LEARNING FROM THE DUTCH: IMPROVING CUSTOMER EXPERIENCE DURING ROADWORKS

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Industry Briefing Outline

UK current situation

Inspiration from The Netherlands

Business case

Opportunities for the UK
Intense Phase of Roadworks

Some examples...

18.1m (29.1km) M1
15.5m (25km) M3
13.7m (22.1km) M1
9.2m (14.8km) M6

Many more planned over next 10 years
Highways England Remit

Provide a better service to road users

Run the roads on a day-to-day basis more effectively

Operate more flexibly and efficiently

Monitor and improve

More accountable to road users
UK Road User Perspective

Frustrated motorists
The Dutch Experience

Happy motorists
DUTCH APPROACH: "MINDER HINDER"

Influence travel behaviour – “less nuisance”
Outline

1. Overview of the Dutch approach called “Minder Hinder” (reduce nuisance) which contains 7 Pillars

2. Consider experience of best practise on Pillar 3: concept “Spitsmijden” (avoiding peak hours)

A decade of experience in 20 mins...
Motivation: major road improvement programme 2008-11 ‘Spoedanpak’

“Spoedanpak” - tackled 30 main bottlenecks highways

Faster: deliver quicker
• Adapt procedures
• Many parallel projects

Goal: extra capacity
• Permanent lanes and/or
• Managed lanes (left or right)

Reduce traffic jams by 20% in 2011
Key Issues to Manage

Economic impact due to loss of travel time

Motorist ‘frustration’ and negative media

Political damage to image of highway agency

Promise by Minister of Infrastructure to the House of Representatives of the Netherlands:

• Limited to a maximum 10% extra congestion as result of road works

• User satisfaction maintained at: 7.5/10

Committed to managing consequences of roadworks
The “Minder Hinder” Approach

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Pillar 1: Smart Planning

- Planning management:
  - No road works on alternative routes / derivation routes
  - No road works at the same time on parallel routes;
  - Combine road works as much as possible
  - Chose either short period heavy traffic, or longer period of lighter traffic congestion

- Road works in low traffic periods:
  - Weekends / nights
  - Holidays
Pillar 2: Smart Construction

Contractors required to demonstrate how they will prevent or mitigate traffic jams
- core part of contract quality evaluation

Examples...

• Smart traffic systems
• Overpass ‘sandwich’
• Smart phases: bypasses ring A2 Eindhoven (temporary roads)
• Flexible systems: removable barrier

• Or shorter delivery period – endure traffic jams for small period
Pillar 3: Mobility Management

Influencing travel behaviour of motorist:

- Re-time (change time of travel)
- Re-mode (use a different method of travel)
- Re-route (travel by a different route)
- Remove (not travel at all: home-working)

For example:

- Extra public transport
- “Spitsmijden” (rewarding programme)
- Participation of employees
- Ikea discount delivery goods when showing bus or train ticket

Specified by highways agency not contractor
Pillar 4: Efficient Traffic Management

Active network management:

- Redirect traffic flows
- Prioritize traffic flows: maximize to network optimum:
  - Close or reduce less important lanes or junctions temporary

Incident management:

- Extra tow truck ‘standy by’ near road works’.
- Special detour routes if there’s an major accident (u-routes)
Pillar 5: Effective Customer Communication

What:

• Planning details (facts)
• Story telling (what’s going on and why)

How:

• Purchase relevant Facebook /Twitter mail-list
• Companies provide /facilitate emails to motorists
• Dynamic message sign near the highway
• Radio and tv commercials
• Advertisements in national and regional papers
• Billboards near the highway
Pillar 6: *User-friendly Communication in Roadworks*

Logical road signing

Road marking clear visible for motorists

User satisfaction questionnaires (min. target 7.5 / 10)
Pillar 7: Regional Co-operation with Local Highway Authorities

Co-operation with all adjacent regional road authorities

Runs throughout all Pillars 1-6

Finding new alliances. For example:

• Efteling (theme park) expanded their opening hours so traffic jams were prevented

• Companies inform their employees
“Minder Hinder” - Nation-wide Approach

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| 1 | Smart Planning  | gross nuisance | net nuisance | contract | monitoring | evaluation |
| 2 | Smart Construction / Phasing | | | | | |
| 3 | Mobility Management | | | | | |
| 4 | Traffic Management | | | | | |
| 5 | Communication | | | | | |
| 6 | Public-Oriented Execution | | | | | |
| 7 | Regional Co-operation | | | | | |

Category A
- T - 24 month
- T - 15 month
- T - 9 month
- T - 0
- T + 0

Category B
- T - 12 month
- T - 8 month
- T - 4 month
- T - 0
- T + 0

Category C
- T - 6 month
- T - 6 month
- T - 3 month
- T - 0
- T + 0

Category D
- T - 1 month
- T - 1 month
- T - 12 days
- T - 0
- T + 0

Special budget of 5% on top of project budget
“SPITSMIJDEN”
Change your travel routine and earn money
Developing the Concept

Scientific experiments and research within the consortium “Spitsmijden”: various public authorities, commercial companies and universities.

Test out: positive incentives instead of punishment.

