Integrated Regional Traffic Management

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Technical Director
POLIS Conference 2009


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GRAHAM


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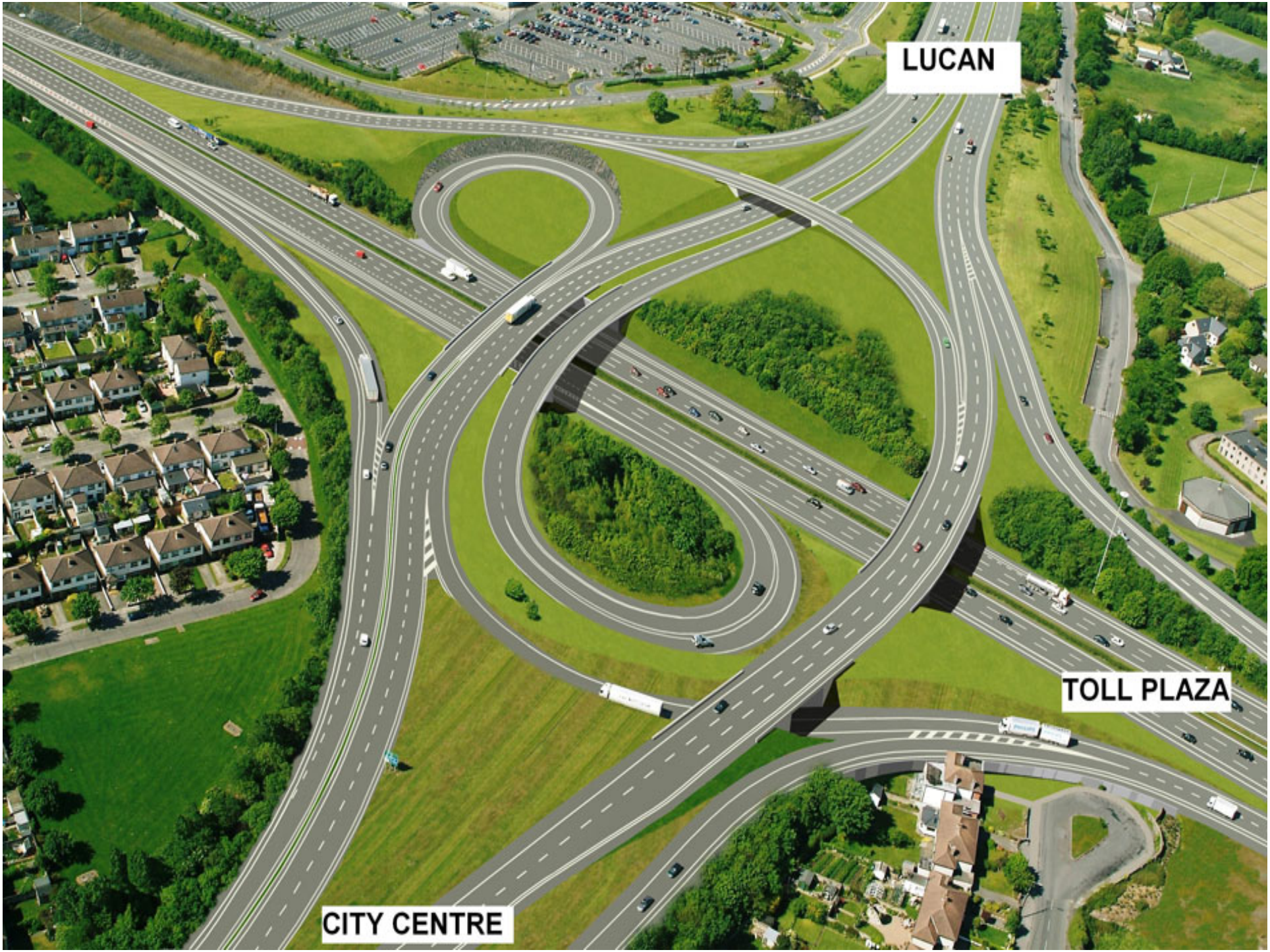
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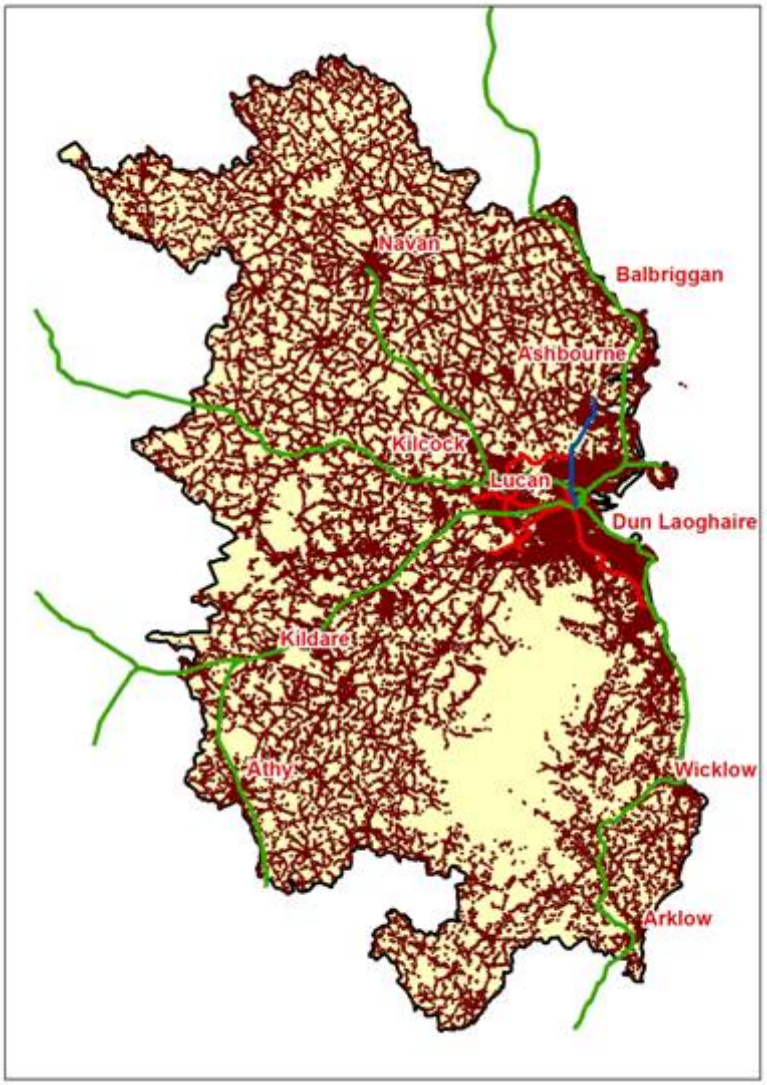
The Spatial Perspective



