extended Parking/Access Point/Address search times
- Bridge strikes
- Sub-surface damage due to over-weight vehicles/heavy loads



SUBOPTIMAL ROUTING

- Additional time & (fuel/driver time/queuing) cost of journeys
- Missed delivery slots and late delivery fines
- Exacerbated emissions/pollution/congestion problems
- Road Safety impacts at interfaces between TLRN, local road network and between different road users
- Routing “off plan” and exceptions which may lead to infringements in safe driving hours, missed deliveries or illegal manoeuvres



FAILURE TO MEET TRANSPORT SYSTEM OBJECTIVES

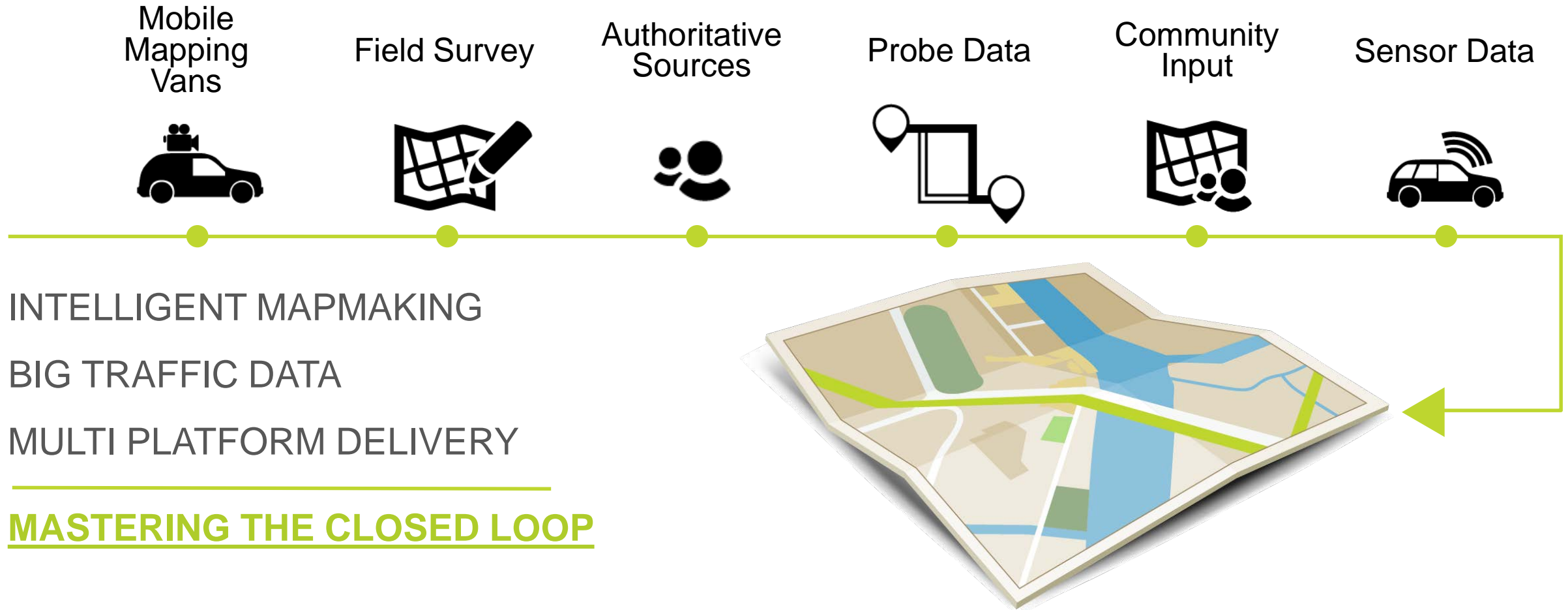
- Poor allocation of road space between competing users
- Supply constrained against background of rising demand
- Failure to spread demands to the shoulders of the peak period/extension of the peak
- Undermines otherwise strong partnerships and schemes e.g. FORS
- Shared space schemes ineffective or even unsafe
- Emissions/Local Air Quality targets missed
- Safety targets missed
- Politics and shifting of blame and responsibility between stakeholders



