

# DELIVERING IRELAND'S ROADS & COST MANAGEMENT... *A FUNDER'S PERSPECTIVE*

## **CIVILEX - DUBLIN**

March 2008

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# FUNDING MAJOR ROADS & COST MANAGEMENT.....

## Content of Presentation

- Introducing Bruce Shaw Partnership
- National Development Plan / Transport 21 and Roads
- Focus on Capital Cost Management
- Defining Guidelines.....Cost Management Manual
- Benchmarking – CEDR Data
- Future Direction – Summary

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## Introducing Bruce Shaw Partnership

- Ireland's largest Cost Management Practice – Dublin/Belfast/London/Cork
- Civils and M&E Divisions
- Specialist teams focused on key sectors including Commercial; Healthcare; Industrial; Residential; Retail
- PPP and Finance Advisory Service
- PCD/BSPM/BSSM – Property Claims / Project Management / Safety Management
- Currently working on many of the largest projects in the country
- Currently providing Cost Management Services to the NRA

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## NDP / Transport 21 and Roads

- NDP – Current Programme - 2007 to 2013
- NDP Transport provisions include €13.3 bn for national roads and €4.3 bn for non-national roads
- Transport 21 - Capital Investment Programme specific to transport – 2006 to 2015 - national roads / public transport / regional airports
- Roads element of Transport 21 is €18 bn
- Figure for national roads (NRA) for 2008 is €1.68 bn
- Figure for non-national roads for 2008 is €618 m
- See Minister Dempsey's statement of the 25-01-08

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## Capital Cost Management

- **Key Challenges**
  - **Cost Certainty**
  - **Value for Money**
  - **Facilitate scheme delivery**
  - **Identification of Measures**
  - **Implementation of Measures**
  - **Monitoring and Measurement of performance**
  - **'Engender a Culture of Organisational Learning'**

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## Capital Cost Management

- Focus on the management and control of Capital Expenditure Costs
- Dedicated Resource - Cost Management Section
- Specialist Support – External Expertise – BSP team
- Management Structure – Facilitate Focus on CM
  - Single Point Responsibility for Major Projects Delivery – Programme/Quality/Functionality and Value for Money
  - Dedicated Scheme Managers as Overall Budget Overseers
  - Employer (i.e. Local Authority) Accountability

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## Capital Cost Management

- Clearly Defined Minimum Procedural Requirements – CM Manual
- Benchmarking – Costs and Practices
  - Programme Wide (Internal Database and Consultation)
  - International - e.g. EU Wide Through CEDR (Conference of European Directors of Roads)
- Increased Emphasis on Outturn Cost Analysis and Feedback
  - Lessons Learnt - Organisational Learning
  - Peer Review – putting experience to work....
  - Identification of Trends
- Single Unambiguous Target Cost – Includes all Funder Cost

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## Capital Cost Management

- Improving Cost Certainty and Value for Money
  - **Cost Certainty**
    - Cost Data – Benchmarking and database
    - Estimating Guidelines – Methodology and Scope
    - Contingency Evaluation - Risk Management Procedures
    - Inflation
    - Management of Strategic and Programme Risk
  - **Value for Money**
    - Peer Review Process – Independent of Project Team
    - Value Management – ensure optimum design solutions are realised
    - Risk Management – mitigate/optimize risk transfer



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## Cost Management Manual - Aims

- **Main Purpose is to:**
  - Define cost management **policies and procedures (incl Responsibilities)**
  - **Standardise cost estimation & Reporting (All Phases)**
  - Focus on **Risk Management** (Project Specific & Programme)
  - Focus on **Value Management**
  - Outline Overall Scheme Review Process – **Peer Review**
  - **Reflect the principles and requirements of the DOF Guidance Notes**
- **Current Status – Consultation Version but Mandatory on all NRA Major Projects**
- **To be read in conjunction with the DOF Capital Projects Guidance Notes**