What has happened

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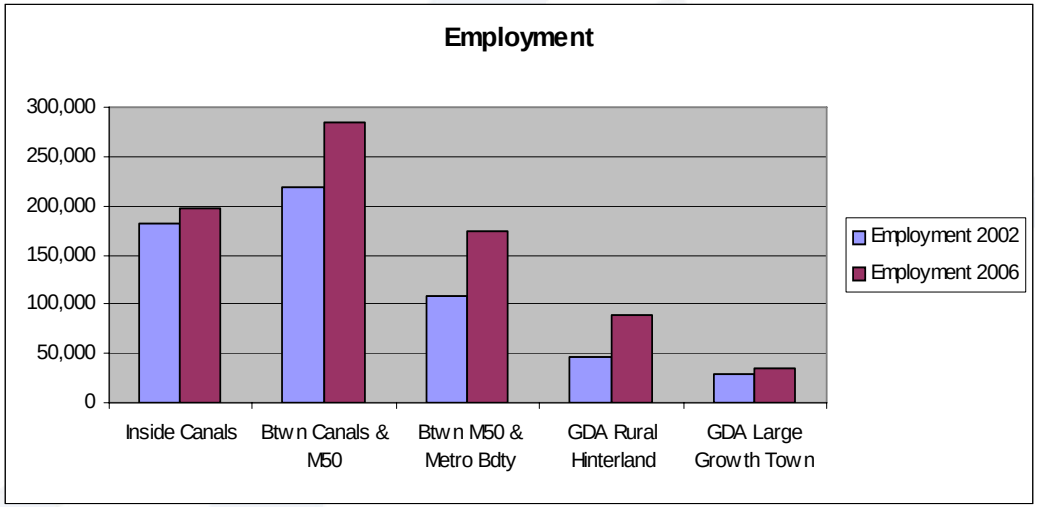
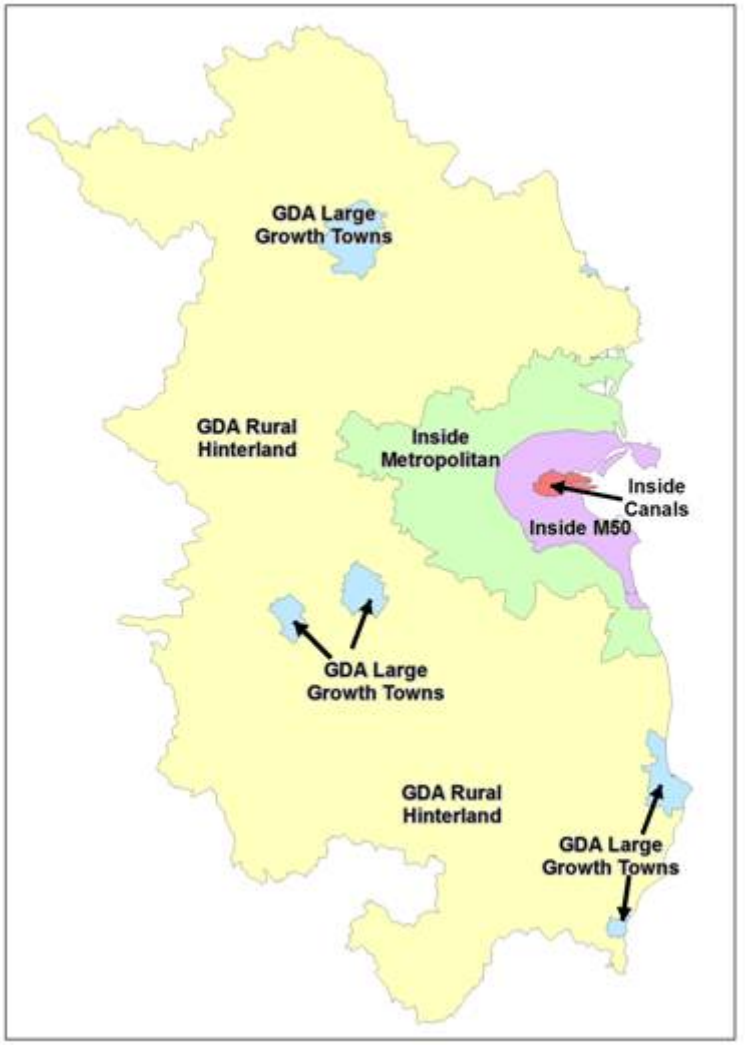
Major growth in Employment 1996-2006





800,000 GDA residents were at work in 2006, a growth of 48% over 10 years.

Growth primarily in Metroplitan Area.

