

National, Regional & Local Roads – Role of the DTTAS on Policy & Funding & interaction with other Authorities

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Local Authorities

- Local Authorities are responsible for the administration, construction, and maintenance of Regional and Local Roads. They do so using the various general funding sources available to them which are supplemented by DTTAS allocations (except in the case of the Dublin Authorities). For regional and local roads on average the funding ratio is: 70% DTTAS to 30% LA (however the latter can vary from 5% to 62%)
- In addition to these, Local Authorities are responsible, in partnership with the National Roads Authority, for construction and maintenance of the National Road network, comprising of National Primary and National Secondary Roads. Most works on national roads are funded 100% by TII (was called the NRA)



Road Facts

Total Network of 99,000 km

- network is 2.5 times the European average in terms of length per head of population
- national road network of 5,500 km
- regional & local road network of 93,500 km

Traffic

- National roads which comprise less than 6% of the network carry 45% of all traffic
- Regional roads which comprise about 13% of the network carry 30% of all traffic

Road Classification & Numbering

- National primary (N1 to N50)
- National secondary (N51 to N99)
- Regional (R100 to R999)
- Local Primary (L1000 L4999)
- Local Secondary (L5000 L8999)
- Local Tertiary (L10001 L89991 & first four digits are based on adjacent LP or LS)



Number for Local Tertiary Road



Bridge Numbering System

Capital Plan for Roads

- €2bn for national roads (steady state)
- €2.4bn for regional and local roads (steady state)
- €600m for PPPs
- €860m for new priority roads
- €100m for smarter travel (including Greenways)

Roads Priorities include

- PPP for N17/18 Gort to Tuam (57 km)
- PPP for New Ross bypass (15 km)
- PPP for M11 Gorey to Enniscorthy (26 km)
- N8 Dunkettle Interchange
- N22 Ballyvourney to Macroom
- N59 Moycullen bypass
- N5 Westport to East of Castlebar
- N4 Collooney to Castlebaldwin
- M7 Naas Newbridge Upgrade & Sallins bypass
- N56 Dungloe to Glenties
- N56 Mountcharles to Inver
- Sligo Eastern Garavogue bridge (Cranmore)
- Roads to Grange Castle Business Park

Funding & Agencies

- DTTAS Roads Division
 - Deals with road policy & legislation
 - Regional & local road grants to local authorities
 - Allocation to TII (formerly NRA) for national roads; in turn TII allocates to local authorities
- DTTAS Sustainable Transport Division: grants to local authorities (some are channelled through NTA)
- DTTAS Public Transport Investment Division: grants to NTA which in turn allocates to local authorities

Sustainable Transport Division

smartertravel >>>

Published 2009 - 49 actions in total, corresponding to 4 key actions types:

- Reducing the need to travel,
- Providing alternatives to the car,
- Improving fuel and energy efficiency
- Strengthen Institutional arrangements to deliver targets

Ambition

- By 2020 our ambition is to improve the quality of life for our citizens by;
- Reduced modal share for cars from 66% to 45%- 500,000 commuters switch to other forms of transport - walking, cycling, P/T
- Ensuring that total car kms will not increase significantly
- Emissions savings of up to 8 Mts.

Main Programmes

- Smarter Travel Areas
- Active Travel Towns
- National Cycle Network
- Regional City Bikes (through the NTA)
- Smarter Workplaces/Smarter Campuses (through the NTA)

smarter travel >>>



Dublin 1961

smarter travel >>>

NTA Capital Grants

- Heavy Rail in Greater Dublin Area
- Light Rail
- Bus / BRT
- Integration / Traffic Management
 - Integrated ticketing
 - Real Time Passenger Information
 - Sustainable transport management (cycling/walking, QBCs, safety & traffic management projects)
 - accessibility
 - regional cities programme

Accessibility & Regional Cities

- <u>Accessibility programme</u> funds accessibility improvements to existing public transport infrastructure and facilities throughout the country (includes a wheelchair accessible taxi grant scheme)
- The <u>Regional Cities Programme</u> provides funding for the development of bus lanes, Green Routes, other bus priority measures and safety measures for pedestrians & cyclists in the regional cities of Cork, Galway, Limerick and Waterford.