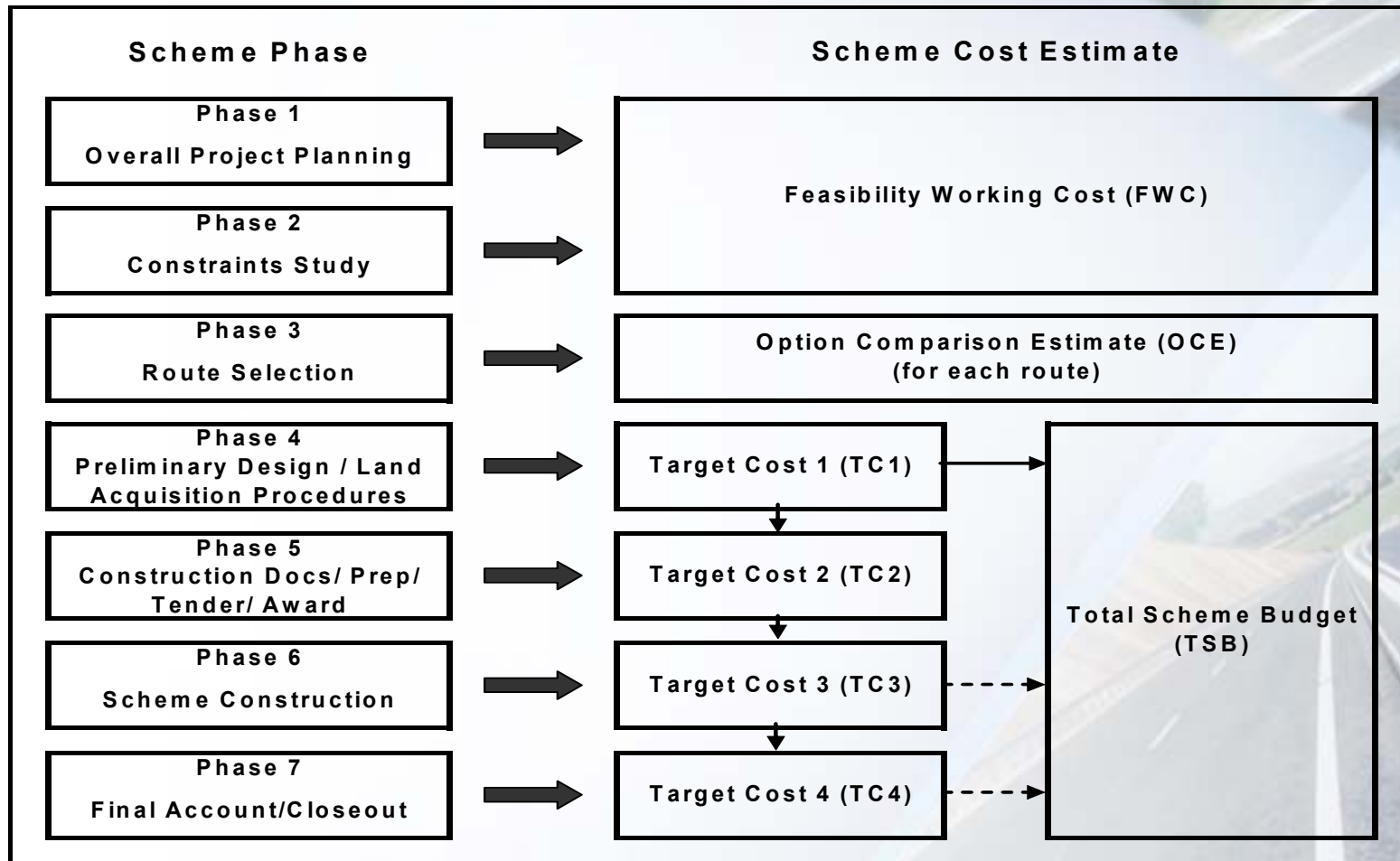
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## Cost Management Manual - Layout

- Three Chapters plus Appendices
  - **Chapter 1** - Cost Management - Stakeholders/ Reporting Forms and Framework/ Estimating Approach/ Future Proofing/ Change Management/ Peer Review
  - **Chapter 2** - Risk Management – Definitions/ Strategy/ Implementation
  - **Chapter 3** - Value Management – Definitions/ Strategy/ Implementation
  - **Appendices** – Pricing Document/ Estimate Structure/ Reporting Forms/ Risk Classifications

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## Scheme Cost Estimates – Phase to Phase