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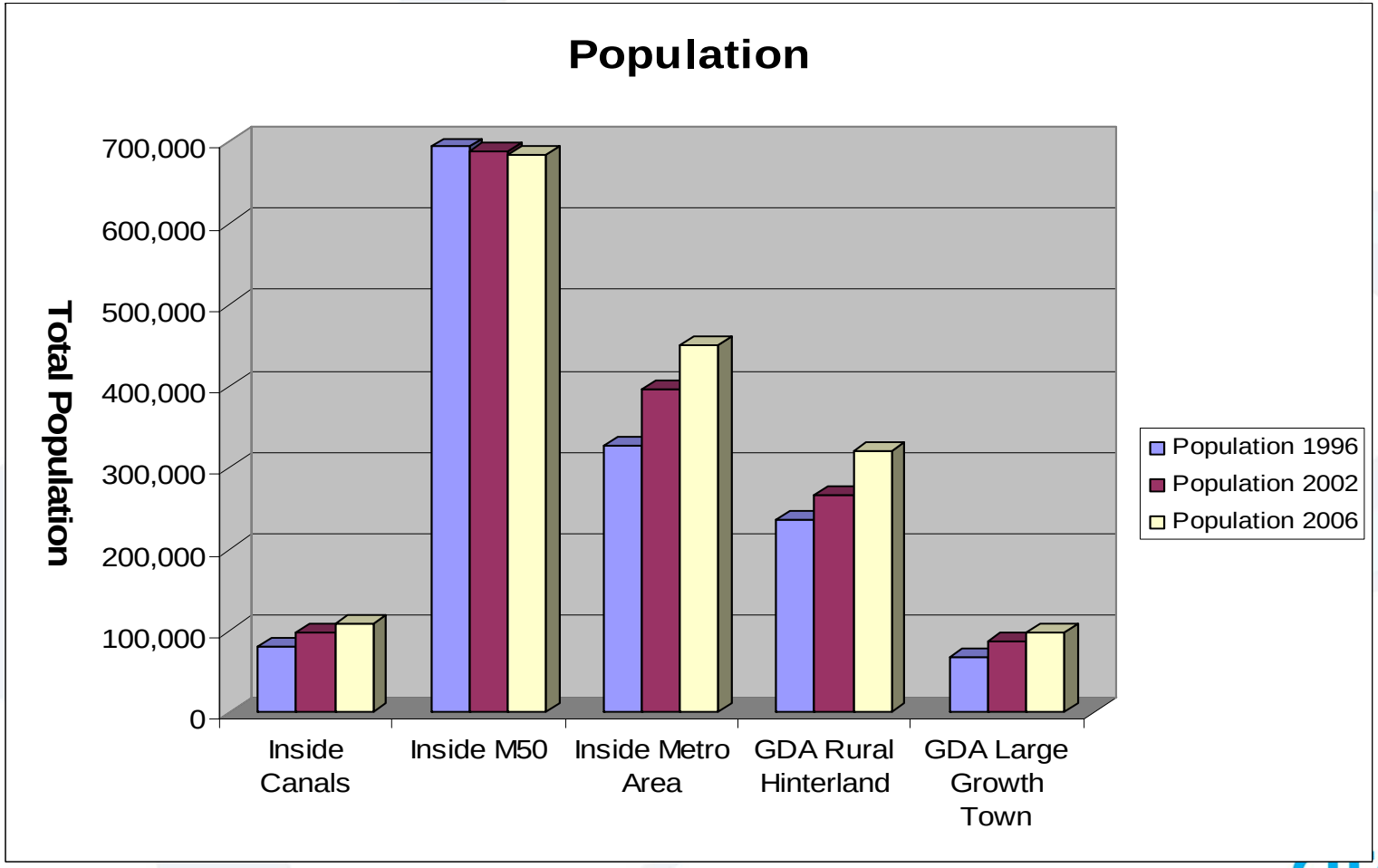
Population in the GDA 1996 - 2006



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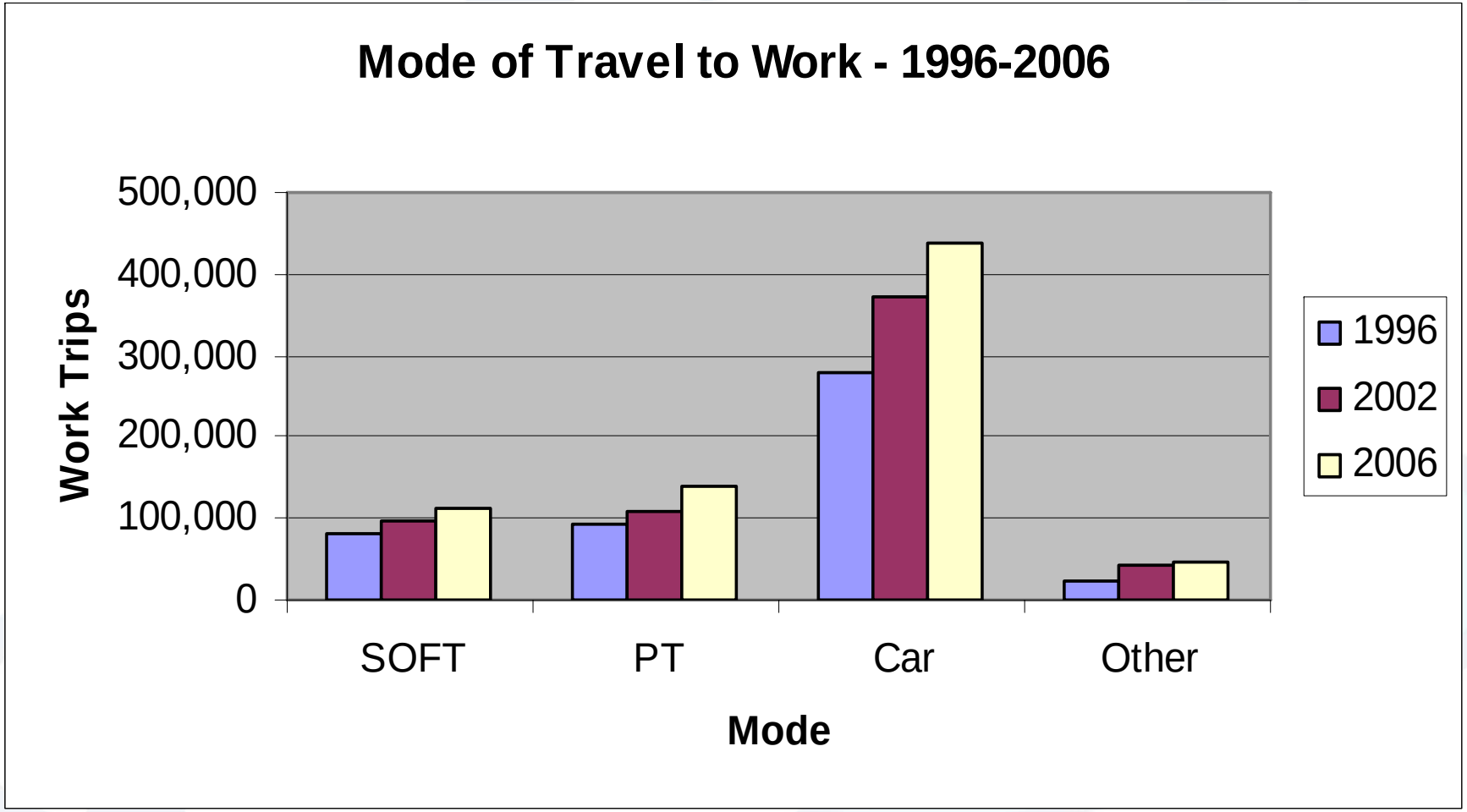

Mode	1996		2002		2006	
Soft Mode	81,319	17%	98,259	16%	113,705	15%
Public Transport	93,392	20%	109,676	18%	138,044	19%
Car	280,268	59%	372,872	60%	439,256	59%
Other	23,739	5%	43,264	7%	47,849	6%
TOTAL	478,718		624,071		738,854	