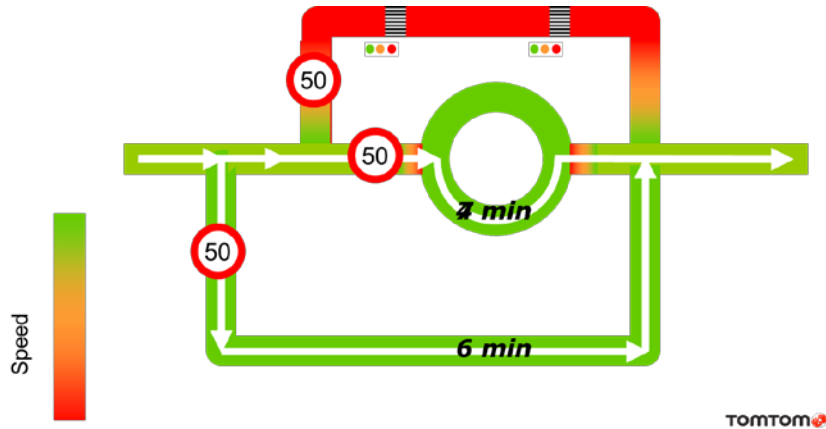


TOMTOM MAP MAKING TECHNOLOGY

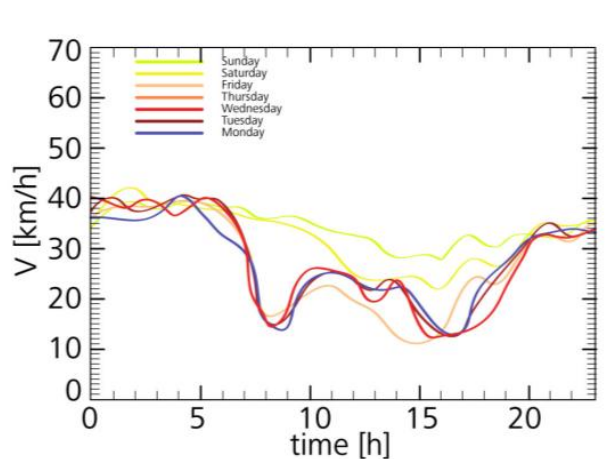
SMART MAPPING



SPEED PROFILES



Speed profiles used in routing provide accurate ETAs



Average speeds for every day of the week every 5 minutes

Provides an average speed for each road segment for each day of the week, in 5 minute intervals, based on two years of observed historic speed for that link.

One of 300 unique speed profiles is attributed to each link segment.

- Unique to TomTom
- Map is fully routable
- Segments are directional
- Covers all roads
- Adds only 7% to map file sizes
- Highly granular: every 5 minutes and every day of the week

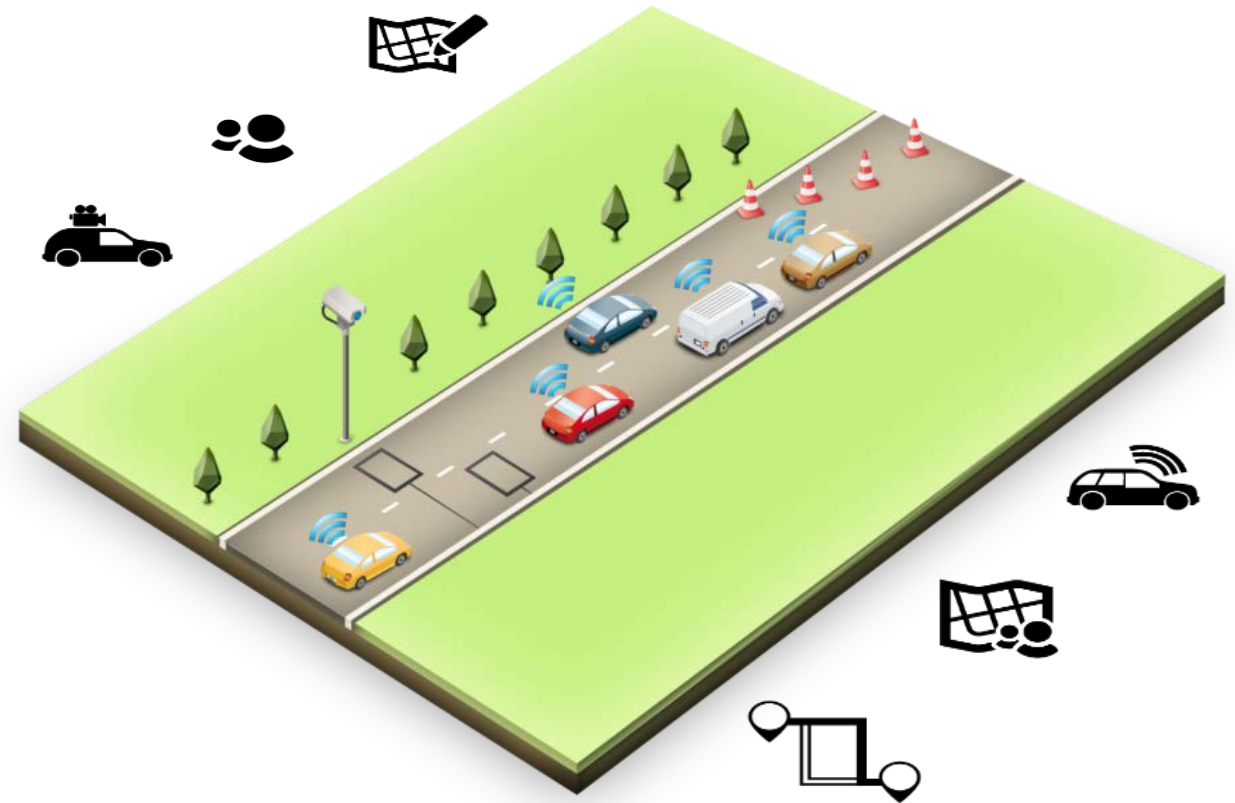
Compact representation of network speeds, network reliability and driver behaviour to add real-world context to software, telematics and routing applications.