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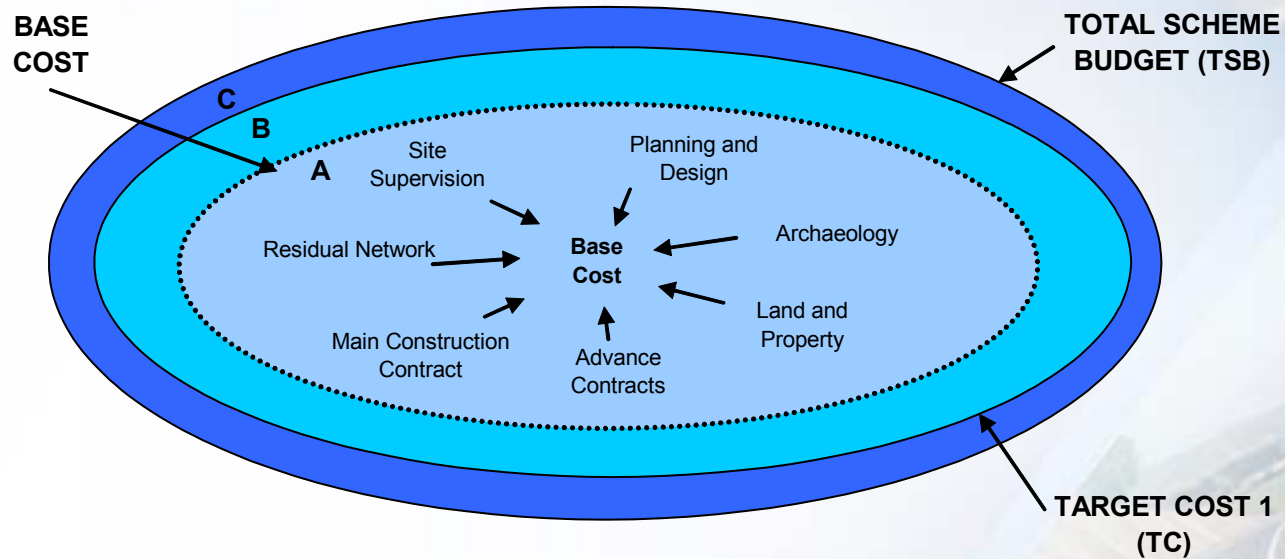
## Estimating - Build-up of Scheme Cost Estimate

- **7 Cost Headings**
  - **Planning & Design – CPO/EIS/Traffic & Topo/SI/Advance Contracts Supervision**
  - **Land & Property (All Costs – note role for Land Valuer)**
  - **Archaeology**
  - **Advance Contracts and Other Works**
  - **Main Contract Construction**
  - **Main Contract Supervision (includes supervision of other works)**
  - **Residual Network**
- **All headings must include appropriate risk provision**
- **Estimates to include provision for inflation (DOF requirement)**

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## Estimating – Target Cost and Total Scheme Budget

### TARGET COST AND TOTAL SCHEME BUDGET



- Key :
- A** Point Estimate at Current Rates (Sum of All Cost Headings)
  - B** Scheme Specific Risk plus Inflation
  - C** NRA Risk - Programme Risk plus Exceptional Risk Provision

**Area A + Area B = TC ; TC + Area C = TSB**

Relationship between Target Cost (TC) and Total Scheme Budget (TSB)