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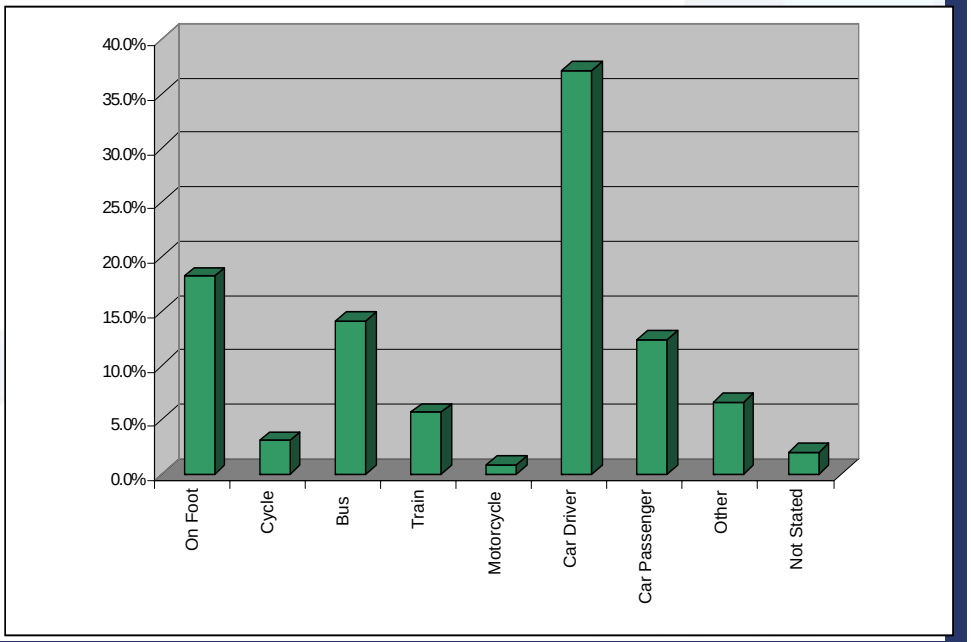
Mode of Travel to Education or Work GDA

- The predominant mode is Car Driver at 37.1%
- When Car Passenger is taken into account, 49.5% of people travel primarily by car
- The least popular mode of transport is Motorcycle at 0.8%

Mode	Number	Percentage
On Foot	205269	18.2%
Cycle	34655	3.1%
Bus	159233	14.1%
Train	63941	5.7%
Motorcycle	9024	0.8%
Car Driver	418515	37.1%
Car Passenger	139874	12.4%
Other	75095	6.7%
Not Stated	22805	2.0%
Total	1128411	100.0%



City Centre Public Transport Mode Share

Canal Cordon Inbound (3 hour AM peak 07:00-10:00)

2004	Passengers	Mode Share
Bus	62,345	32.4%
Luas	5,622	2.9%
Rail	28,201	14.7%
Total PT	96,168	50.0%
2008		
Bus	60,473	30.3%
Luas	9,242	4.6%
Rail	32,324	16.2%
Total PT Share	102,039	51.1%
• PT Net Increase	5,871	6.1%

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Regional Traffic Management Group

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Overview

- DTO Regional Traffic Management Working Group
- Progress to Date against Key Deliverables
- Next Steps

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Background, Terms of Reference

- Approved by the DTO Steering Committee in June 2008
- In particular, *"To (determine and) manage the network of principal roads in the GDA region at a strategic level, to ensure optimal mobility".*

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Working Group Activity

- Meets monthly
- Independent Chairman
- Earlier meetings = technical exchange, bring all members up to date on other's activity
- Dutch approach to regional management
- Description of some existing ITS infrastructure
- Closure of 2004-09 €10M ITS investment

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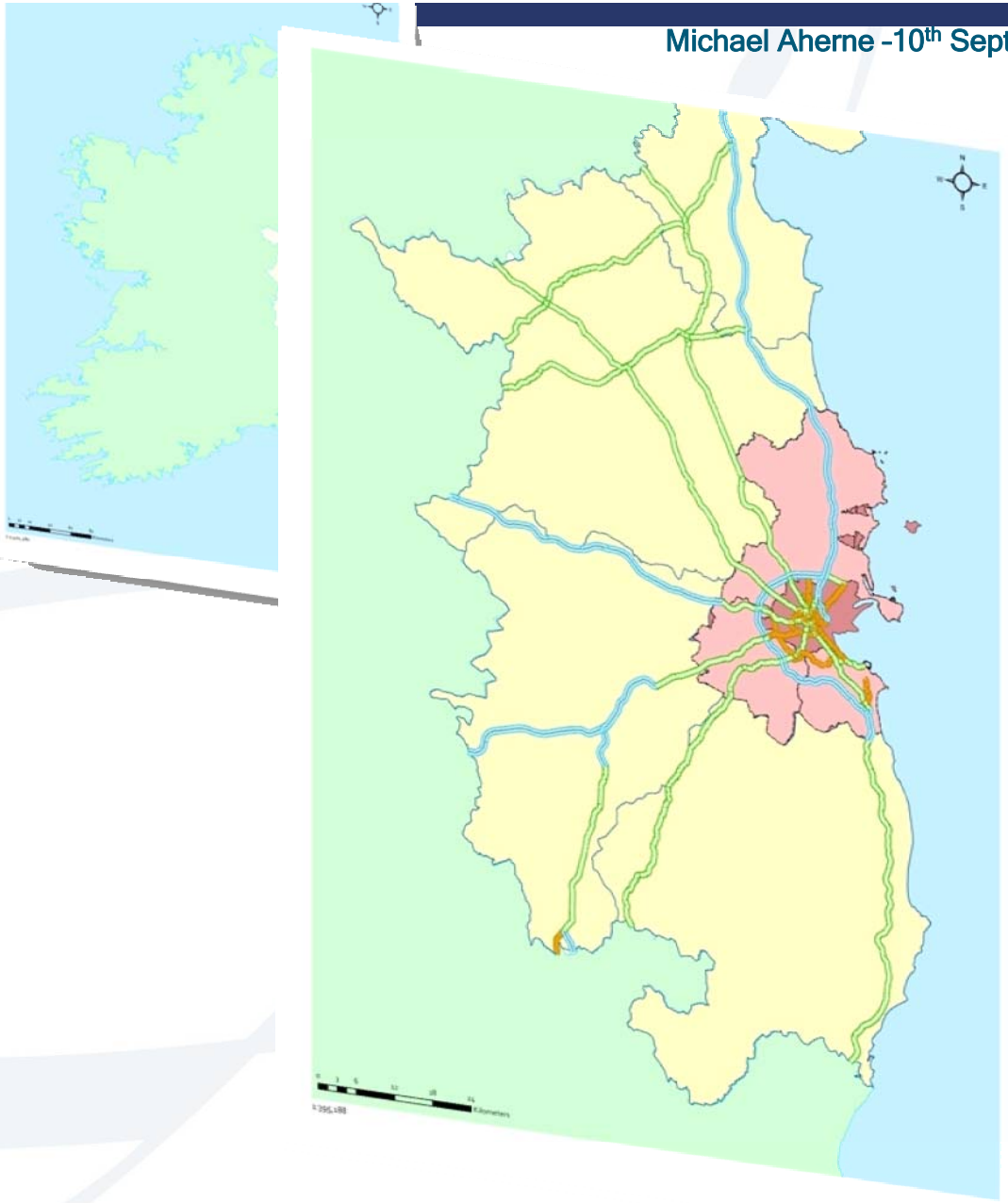