LUAS Cross City







LUAS

- It will link the two existing Luas lines in the city centre and will connect Cabra at Broombridge rail station to the existing Luas at St. Stephen's Green. It will also link with rail services from Maynooth and Dunboyne and existing QBC schemes which enter or cross Dublin city centre
- It will have 13 stops along its route, including serving the new Dublin Institute of Technology campus at Grangegorman.
 When completed, it will add up to 10 million additional journeys a year to the Luas network
- The advance enabling works are complete and work on the main contract commenced in 2015. Following testing, commissioning and trial runs the line is targeted to open at the end of 2017

Road Policy & Legislation

- Tolling
- PPP programme
- Capital Plans
- Road Classification
- Road Standards (e.g. Design Manual for Urban Roads & Streets issued in March 2013)
- Speed Limits
- Legislation

Road Investment in 2015

- National Roads
 - Improvement €336 million
 - Maintenance € 38 million
- Regional & Local Roads
 - Improvement €274 million
 - Maintenance € 44 million

National Road Programmes

- Major Projects
- Minor realignment works
- Pavement Works
- Bridge Rehabilitation
- HD 15 works from collision cluster analysis
- HD 17 works from road safety inspection
- Signing & Lining & ITS

National Road organisation

- Previously listed programmes (except for major projects) are essentially drawn up following a regime of inspections & analysis
- NRA has recently introduced a "GeoAPP" which allows LAs to seek funding to address a range of defects including:
 - drainage
 - road pavements & footways
 - safety barrier and fences
 - road sweeping / litter removal
 - Signs / Lines
 - verge / median maintenance
- It is in the interests of LAs to maximise their use of this system



2015 RLR Funding Programmes

•	Restoration Maintenance (surface dressing)	€41m
•	Restoration Improvement (strengthening)	€170m
•	Discretionary Grants (road repairs)	€67m
•	Specific & Strategic Grants	€16m
•	Safety Schemes	€8m
•	Bridge Rehabilitation	€8m
•	Miscellaneous Grants	€8m

Road Maintenance

Road Maintenance can be divided into:

- Routine Maintenance,
- Periodic Maintenance and
- Urgent Maintenance.

Routine Maintenance would typically include activities such as roadside verge clearing, grass cutting, cleaning of silted ditches and culverts, patching, pothole repair and repair of edge defects. Periodic Maintenance aims to protect the structural integrity of the road (e.g. by surface dressing). Urgent Maintenance is undertaken for repairs that cannot be foreseen but require immediate attention such as collapsed culverts or landslides.

Importance of Maintenance

The following extract from the World Bank Transport Note TRN-4 illustrates the importance of road maintenance:

"Postponing road maintenance results in high direct and indirect costs. If road defects are repaired promptly, the cost is usually modest. If defects are neglected, an entire road section may fail completely, requiring full reconstruction at three times or more the cost, on average, of maintenance costs. The South African National Road Agency Ltd. (SANRAL) estimates that repair costs rise to six times maintenance costs after three years of neglect and to 18 times after five years of neglect. To avoid such escalating costs, SANRAL first "allocate(s) its available funding resources to ideal maintenance actions (e.g., reseals and overlays), and thereafter to more extensive maintenance actions (e.g., rehabilitation), and finally to new construction" (SANRAL 2004)."

Importance of Surface Dressing

- Seals the road & improves skid resistance
- Most effective when it is preventative
- Most critical to maintain seal when it is over unbound materials (Cl.804 & wet mix)
- Even when budgets are reduced it is important to seal vulnerable roads



Road requires Surface Dressing

Stripping of chips has occurred. Because the surface dressing is over a macadam binder course the road surface is still impermeable and is not at risk of disintegrating.

