

Project Appraisal Guidelines for National Roads

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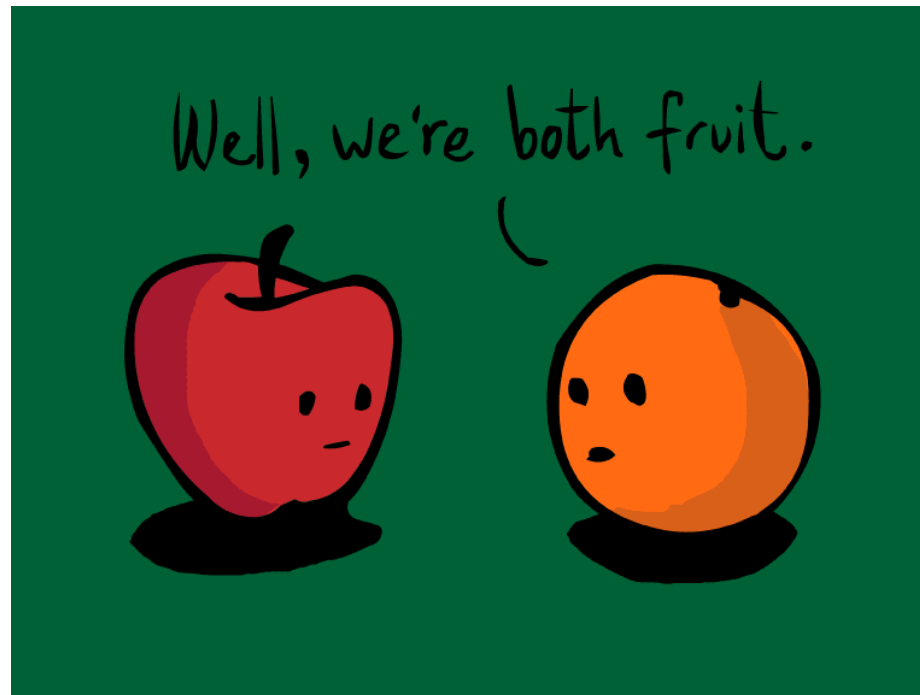
TII Standards Training 2017

| | |
|--------------------|---------------------------|
| Athlone | 09 th May 2017 |
| Carrick on Shannon | 11 th May 2017 |
| Cork | 16 th May 2017 |
| Dublin | 18 th May 2017 |

Introduction

Why undertake Project Appraisal?

- Ensure value for money for public funds:
 - Doing the right thing
 - Doing it right
- Consistency across competing projects / sectors



Hierarchy of Project Appraisal Guidance?



The Public Spending Code

Expenditure Planning, Appraisal
& Evaluation in the Irish Public Service:
Standard Rules & Procedures

CEEU

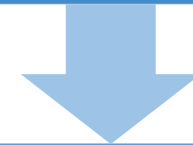
CENTRAL EXPENDITURE EVALUATION UNIT
DEPARTMENT OF PUBLIC EXPENDITURE AND REFORM

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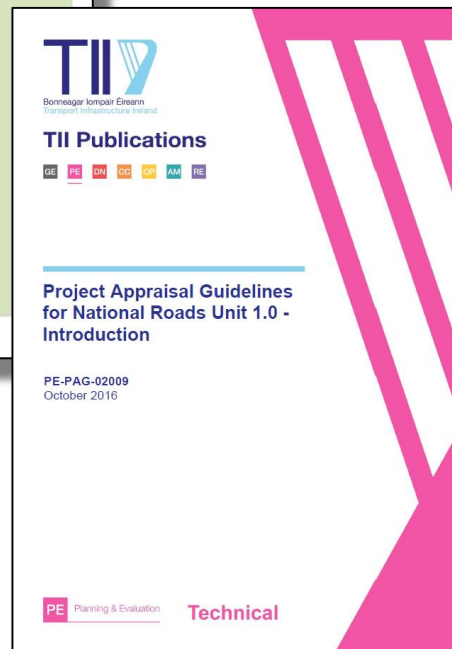
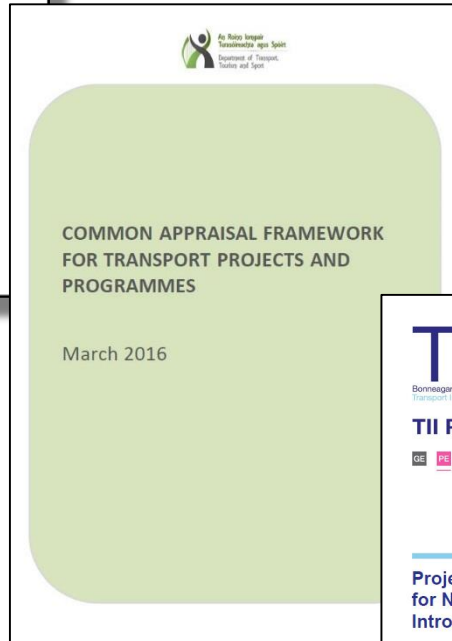
Public Spending Code, DPER (September 2013)
Rules for appraisal of all capital and current public expenditure



