Transport Mobility in Inter-Urban Motorways: New Challenges For Traffic Operations

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Agenda

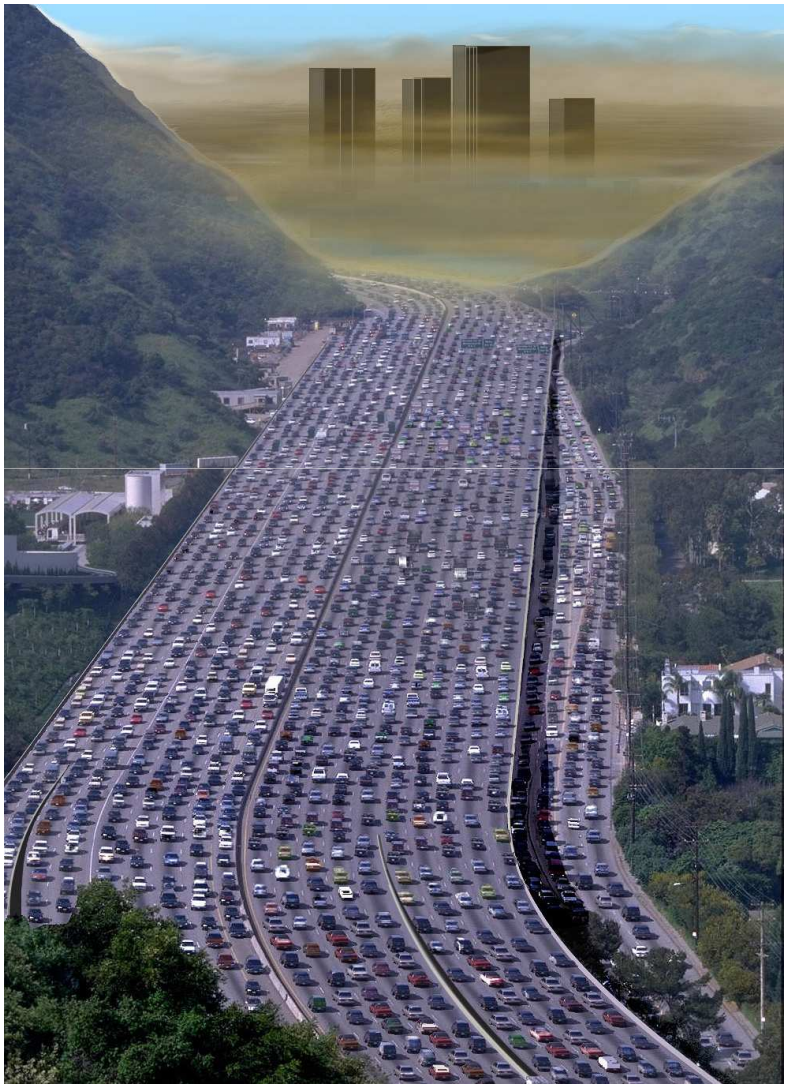
1. Traffic Congestion Impacts
2. Sources of Inter-urban Motorways Congestion
3. Improving traffic operations
4. Conclusions

Traffic Congestion Impacts

Mobility costs: Each US motorist stuck in traffic wastes on average 47 hours and 30 gallons of fuel every year – at a cost of $800 per person annually *(Source USDOT 2007)*

Quality of life: Reduced air quality, less time with family and friends.

Productivity: Delays to trucks and unreliability of delivery times increase costs for businesses and reduce economic competitiveness.