DATA SOURCING & LOGISTICS LAYER



SOURCING OF INFORMATION

- Data Sources:
 - Council/Borough notifications (TRO)
 - Customer Reports
 - Open Data Products (Warwickshire, Surrey)
 - Field Survey / MoMa Vans
- Common Issues:
 - Crown copyright of supplied data or the maps the data is displayed on
 - Freshness
 - Different owners of data (Councils, National Rail etc)
 - Supplied formats can affect how we can work with the data
 - Access to data held by local authorities

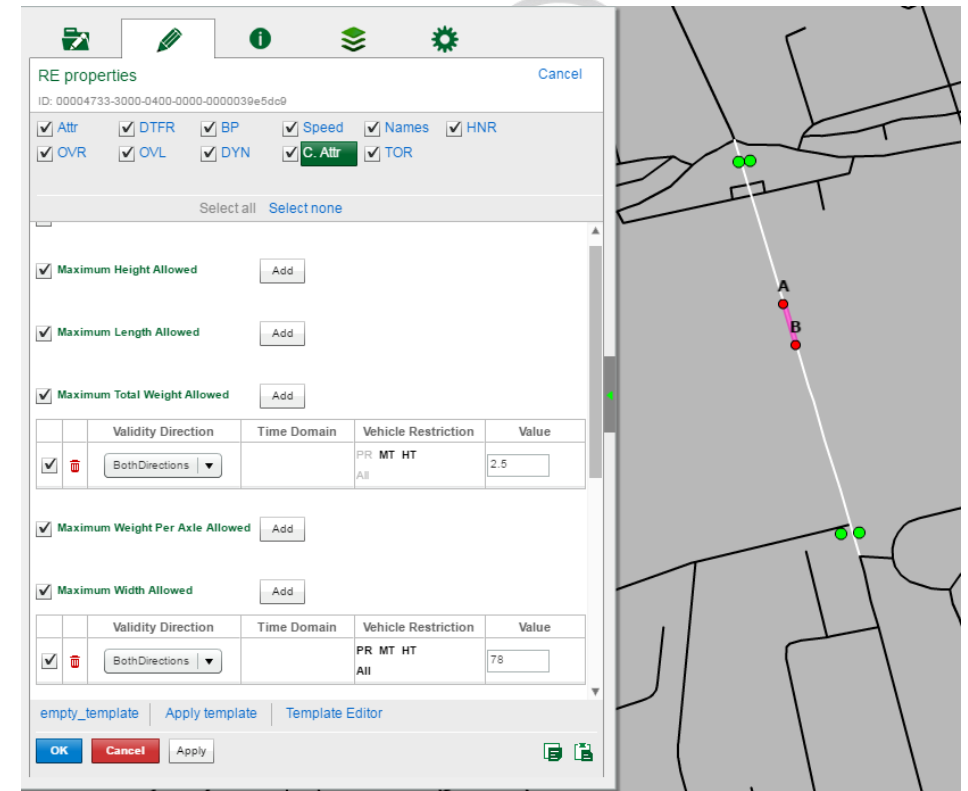


SOURCING TO PRODUCT

Advanced map making technology helps to get updates into the map quickly and efficiently