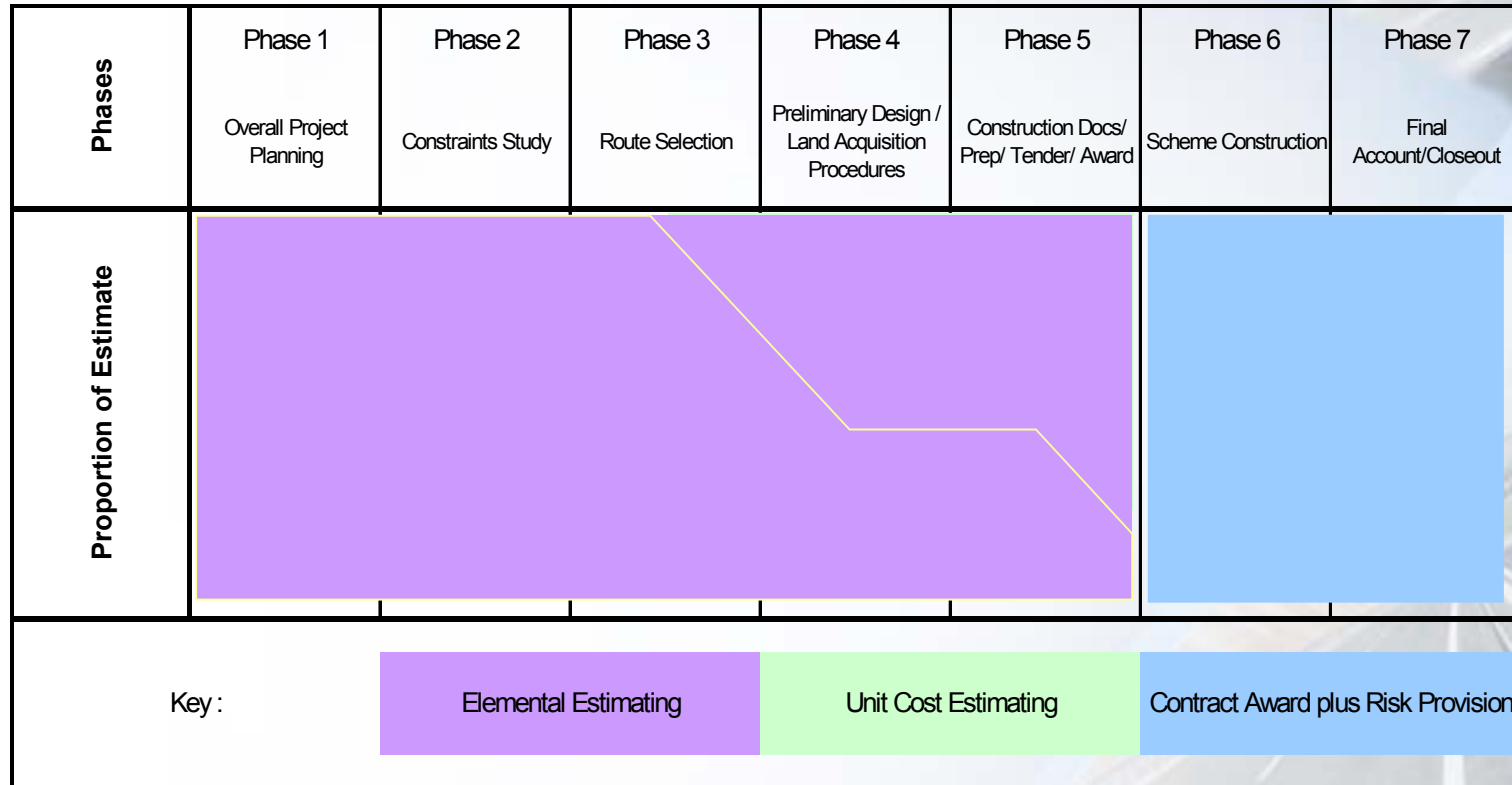
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## Estimating – General Principles

- **All cost headings to be inclusive of all costs (incl VAT)**
- **Level of detail required dependent on Phase and status of design**
- **Estimation methodology – depends on phase & detail available (Elemental Estimate / Unit Cost Estimate)**
- **Estimate to include for Contingency – Risk Provisions**
- **Funder to provide for Exceptional/Programme/Strategic (i.e. to be quantified by the NRA) – consistency of approach required**
- **Inflation provision to be calculated by the NRA (Consultants to provide support when requested) – consistency of approach required**

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## Estimating – Methodology through the Phases



**Main Construction Contract Estimating Methodology - Typical Profile on a Phase by Phase Basis**



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## Risk Management - Overview

- **The implementation of the Risk Management Strategy – a structured framework in which RM should be implemented - should minimise unexpected impact on scheme objectives (budget; programme) -**
  - **Maximise opportunities to improve on scheme objectives (budget; programme)**
  - **Facilitate long term project planning as opposed to crisis management – elimination / transfer / mitigation / management**
  - **Facilitate the management of scheme contingency – risk quantification - final outturn projection**
  - **Facilitate the optimum transfer of risk through the main construction contract**
  - **Facilitate Organisational Learning**

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## Risk Management - Outputs



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## Value Management - Overview