Statutory bodies

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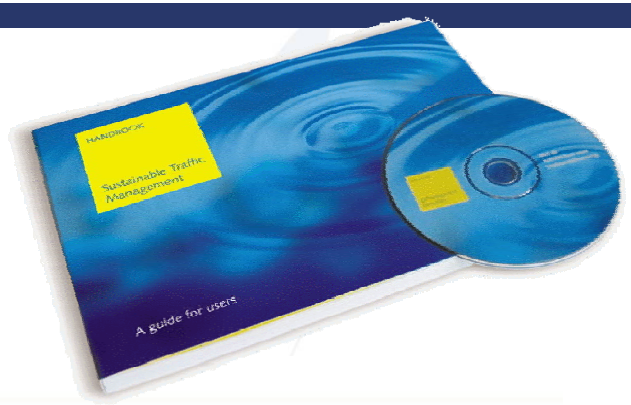
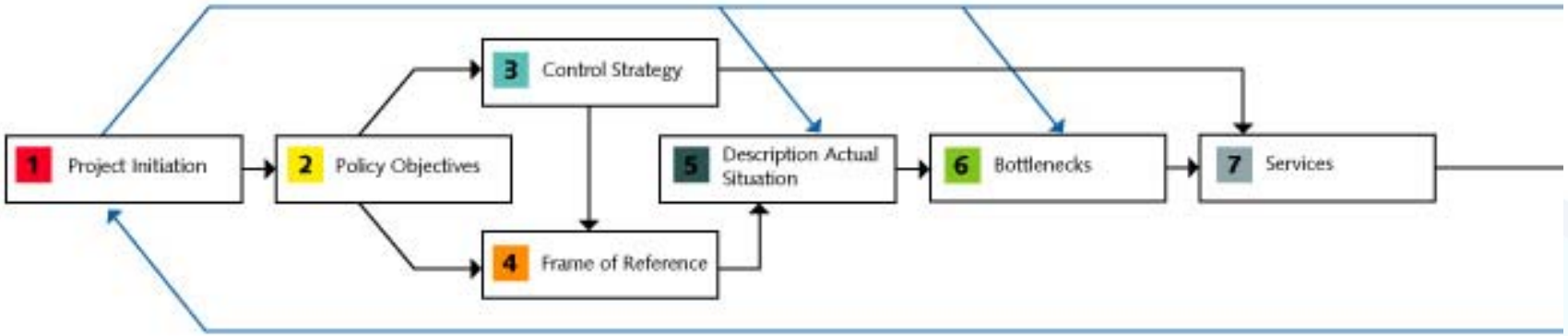
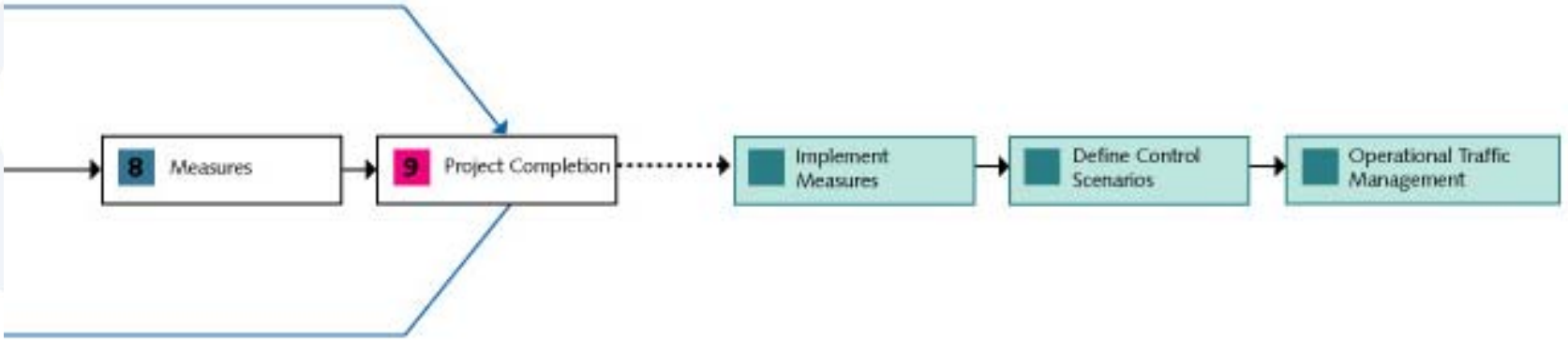
Dutch Nine Steps







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Simplified Approach…

	1	Start
know what you want to achieve	2	Policy objectives
	3	Control strategy
	4	Frame of reference
know what is happening	5	Actual situation
	6	Bottlenecks
come up with solutions	7	Services
	8	Measures
take decisions	9	Decisions
put decisions into practice	10	Implementation
	11	Control scenarios
	12	Operational traffic management

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Key Deliverables (TOR)

1. Definition of the network of principal roads
2. Agreed objectives for the management of the network
3. Identification of key methods to achieve objectives
4. Performance monitoring of the network against the agreed objectives
5. Prioritisation and implementation of co-ordinated programme of works

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Progress to Date

Deliverable 1: Definition of the network of principal roads :