3 key experiments:

• Spitsmijden A12 Gouda - Den Haag (2008-09)
• Spitsmijden by train (2009)
• Spitsmijden A12 Zoetermeer - Den Haag (2006-07)
10 years of Evolution

• Initial mobility management (Pillar 3) pilot projects tried to identify travel alternatives

• Some tried to improve travel alternatives and incentivise their use (eg. Free pass)

• Now we pay the driver and they find the alternatives that suit them

• Our experience and research shows that this is the most efficient way of managing short-term behaviour change

• Most effective behavioural adjustment is Re-time journey
How it Works

ANPR

XX-XX-XX

Peek hours

Peak hours
National Application

Applied in 16 places

1. The 3 scientific experiments at the A12 near The Hague - Zoetermeer

2. About 8 experiments in anticipation to introduction of the National congestion charge (politically ended in 2010)

3. About 5 projects during road works of the Dutch Highway Authority

Currently in planning for 5 new projects

Beter Benutten (Optimising Use) programme
Summary of Key Impacts

Around 25-30% of invitees participate in the project

Participants reduce their peak hour travel journeys by circa 40-55%

Limited reduction of the traffic demand (3-5%) has relatively larger effect on the traffic flow (about 10-15% less travel time lost by vehicles).

**Similar to traffic flow during vacations**

3-6 months post opening research show out that 50-80% of changed behavior continues

3% reduction in traffic = 10% less travel time lost
Major Congestion Hotspot
Objectives of 9.2m Euro Spitsmijden Project

- Reduce traffic during peak hours: 1,400 avoidance/workday
- No displacement of the traffic problem to other routes in Utrecht, Nieuwegein and Vianen
- Target only motorists who use the A12 near Utrecht frequently during peak hours
Camera Locations

- Short cuts (not rewarded)
- Several positions A12 highway (selection participants & corridor to reduce traffic during peak hours)
- River as a natural barrier
Spitsmijden Success

Renovation of the A12 highway bridge near Utrecht

18/8/14 to 19/12/14 - 10,000 participants
20/4/15 to 11/9/15 - 7,400 participants

5,300 (2014) and 3,200 (2015) cars a day avoided the bridge and during both rush hours

Reduced total traffic by approximately 3%

Additional congestion during road works caused less than 15 minutes delay on average

Almost 70% of the participants were still avoiding peak hours 3 months afterwards
Business Case
and UK Opportunities
International Collaboration

Exchanges about 10 years ago provided catalyst
Swedish have been developing approach for 5 years

Not Just the Dutch
New Guidelines for Mobility Management

Every infrastructure project analyse potential for managing demand
Proactively Manage Customer Experience

Target Groups
1. Register cars on film
2. Identify primary residential areas ← MEASURES
3. Travel habits and change potentials (travel survey)
4. Identify primary work places and work place areas ← MEASURES

Learnt from and adopted the Dutch approach
Data on Financial Returns

Sweden - E45 Gärdshemsvägen to Göteborgsvägen

Compared cost due to disruption compared to mitigation strategy

Mobility management programme cost circa EURO 200k with BCR 2.5:1

The Netherlands - Utrecht Bereikbaar PT Pass

Benefits from avoided congestion 2009-11 EURO 15 /vehicle hour

BCR of 5.6:1 (or 3:1 including public transport subsidy costs)

5.6 EURO benefit for every 1 EURO Invested
Measuring Success

A16 Moerdijkbrug, The Netherlands

€2m for traffic management, mobility management and communication

Estimated €2.4m in benefits (value of time only)

A2, The Netherlands

€2m budget (2008-10)

Positive public opinion about A2 upgrade, positive perception about public transport alternative

User satisfaction 8.6 /10 for Rijkswaterstaat

Financial value of improved customer experience?
Pan-European Approach

Large volume of literature now available

Adopted in increasing number of EU member states

Proven business case

Significant international experience available

Good UK capability able to deliver approach

Approach strongly supports Highways England remit

Key opportunity to run roadworks more efficiently

Recognised opportunity to provide a better service
UK Business Case

The dis-benefits during major roadworks on a congested highway network typically reduce total benefits by at least 10%.

Real cost of £15.2bn roads investment strategy = £16.72bn accounting for traffic congestion

Traffic congestion during roadworks likely to cost at least £1.52bn

BUT - modelling of impact tends to work on averages. The impact is more severe during roadworks, so likely to be underestimated

POPE studies don’t consider impact /cost of congestion during roadworks

Need more accurate models /proxies that better represent real costs

Application of proven techniques can reduce costs
Cognisant of Treasury Approach

Consider how the benefits of infrastructure may be enhanced through the use of demand management

...which can bring significant benefits through improved asset utilisation patterns

It is a way of improving performance of the existing networks and/or of maximising the benefits of further infrastructure investment

Appraisal should consider the costs and benefits of relevant resilience measures

Supports the prevailing ideology
Key Learning Points

Significant opportunity to improve highway investment value for money

Major potential to increase customer satisfaction during roadworks

Interventions extend asset life beyond construction

Wealth of experience to build on

Improve data on congestion costs during roadworks to enhance and help build business case

Future opportunities to enhance network resilience

A new era for managing customer experience...
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Discussion and Questions