Maintenance vs Improvement

There is not a clear divide between where road maintenance ends and road improvement / rehabilitation begins. However a criterion that is used by the World Bank is that if the sections of road to be completely rebuilt constitute more than 25% of the road's length, the work is rehabilitation, not maintenance.

Maintenance & Rehabilitation

On rural network of regional & local roads

- Minimum length of Surface Dressing required per year is 4,500 km (about 5% of network)
- Minimum length of strengthening required per year is 4,500 km (about 5% of network)

RMO Structure (Shared Service)





Pavement Management - Benefits

- Maintain and improve the condition of the road network
- Effective & Efficient Maintenance Strategies and Budgeting process
- <u>Effectiveness</u> measure of actual performance compared to planned
- <u>Efficiency</u> assessment of cost of achieving the declared outputs.
- Improve the business case for **investment** in road
- Improved <u>safety</u> for the public
- Reduce <u>litigation</u> costs
- Improved understanding of <u>benefits</u> to be gained from various treatment types
- More <u>efficient</u> storage of data Improved utilization & availability of data
- Full inventory and known value of Road Network



Roadworks & Licensing Control

- Background
 - Gov. Broadband
 - Co-ordination needs
- Existing Situation
 - Manual most LAs
 - Systems in place in: -
 - South Dublin
 - Dun Laoghaire
 - Cork City
 - Cork County
 - Dublin City

• New National System Required





Benefits of Licensing Road Openings

- Establishment and maintenance of a **roadworks history** for all of the roads under an authority's control;
- **<u>Co-ordination</u>** of Roadworks with other utilities or with pavement works
- Standardised Approach Nationally (Timings, Standards, Charges)
- **<u>Safety</u>** of road users, immediately before, during and after the works
- Managing **traffic** before, during and after the works;
- Support management of <u>legal claims</u> and related matters made against the authority in question



What is MapRoad

Integrated, Geographical Information System (GIS) enabled, Roads Management Information System.

MapRoad composed of four main elements:

- Desktop System,
- Web Based Interface,
- Roadworks & Licensing,
- Financial Module,
- Mobile Apps











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Mechanical Surveys

- Integral to Road & Pavement Management
- 2011 Regional Road Survey
 - 100% Network Survey
 - Structural Condition/Pavement Strength
 - Skid Resistance & Texture
 - Road Profile & Ride Quality
 - Visual Condition & Digital Video
 - PCI, IRI, Rut depth, MPD, SC,
 - Report on LGMA Extranet

Surveys on Local Roads

- Representative Sample Surveys
- As Required





Pavement Surface Condition Index

Overall Rating	Primary Rating Indicators*	Secondary Rating Indicators*	
10	No visible defects.	Road surface in perfect condition, like new.	
9	Less than 10 % of surface with surface defects ¹	Road surface in very good condition.	
8	10% to 30% of surface with surface defects	Little or No Other defects.	
7	Greater than 30% of surface with surface defects ¹	Little or No Other defects. Old surface with aged appearance.	
6	Less than 20% of other Cracking ⁺ may be present. Patching generally in <u>good</u> condition. <u>May be out of shape</u> requiring some reduction in driver speed.	Surface defects ¹ may be present. No structural distresses ³	
5	Greater than 20% Cracking ² present. Patching generally in <u>fair</u> condition. <u>Out of shape</u> requiring reduction in driver speed. <u>Very localised structural distress³ (≤ 5 sq m of surface)</u> may be present.	Surface defects ¹ may be present.	
4	<u>Structural Distress³ present</u> Rutting or Alligator Cracking for <u>5% to 25% of surface</u> . Short lengths of Edge Breakup/Cracking. Small number of Potholes.	Other defects may be present.	
3	Significant areas of Structural distress ³ . Rutting or Alligator Cracking for <u>25% to 50% of surface</u> . <u>Significant</u> continuous lengths with <u>Edge Breakup/Cracking</u> . <u>Frequent Potholes</u> .	Other defects may be present.	
2	Large areas of Structural distress [*] . Ruting or Alligator Cracking for <u>over 50% of surface</u> . <u>Severe Ruting</u> (over 75 mm deep). Extensive Patching in very poor condition. <u>Many Potholes</u> .	Very difficult to drive on.	
1	Severe Structural distress ³ with extensive loss of pavement surface. Road Disintegration of surface. Many large and deep Potholes. <u>Patching in failed</u> condition.	Severe Deterioration Virtually undriveable.	