**Common Appraisal Framework for
Transport Project & Programmes, DTTaS
(March 2016)**
Guidance document



**TII Project Appraisal
Guidelines for National
Roads (2016)**
Guidance document for all
National Road Projects



TII Project Appraisal Guidelines for National Roads

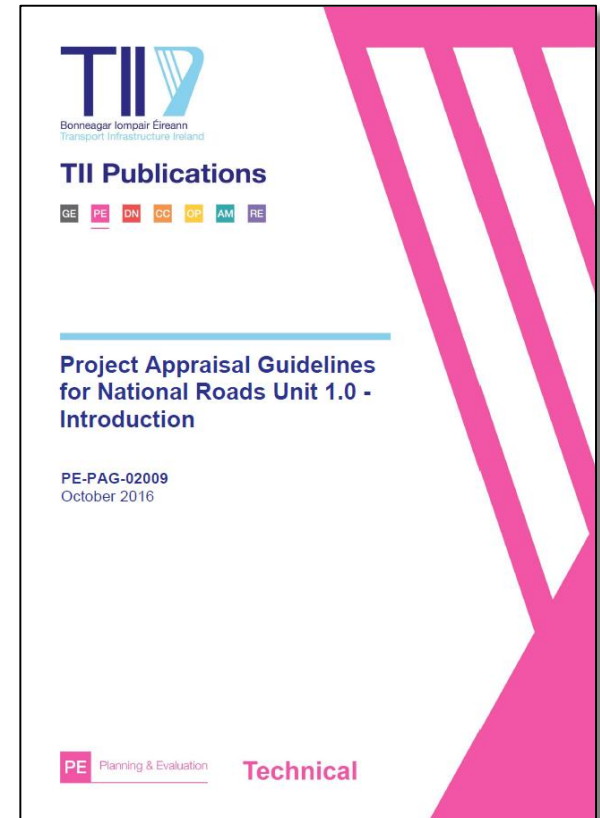
TII Project Appraisal Guidelines

What is PAG?

- “How to” guidelines
- Provide consistency across all TII projects
- Detailed guidance on
 - Transport modelling,
 - Economic appraisal
 - MCA
- Standard parameters for model inputs

Objective:

To ensure consistent appraisal of all TII projects and compliance with DTTAS and DPER requirements



Structure of Updated PAG

| Unit | Topics discussed | Detailed Info | |
|------|-------------------------------|--|---|
| 1.0 | Introduction | | |
| 2.0 | Appraisal Deliverables | Project Appraisal Plan | |
| 3.0 | Project Brief | PB Template | |
| 4.0 | Consideration of Alternatives | | |
| 5.0 | Transport Modelling | <ul style="list-style-type: none"> Construction of Models Data Collection | <ul style="list-style-type: none"> Forecasting Sample TM Report |
| 6.0 | CBA | <ul style="list-style-type: none"> Scheme Costs TUBA & COBALT Sample CBA Service Areas | <ul style="list-style-type: none"> Wider Impacts Reliability & Quality National Parameter Values |
| 7.0 | Multi-Criteria Analysis | MCA Guidance | PABS Template |
| 8.0 | Business Case | BC Template & Sample | |
| 9.0 | Post Project Review | | |
| TBA | Current Expenditure | | |
| 12.0 | Minor Projects (€5m-€20m) | Simple Appraisal Tool | |
| 13.0 | Walking & Cycling Facilities | | |
| 14.0 | Minor Projects(€0.5m-€5m) | Minor Project PABS Template | |
| 16.0 | Data Analysis Techniques | Estimating AADT Expansion Factors for Short Period Counts | |

Appraisal Deliverables

| National Roads Project Management Guidelines - Project Phase | PAG Deliverable | | | | | | | |
|---|-----------------|----|-----|-----|------|-----|-----|-----|
| | PAP | PB | TMR | CBA | PABS | PBC | DBC | PPR |
| Phase 0: Programme Overview and Requirements Definition / Phase 1: Scheme Concept & Feasibility Studies | Y | Y | | Y* | | | | |
| Phase 2: Option Selection | | Y | Y | Y | Y | Y | | |
| Phase 3: Planning & Design | | Y | Y | Y | Y | | Y | |
| Phase 4: EIA/EIR and the Statutory Processes | | | | | | | Y** | |
| Phase 5: Advance Works & Construction Documents Preparation, Tender & Award | | Y | Y | Y | Y | | Y | |
| Phase 6: Construction & Implementation | | | | | | | Y | |
| Phase 7: Handover, Review & Closeout | | | | | | | | Y |