The implementation of a Value Management Strategy should :

- **Provide a structured framework in which VM can occur**
- **Give guidance on the qualitative and quantitative assessment of options/opportunities**
- **Help ensure optimum options/design solutions are identified and adopted**
- **Maximise opportunities to improve Value for Money**
- **Contribute to the identification and management of risk**
- **Identify opportunities to improve on scheme objectives (budget; programme)**
- **Facilitate Organisational Learning**

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## Value Management Outputs

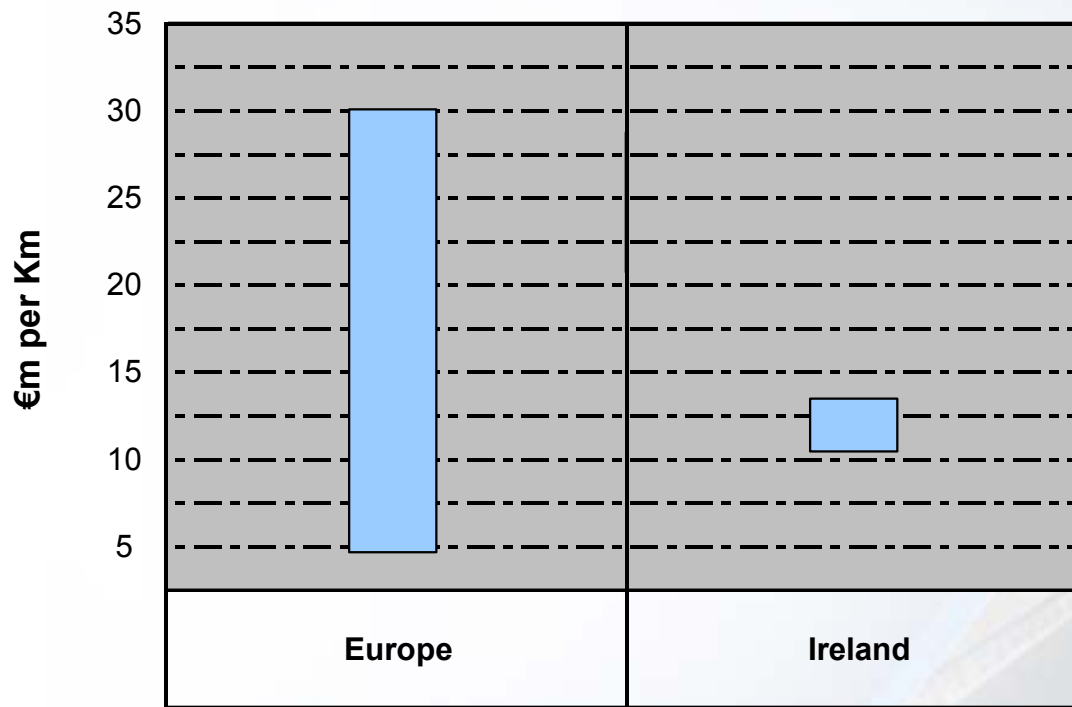
- **Phase 1/2 - Initial Value Report; Identification of Opportunities**
- **Phase 3 - Updated Value Report; Route Assessment**
- **Phase 4 - Workshop and Report; Detailed assessment of options**
- **Phase 5 - Updated Value Report; Main Construction Contract**
- **Phase 6 - Updated Value Report; Monitor Implementation; Consider Proposals**
- **Phase 7 - Final Value Report; Review VM; Detail Opportunities realised and effects of same**



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## CEDR Data - European Benchmarking