Overall Rating	Treatment Measures	Surface	Structure	
10	Routine Maintenance	Excellent		
9			Very Good	
8	Resealing & Restoration of Skid Resistance	Fair	po	
7		Poor	Good	
6	Surface Restoration	Fair	Fair	
5	Carry out localised repairs and treat with surface treatment or thin overlay.	Poor	F	
4	Structural Overlay	o Ile		
3	Required to strengthen road. Localised patching and repairs required prior to overlay.	Po	Poor Overall	
2	Road Reconstruction	Very	Very Poor Overall	
1	Needs full depth reconstruction with extensive base repair.	Failed	Overall	



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Department of Transport, Tourism and Sport
Guidance and Standards

Department Guidelines •

- Guidelines on the Rehabilitation of Roads over Peat
- Guidelines for the Opening, Backfilling and Reinstatement of Trenches in Public Roads (Purple Book) Updating
- Guidelines for Road Drainage _
- Guidelines on the Depth of Overlay to be used on Rural Non National Roads Updating _
- http://www.transport.ie/viewitem.asp?id=12951&lang=ENG&loc=397 or LGMA Extranet _
- Road Schedule
- On DTTAS Website / RMO Website / LGMA Extranet ٠





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Speed Limits Review 2013 Solution





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Speed Limits Review 2013 Issues

• Entering a bend







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Speed Limits Review 2013 Issues

• Inconsistency and Inappropriateness







Speed Limits Review 2013 Lead Actions

1. Replace Speed Limit Signs on Local Roads by a new Rural Speed Limit Sign: -





Rural Speed Limit







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Speed Limits Review 2013 Solution

- International Practice (OECD)
 - Safe Systems Approach & Speed Limits
 Management Framework
- Generic progression: -
 - Decide on the function of the road within the network;
 - Apply engineering techniques to road infrastructure;
 - Apply a Speed Limit appropriate to the particular road;
 - Apply clear and constant signing of the Speed Limits;
 - Enforce the Speed Limit;
 - Periodically assess the Speed Limit, and revise if required.
- 4 Es' Engineering; Education; Enforcement and Economy



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Speed Limits Review 2013 Solution

- Recommended Solution seeks to and address: -
 - Achieve Safe and Sensible Speed Limits
 - Achieve appropriate Speed Limits and signs
 - Address the variety and inconsistency of the road network
- Single overall plan of consisting of 18 Actions: -
 - 10 Lead and 8 Support
 - 2 year initial implementation
 - Longer term



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Speed Limits Review 2013 Actions