D	E	F
	Easting	Northing
WEAK BRIDGE < 2.5T 1/4 MILE	527593	177677
WEAK BRIDGE 2.5T	527356	177644
WEAK BRIDGE 2.5T	527363	177645
WEAK BRIDGE 2.5T	527429	177403
WEAK BRIDGE 2.5T	527441	177404
WEAK BRIDGE 200 YDS AHEAD, 7.5T MGW	526043	177533
WEAK BRIDGE 600 YDS AHEAD, 7.5T MGW & DIVERSION LEFT ARROW	526264	177768
WEAK BRIDGE AHEAD, 3T MGW, 6'6", RECTANGLE	524546	178983
WEAK BRIDGE AHEAD, 3T MGW, 6'6", RECTANGLE	524528	178999
WEAK BRIDGE AT	524834	178864
WEAK BRIDGE AT OLYMP	524711	179004
WEAK BRIDGE AT OLYMP	524780	179123
WEAK BRIDGE AT OLYMPIA	525095	178648
WEAK BRIDGE AT OLYMPIA	524778	179121
WEAK BRIDGE AT OLYMPIA	525891	178845
WEAK BRIDGE AT OLYMPIA 17T MGW	524680	179050



LOGISTICS

MAJOR ATTRIBUTES

The following are examples of commercial vehicle information contained in Logistics which will vary according to region:

PHYSICAL

- Height
- Weight
- Length
- Width
- Weight by Axle

GENERAL

- Truck restricted
- Truck preferred
- Immediate access

OPERATING RESTRICTIONS

- Hazmat and other loads
- Truck speed limits
- Truck-specific maneuvers

VEHICLE TYPE

- Number of axles
- Number of trailers
- No commercial vehicles

PRODUCT FORMATS*

MultiNet

- GDF ASCII Relational
- GDF ASCII Sequential
- Shapefile
- Oracle Spatial

MultiNet-R

- PostgreSQL
- SQLite

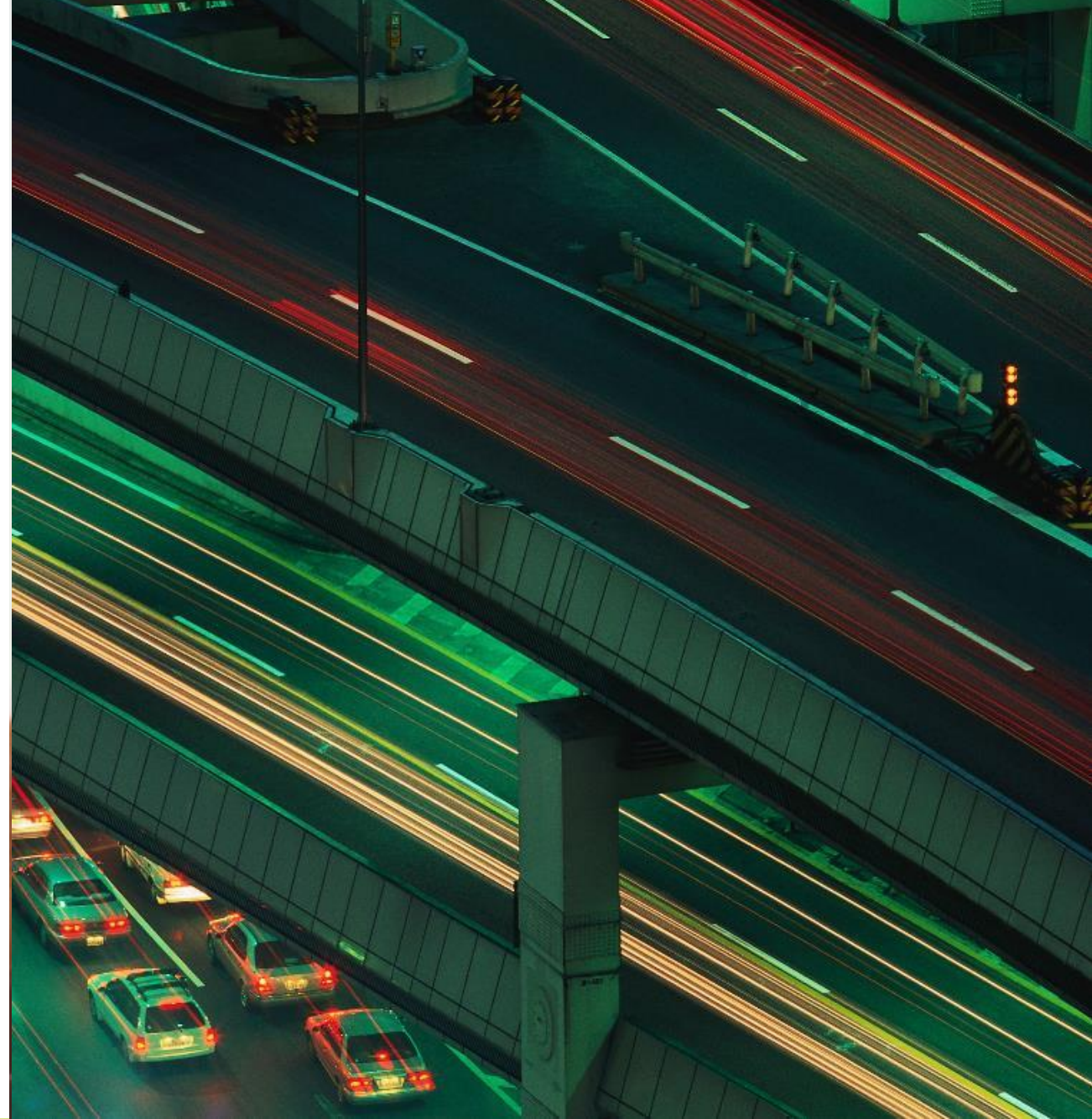
Navigation Data Standard (NDS)