Focus on commuter-impacted routes

Most roads agreed; Includes

- all National roads,
- all Bus Priority programme roads

Many non-commuter regional routes excluded

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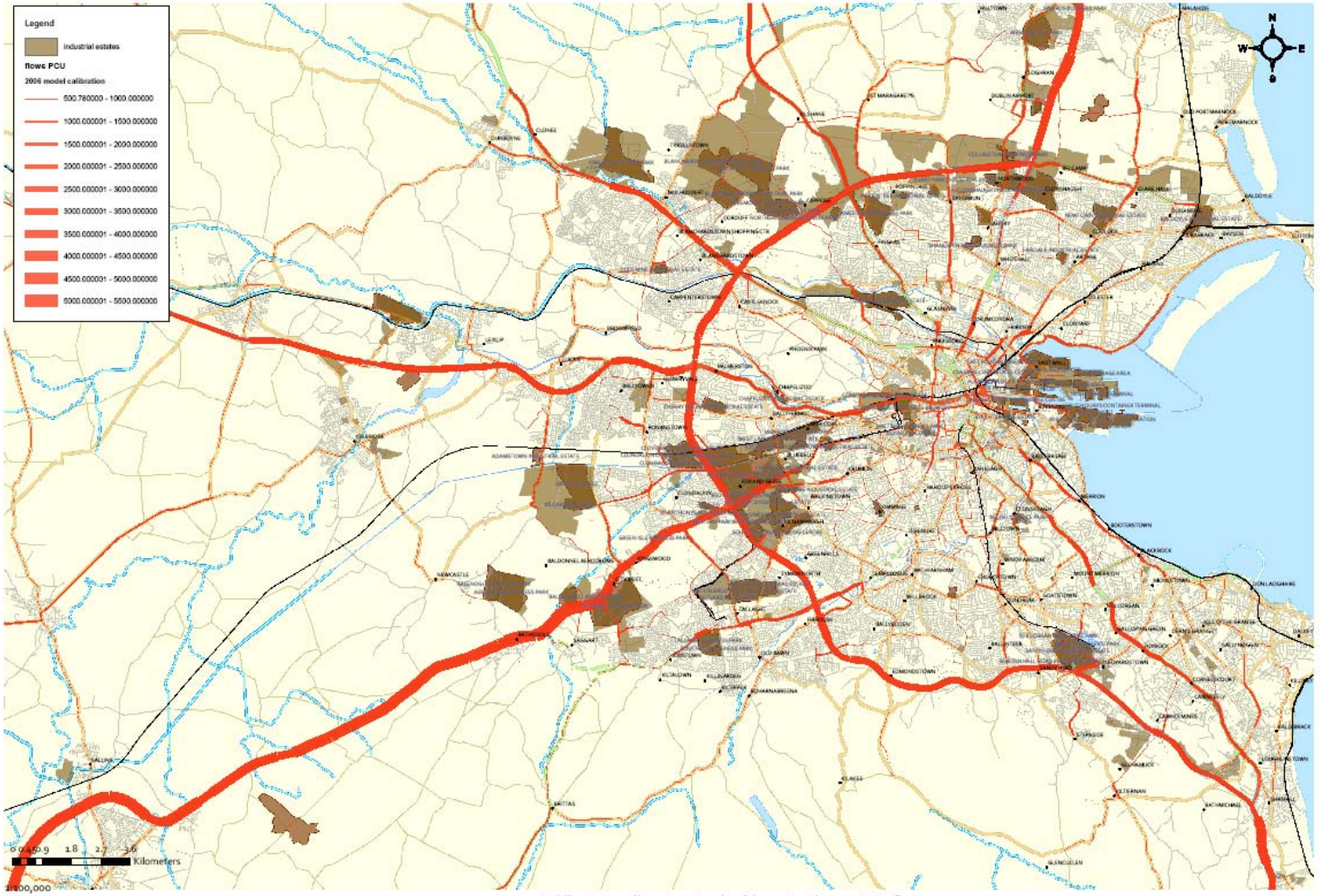
Agreed Network



Dublin Metropolitan Area Roads with greater than 500 PCU flow

ffice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CYCLE TRACK

Progress to Date

Deliverable 2: Agreed objectives / indicators

- Relevant sub-objectives for the DTO Strategy *Vision 2030* were adopted
- Indicators have been derived from these objectives, in 3 categories:
  1. Management Infrastructure Indicators
  2. General Network Performance Indicators
  3. Specific Indicators

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KPIs

Infrastructure Management Indicators
% of signals junctions not functioning
% VMS signs not working
% Netwrok resurfaced in past 5 years
% netwrok relined in past 2 years
Accident Map statistics
No of peak lanes affected by roadworks per week
% network with live monitoring / reporting of traffic congestion
General Network Performance Indicators
Std deviation on journey time variability per peak
% Block back into key junctions
Average Time taken to clear accidents during peak
% Throughput, as % compared with maximum 15 min throughput
Congestion Index / Measurement
% Mode split per month
Duration of peak period

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KPIs

Bus
Journey Time on main network
% stops with PTI / RTPI
No of links with peak bus speeds of 10kph or less
Standard deviation for Bus
Bicycle
No of cyclists during peak hour (monthly)
No of cycling KSIs
QOS rating (annual)
Tram
Journey Time on main network
No of links with peak tram speeds of 10kph or less
Standard deviation for Tram
Freight
Monthly classification / count of goods vehicles on National Network
No of DPT tunnel closures / partial closures during HGV ban period
% increase in registrations for HGV info
No of DCC permits issued
On street loading turnover rate
loading-related peak hour infringements

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KPIs

Pedestrians
% jaywalking at monitored junctions
Pedestrian LOS and uncontrolled Crossing LOS on pedestrian network
% Network MID-compliant
No of pedestrian KSIs
Effective cycle time at key pedestrian junctions in peak
Comments:
1. Noise Action Plan measures will need to be included
2. Air Quality Actions and measures needed (DCC / EPA / NRA)
3. Reporting periods need to be determined
4. Targets to follow
5. PT measures may be more efficient between stops than on links
6. Measures to be linked to DTO model data sets