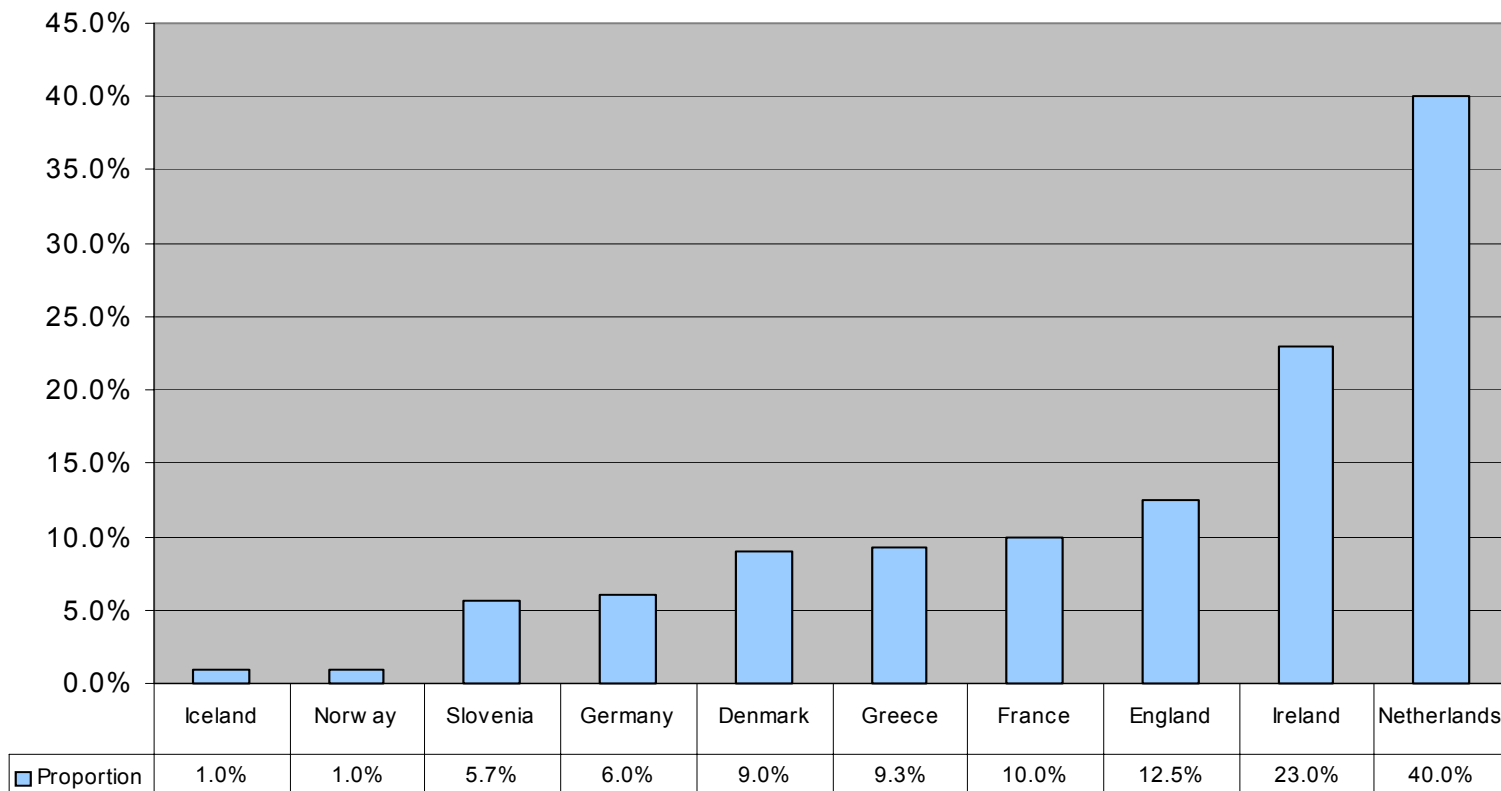
All-in Motorway Costs / km (2006 Prices)