*Availability of product formats varies per country.



Logistics provides truck-specific attribution including height restrictions


TOMTOM TECHNOLOGY LED SOLUTIONS



TECHNOLOGY LED SOLUTIONS

1. Map & Traffic Licensing
 - Help us help you! Define the truck accessible network (Authorities)
 - Want to know where trucks go in your Borough and observed speeds? (Authorities)
 - Plan your routes with TomTom Maps with Logistics layer (Fleet Companies)
2. Submitting data to better inform TomTom **Maps** – [Map Share Reporter](#)
3. Submitting data to inform TomTom **Traffic** (temporary closures/events/TM)– [Road Event Reporter](#)
4. [TomTom City](#)–Traffic Monitoring, Management, Monitoring & Evaluation of policy/infrastructure/TM


REPORT MAP CHANGE



Roads change by up to 15% every year. You can help us detect changes in your area and keep our maps as accurate as possible.

Report map change


MISSING ANYTHING IN YOUR CITY?



Road Authorities and construction professionals can inform road users in the area about current and planned disruptions in minutes with the **Road Event Reporter**.

Report road event

DO YOU WANT TO PLAN YOUR ROUTE?



Go to MyDrive

UTILISING CURRENT AND NEXT GENERATION TECHNOLOGY

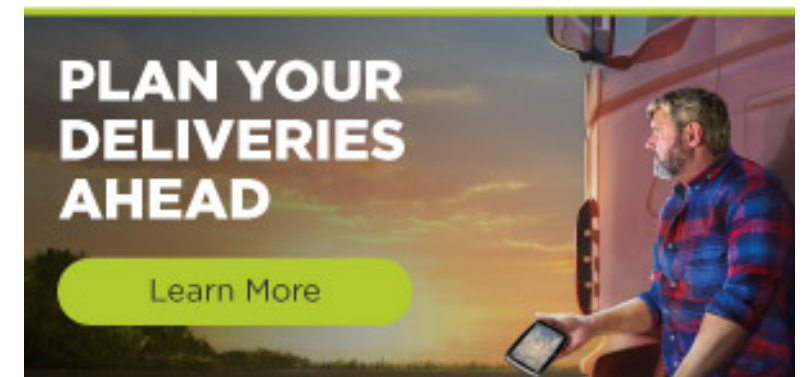
- TomTom navigation systems
 - In-vehicle- Daimler & Volvo Trucks, Fiat/Iveco Vans
 - On-dashboard (after-market) devices

TomTom
BRIDGE

Where best-in class navigation and business applications come together



TomTom
TRUCKER



QUESTIONS



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