1. 10 Lead Actions and 8 Support Actions

Action	Revise Speed Limit Signs		
1	That Speed Limit signs on Local Roads be replaced, simplified and amended by a new 'Rural Speed Limit' sian to address issues arising.		
- Responsibility			
Timeframe	DTTAS supported by local authorities Q2 2014 to Q3 2015		
	Update and Implement Driver Education. Training and Communication		
Action	That a communication strategy be developed and that existing education and training programmes and		
2	documents, such as 'The Rules of the Road' be updated.		
Responsibility	RSA supported by DTTAS / NRA		
Timeprome	Q1 2014 to Q4 2015. Also on-going.		
Action	Implement Appeak. Oversight and Co-ordination That an independent unit be established to: - manage appeals and queries, manage and update Speed		
3	Limit Guidelines as well as to monitor, audit and inspect Local authorities and NRA. DTTAS to consider		
	options and make recommendations in advance.		
Responsibility	DITAS		
Timeframe	Q1 2014 to Q2 2014		
Action	Update National Road Speed Limits		
4	That Speed Limits on the National Road Network be updated in accordance with the Guidelines for Special		
	Speed Limits to ensure appropriate fit. To be repeated at intervals no greater than 5 years.		
Responsibility	NRA supported by local authorities		
Timetrame	Q2 2014 to Q1 2015 Update Regional and Local Road Speed Limits		
Action	That the Speed Limits on the Regional and Local Road Networks be updated in accordance with the		
5	Guidelines, to ensure appropriate fit. To be repeated at intervals no areater than 5 years.		
Responsibility	Local authorities.		
Timetrame	Q2 2014 to Q4 2015		
Action	Remove Inappropriate Signs		
Action	That existing locations of inappropriate (repeater) Speed Limit signs be identified (logged and mapped)		
6	and subsequently removed, relocated or replaced as appropriate.		
Responsibility	Local authorities and NRA		
Timeprame	Underway. To Q2 2014 for National Roads and end of Q4 2015 for Regional and Local Roads.		
Action	Strengthen Road Works Speed Limits		
7	That the system of Road Works Speed Limits be reformed to improve use & implementation.		
Responsibility	DITAS		
Timeframe	Q1 2014 to Q1 2015		
Action	Update and Strengthen Guidelines and Circulars		
8	That the Guidelines for Special Speed Limits be updated to address a number of issues including clarity for		
0	road types; approaches to towns; approaches to schools; the use of Variable Speed Limits; the use of Driver Feedback Signs; and training.		
Responsibility	DTTAS		
Timeframe	Q1 2014 to Q2 2014		
Action	Update Function to Set Speed Limits		
	That legislation for the function to set Special Speed Limits be implemented so that the Local Authority		
9	Reserved Function be subject to an appeals process and the NRA have a stronger supervisory and		
	controlling role for National Roads.		
Responsibility	DTTAS		
Timeframe	Q1 2014 to Q1 2015		
Action	Update Legislation		
10	That legislation to support Speed Limits is implemented to provide for: - Guidelines for Special Speed Limit to be mandatory; appeal mechanism; strengthened powers and functions for the Minister; the NRA for		
10	National Roads as well as Improvements to Roadworks Speed Limits.		
Responsibility	DTTAS		