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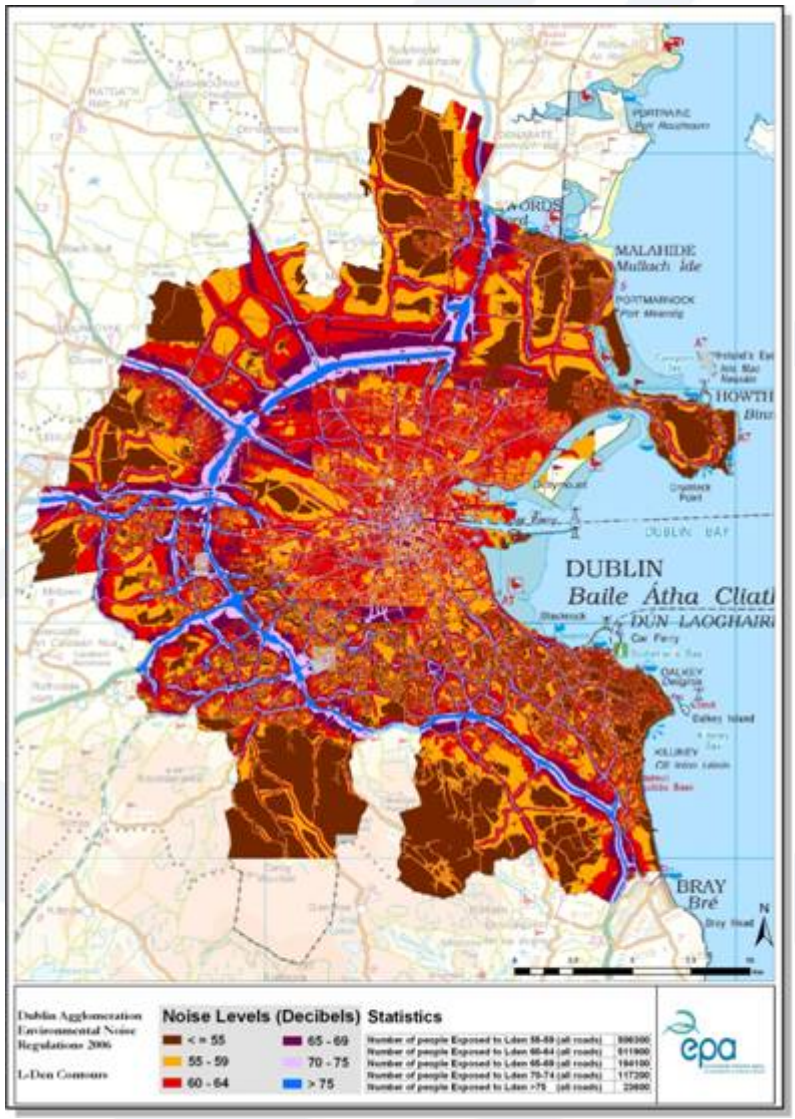
Need for Good Air, Quiet Living



Also:

Selection of Benchmark locations, to give detailed mode split and trip density changes

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Progress to Date

Deliverable 3: Identification of key methods to achieve objectives

Tactical Issues discussed

1. Traffic Accommodation vs. Traffic Control
2. Co-ordination between agencies, inc: ITS management
3. Local transport planning, corridor plans
4. Bus Priority Tactics using AVL

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Bus Priority

- Signalling tactics to be explored for two sample corridors, one (completed) QBC and one other (without QBNPO activity)
- Bus AVLS will generate location-based signal demand; what will best response be (in context of agreed indicators), within UTC (SCATS) system, and other signals?
- Assistance from TfL and others
- Part of BAPTS project – workshop Jan 2010

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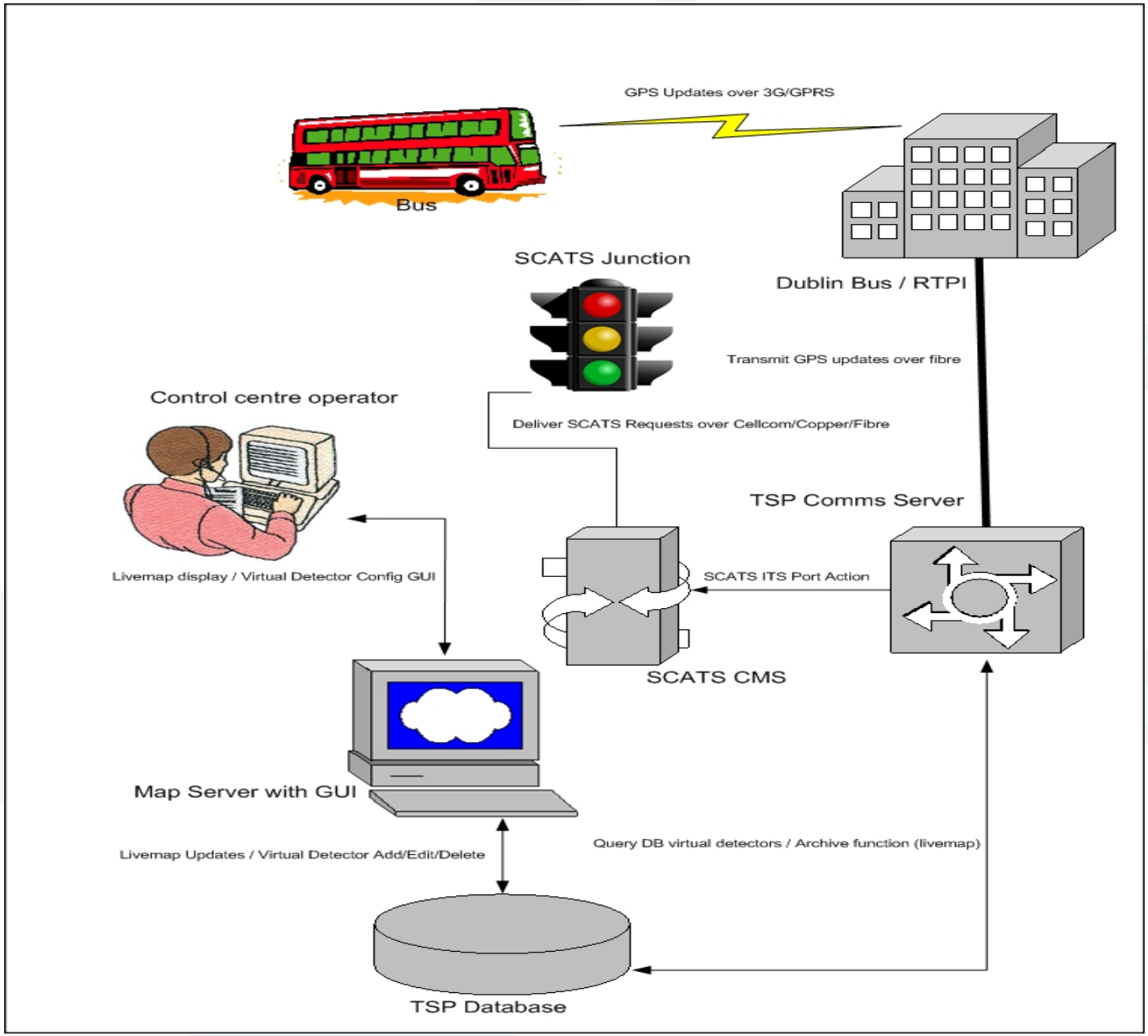
House Thursday 9pm

Bus Priority System (BAPTS)