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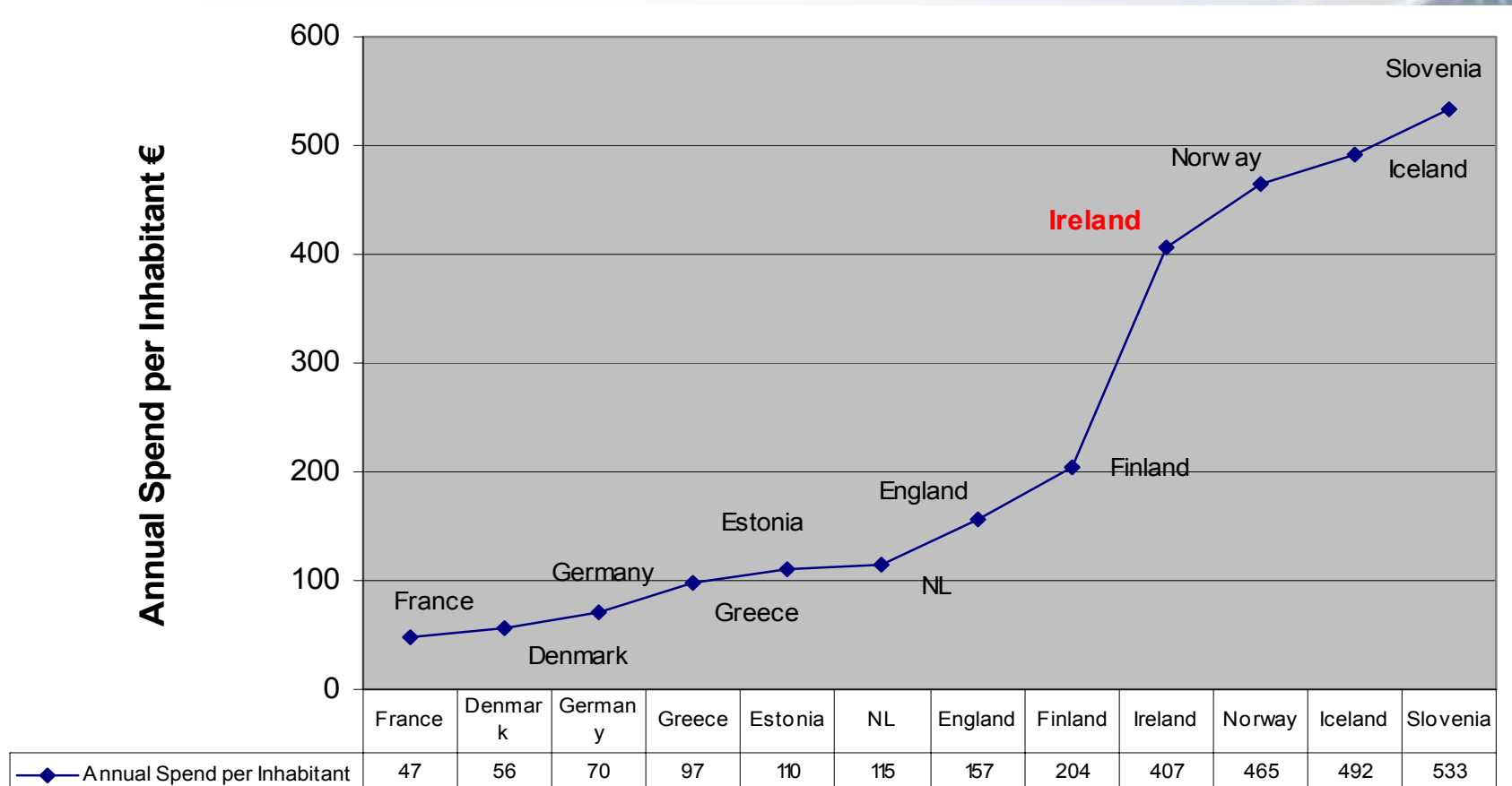
### Land and Property as a Proportion of Scheme Cost - 2006



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## CEDR Data - European Benchmarking

Expenditure on Roads per Inhabitant per Annum (2006)



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## Future Direction - Summary

- **Focus on Cost, Risk & Value Management (Contracting Authorities)**
- **Enhanced Contract Administration Procedures...currently under preparation**
- **Updating of the NRA Project Management Guidelines**
- **Increased monitoring of project delivery efficiency**
- **Structured environment for Final Account Settlement**
- **Learn and Implement Lessons Learnt.....**

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## Useful Weblinks

- NRA Website – [www.nra.ie](http://www.nra.ie)
  - News Updates and Press Releases
  - NRA Publications
  - Scheme Activity – from planning to completion
  
- Bruce Shaw Website – [www.bruceshaw.ie](http://www.bruceshaw.ie)
  - Bruce Shaw Handbook – data excerpts
  
- National Development Plan - NDP – [www.ndp.ie](http://www.ndp.ie)
  
- Transport 21 – [www.transport21.ie](http://www.transport21.ie)
  
- Department of Finance – [www.finance.gov.ie](http://www.finance.gov.ie)
  - Publications – Construction Procurement Reforms

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# THANK YOU