Action	Update Traffic Regulations and Signs Manual		
4.4	That the Troffic Regulations and Signs Manual and other related guidelines be revised to address		
11	amendments to Speed Limit Signs; Clarity in the use and type of Speed Limits Signs; and Driver Feedback		
	Signs		
Responsibility	DTTAS		
Timeframe	Q1 2014 to Q2 2014		
Action Implement Speed Limit Management Awareness and Training			
12	That the Local Authority Roads Service Training Group (RSTG) hold workshops and seminars; and to		
	develop and run a standardised course on the managing and updating of Speed Limits.		
Responsibility	Roads Service Training Group (RSTG) supported by DTTAS, NRA, Gardai		
Timeframe	Underway. Q4 2013 to Q4 2014		
Action	Maintain Diaital Records and Maas		
13	That Speed Limit records be logged and maintained on a national standardised MapRoad Road		
	Management (GIS) System to facilitate consistency.		
Responsibility	DTTAS supported by Local authorities, NRA and LGMA		
Timeframe	Underway. Q4 2013 to Q4 2014		
Action	Strengthen Engineering and Infrastructure Guidelines and Standards		
	That road design and traffic management standards and guidelines be updated to support road fit to		
14	Speed Limits, gateways to urban/built up areas, self-explaining roads and a range of low cost solutions,		
	based upon international practice. DTTAS to co-ordinate with NRA and NTA.		
Responsibility	DTTAS supported by NRA & NTA		
Timeframe	Q3 2014 to Q4 2015		
Action	Trial and Implement Quiet Lanes and Shared Space		
15	That proposals for Rural Quiet Lanes and Urban Shared Space (or Homezones) be developed and		
15	implemented and provide for very low Speed Limits such as 30km/h or20km/h. Proposals to be supported		
Responsibility	by research and trials.		
Timetrame	012015 to 04 2015		
Action	<u>Trial Intelligent Speed Adaption</u> That proposals and recommendations for the deployment of Intelligent Speed Adaption (ISA) be		
16	developed based on research and pilot studies.		
	RS4		
Responsibility	N2A 04 2014 to 04 2015		
Timeframe			
Action	Develop New Leopl Evidence Mechanisms That new evidence mechanisms be legislated for, requiated and developed to strengthen enforcement		
17	That new evidence mechanisms be legislated for, regulated and developed to strengthen enforcement and use of new technologies such as Variable Speed Limits and Average Speed Enforcement.		
Responsibility	DTTAS		
Timeframe	Q1 2014 to Q1 2015		
Action	Improve Detection and Enforcement		
18	To improve speed detection the Gardai to review and make recommendations on: increased deployment		
18	and outsourcing; average speed detection; widening the function of outsourced back office work and		
	seeking to maximise the integration and shared use of ITS technologies.		
Responsibility	Gardai		
Timeframe	Q1 2015 to Q4 2015		



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Guidelines – March / April 2015

- Speed Limits
 - Guidelines for Setting and Management of Speed Limits in Ireland
 - Department Circulars RST 1 / 2015 23rd April 2015
 - Directions of the Minister



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Other Issues

• Urban areas – Housing Estates



Guidelines – Sept / Oct 2014

• Speed Limits - Housing Estates

The most important objective is to reduce vehicle speeds in housing estates so as to improve safety for pedestrians and cyclists and especially children and the Department sees the increased use of a 30km/h speed limit in residential areas as a measure that will help to achieve that objective.

An Reinn Iompair Tarasionachta agus Spoirt Dearthore of Transport, Toarting and Sport	Ter Local Authority Chief Executives 15 th October 2014 RSD 01200
DTTAS Speed Ramp Survey and 30 km/h speed limit implementation in local areas	Circular on the control of Vehicle Speeds in Housing Estates Dear Chief Essewive, The purpose of this Circular is threefold:
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Speed Limits Review 2013 Collision Risk





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Guidelines - 2015

- New criteria for setting Speed Limits for Urban Roads based on <u>Function</u> and <u>Context</u>
- Impact on Road Network

		Pedestrian Priority Vehicle Priority			
		Urban Centers / Commercial Centers	Suburban and Housing Areas	Out of Town Business / Industrial Areas	
_	Arterial	40 [*] - 50	40 [*] – 50	50 – 60	
Function	Link	30 – 40 [*]	30 – 50	50 – 60	
-	Local	30	30	30 – 50	
			Context		



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Guidelines - 2015

- 30 km/h should be used for Housing Estates
- New Slow Zones (30 km/h) for Urban Roads such as Housing Estates: -
 - community supported
 - safety measures
 - lower the incidence and severity of collisions
 - enhance quality of life
 - Self enforcing







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Process for Housing Areas

- Speed measurement
- Decide where standard 30 km/h signs & where combination signs are needed
- Put bye-laws in place
- Order signs
- Erect signs
- After a period measure speeds again

Guidelines - 2015

- New criteria for setting Speed Limits for Rural Roads
- Impact on Road Network

SPEED LIMIT (km/h)	PAVED ROAD WIDTH
80	Less than or equal to 7.0 m
100	Greater than 7.0 m







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Thank You