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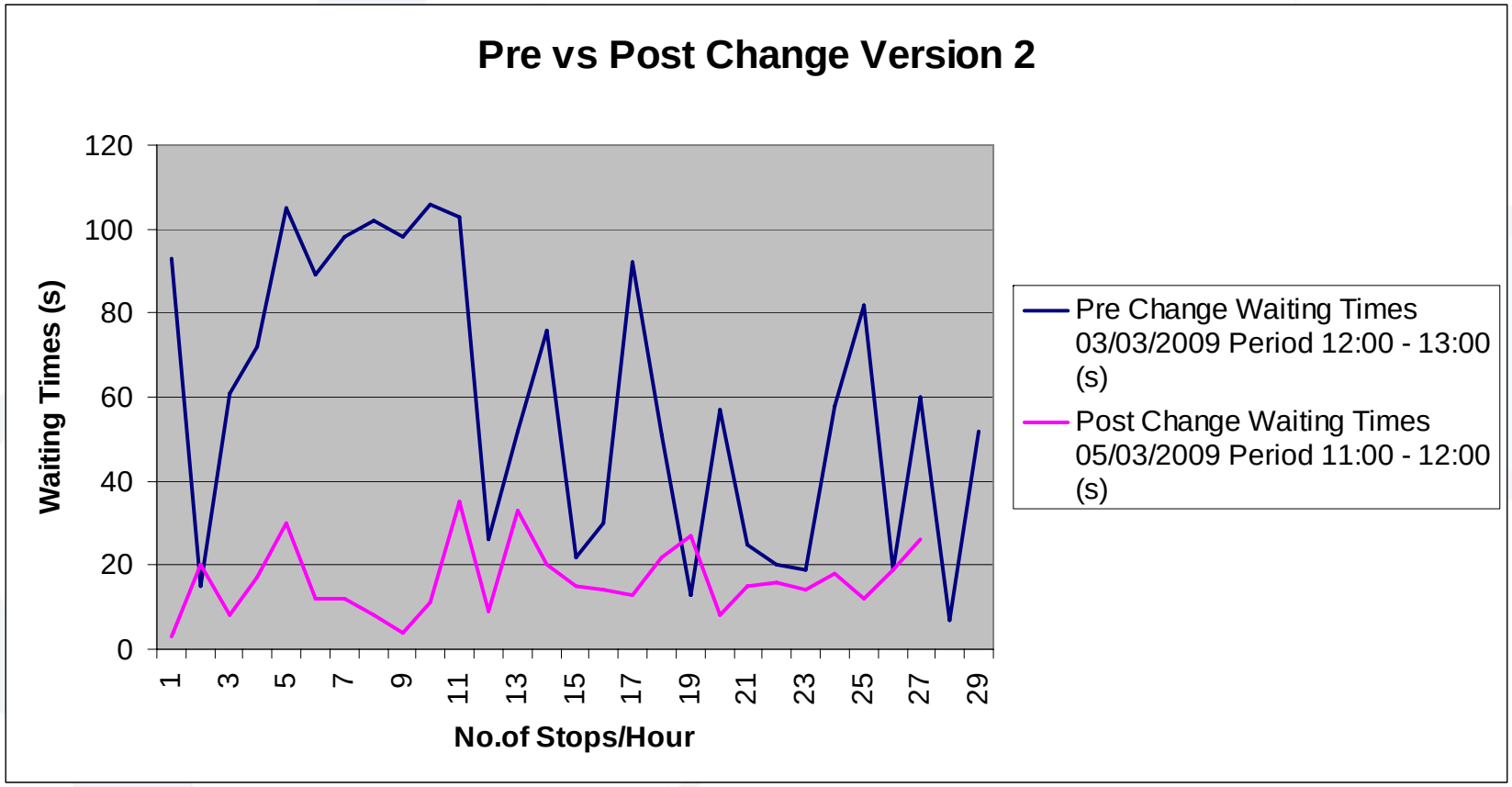
Trial site -Off-peak Bus waiting time



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Progress to Date

Deliverable 4: Performance monitoring of the network against the agreed objectives

- Baseline data for the agreed indicators is now required
- Proposed data synthesis / management systems / ITS requirements
- Study early 2010 on data, resource and ITS benchmarking

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Progress to Date

Deliverable 5: Programme of Works

- Current uncertainty regarding existing infrastructure, financial profiles
- Independent project proposed for parts of network, including
- Ramp metering scheme
- Bus priority scheme
- Cycle Route flagship scheme

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Link to DTO Strategy 2030

- Regional Traffic takesTransport sub-objectives from Strategy
- Some difficulties progressing detailed traffic plans in absence of developed complimentary local transport plans
- Current focus is on robust traffic initiatives, aligned to Government and local policy
- Detailed regional data analysis will assist traffic plans in 2010

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National Transportation Authority

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Principal Functions of NTA

- Responsible for strategic transport planning in GDA.
- Allocation of capital and current funding for public transport and traffic management.
- Procurement of public passenger transport services, which are subject to public service obligations.
- Regulation of public transport fares.

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Principal Functions of NTA

- Preparation of traffic management plan for GDA to ensure consistent traffic management across all local authority areas, including during construction works for major infrastructure projects.
- Delivery of integrated ticketing and information systems and the gathering and publication of information on the performance of the transport system.
- Undertake research on transport to better inform future policy.

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Traffic Management

- NTA must prepare & adopt a strategic traffic management plan (TMP) to secure “optimal movement of persons, goods and vehicles”. Ministerial approval is not required. TMP must be renewed every 6 years.
- NTA must take account of specified matters when preparing TMP (e.g. traffic volumes, land use development, etc.) and consult widely with interested parties.

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Traffic Management

- TMP must specify measures to be taken to reduce impact on travel due to major public transport infrastructure projects.
- Each road authority must prepare a local traffic plan (LTP) for its area consistent with TMP.
- LTP must, inter alia, specify measures to manage utility works and indicate how parking revenues will be used for traffic management purposes.

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Traffic Management (contd)

- NTA can issue traffic management guidelines to road authorities in respect of a range of matters including bus stops, traffic management systems, bus priority and cycle facilities, vehicle parking, etc.
- NTA may give directions to road authorities to take certain specified steps (e.g. acquiring land & undertaking works) to facilitate traffic management.
- NTA can step in and perform the functions of a road authority which fails or refuses to comply with a direction.
- Minister may precribe cases in which NTA will require his or her approval in order to exercise its step in powers.

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Relationship between NTA and NRA/road authorities

- NRA and road authorities must act in a manner consistent with DTA transport strategy.
- NTA can direct NRA to do certain things (e.g. acquire land & undertake works) in order to secure priority for public transport on national roads.
- NTA can also direct NRA to comply with NTA transport strategy, integrated implementation or traffic management plan or demand management measures
- NTA can perform functions where NRA fails or refuses to comply but Minister can limit NTA
- NRA may only make toll schemes in GDA with NTA consent.

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