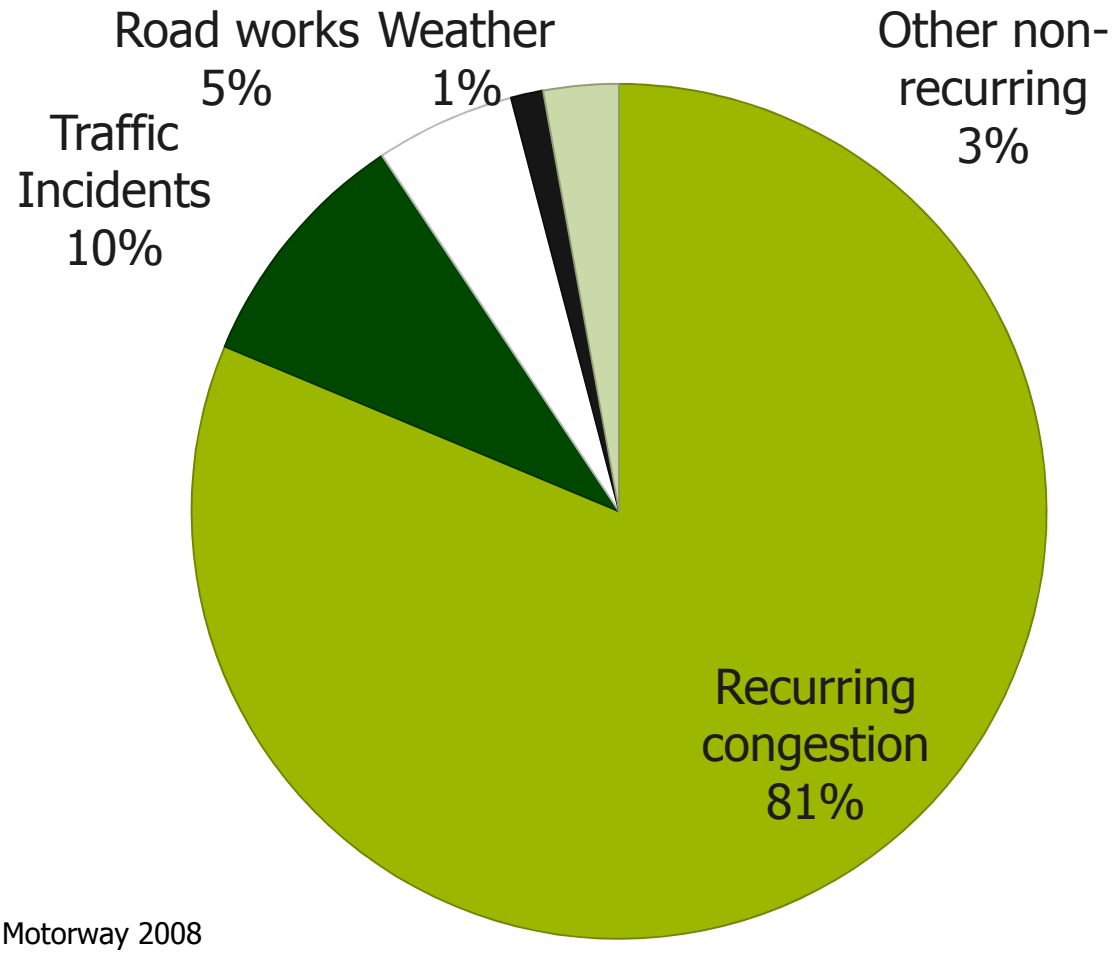
Traffic Congestion is a major concern in modern society

Case study - Brisa's A5 Motorway

A5 Main Figures	
Geometry (km)	25
Nodes	14
Ramp connections	64
Toll plazas	6
Annual Average daily traffic (AADT)	67,200
AADT near Lisbon	135,400
Electronic Toll Collection (ETC) rate	71%
Light vehicles rate	93%
Occurrences average/day	
Incidents	28
Accidents	4
Obstructions/ Lane closures	6

High intensity inter-urban motorway

Sources of Inter-urban Motorways Congestion



Source: Brisa A5 Motorway 2008

Daily commuting-based traffic congestion

Traffic Congestion Resolution Approaches

Building new infrastructures	- Often constrained by a lack of space in dense urban cores - High investment cost
Modifying existing infrastructures	-Adding lanes, reallocating road space, modifying intersections, etc.
Improving inter-modularity with public transport	-Promoting public transport, with quality of service that approximates cars
Implementing mobility management through pricing	-Also includes ride-sharing, promoting bicycling and pedestrian travel, etc.
Optimizing traffic operations	- Proactive traffic operations management.

Improving traffic operations

I - Anticipatory travel times delivering

- Applied for commuting and recurrent congestion
- Mitigates driver's expectation level, reducing stressful driving
- Promotes alternative drivers behaviors by changing departure times
- Promotes alternative route choices

In the 13 largest US cities, drivers now spend the equivalent of almost 8 work days each year stuck in traffic *(Source USDOT 2007)*

Improving traffic operations

II – Pre-trip/in-route, driver choice options

- Enables a more efficient distribution of trips over time and space.
- Aims to reduce peak demands.
- Drivers' responses depend on available information and can range from a minor route change, to changing destinations and/or re-scheduling activities

Inefficient route choice is the first cause of 10-15% of urban congestion according to specific studies and surveys.

Improving traffic operations

III – Active traffic management

- Aims to reach an efficient and effective use of the existing road infrastructure network.
- Real-time traffic performance monitoring.
- Adapting control schemes and information services to influence traffic demand and driver behavior.

The question is not how to eradicate congestion but rather, how to avoid excessive congestion.

Conclusions

- Road traffic congestion poses a huge challenge for all and growing urban areas.

- Road transport infrastructure operators and policies aims of reducing the burden that excessive congestion imposes upon travelers and urban dwellers throughout the inter-urban road networks through the application of combined strategies.

- Improving traffic operations management has much potential to reduce and mitigate congestion impacts on a cost-effective basis.

- Congestion is not a fact of life.

Brisa

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