AGENDA

• Introductions
• About TomTom
• Truck Routing problems in urban areas
• TomTom map-making technology
• Data sourcing and the Logistics layer
• Technology-led solutions
• Questions
MOBILE MAPPING VANS
That drive over
3 MILLION KM
Each year

BILLIONS
OF PROBE TRACES
COLLECTED DAILY

>78 MILLION
POINTS OF INTEREST

256 MILLION
ADDRESS POINTS

NAVIGABLE MAPS FOR
135 COUNTRIES

>47.1 MILLION KM
OF ROADS

GLOBAL MAP COVERAGE

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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

Mobile Mapping Vans
Field Survey
Authoritative Sources
Probe Data
Community Input
Sensor Data

INTELLIGENT MAPMAKING
BIG TRAFFIC DATA
MULTI PLATFORM DELIVERY

MASTERING THE CLOSED LOOP
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.
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

**OPERATING RESTRICTIONS**
- Hazmat and other loads
- Truck speed limits
- Truck-specific maneuvers

**GENERAL**
- Truck restricted
- Truck preferred
- Immediate access

**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.

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TOMTOM
TECHNOLOGY LED SOLUTIONS
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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

UTILISING CURRENT AND NEXT GENERATION TECHNOLOGY

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

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