***Certain projects will require some cost benefit analysis at Phase 1.**

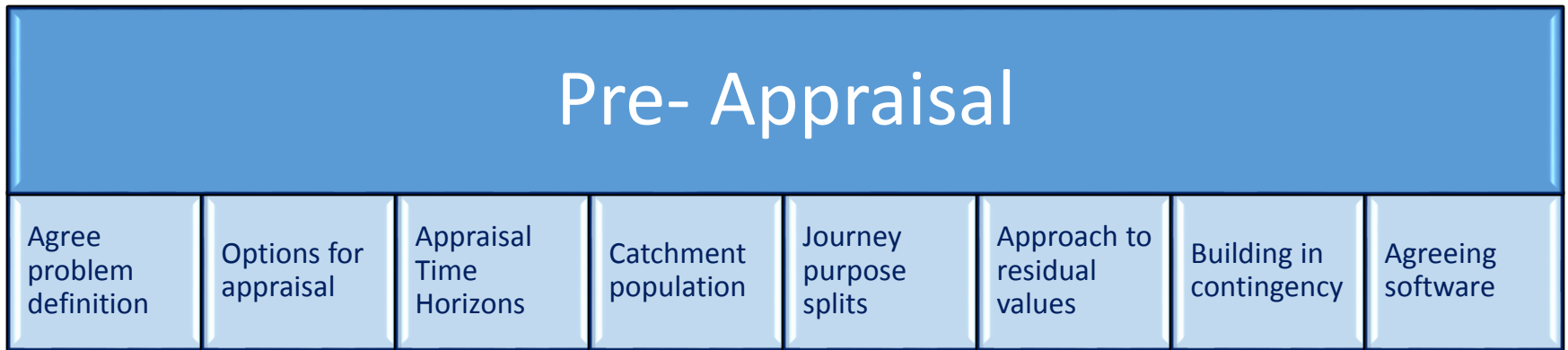
****If the scope of a project is significantly changed then the Business Case may need to be updated**



Pre-Appraisal & Project Appraisal Plan

DTTAS Pre- Appraisal Discussions

- All schemes >€5m
- What do DTTAS require?



- TII have agreed protocol for interface with EFEU
 - PAG considers all of the above
 - Brought together in Project Appraisal Plan
-

Project Appraisal Plan – Key Considerations

- Audience – TII STP, EFEU Economists
 - Purpose – Define problem & methodology to define solution
 - Detail on problem definition \leq detail on methodology
 - Methodology includes:
 - Data collection
 - Evaluation type – Quant Vs Qual
 - Transport Modelling
 - Key assumptions
 - Not Generic
 - More details in PE-PAG-02011 (Unit 2.1)
-

Multi-criteria Analysis & Objective Setting

Multi-Criteria Analysis (MCA)

What is MCA?

- establishes preferences
 - by reference to an explicit set of objectives
 - with measurable criteria
 - to assess the extent
 - that objectives are achieved
-
- As important as cost benefit appraisal
 - More detail PE-PAG-02031 (Unit 7.0)
-

Objectives

- Without Objectives MCA not possible
 - Set objectives early & develop
 - SMART objectives are best but not easy
Specific, **M**easurable, **A**chievable, **R**eliable, **T**ime bound
 - Avoid Double Counting
-

Appraisal of Minor Projects

Appraisal Thresholds

All schemes regardless of value require appraisal – level to be proportionate to value

| Estimated Project Cost | Scale of Appraisal Required |
|---|--|
| Below €0.5 million | Simple assessment |
| Between €0.5 million and €5 million | Single appraisal incorporating elements of a preliminary and detailed appraisal |
| Between €5 million and €20 million | At a minimum, a Multi Criteria Analysis (MCA) |
| Over €20 million | Detailed Economic Appraisal - Cost Benefit Analysis (CBA) (or Cost Effectiveness Analysis (CEA)) |
| Current expenditure (with an annual spend of at least €5m) | Detailed Economic Appraisal - Cost Benefit Analysis (CBA) (or Cost Effectiveness Analysis (CEA)) |
| Capital Grant Schemes with an annual value in excess of €30 million and of 5 years or more duration | Detailed Economic Appraisal prior and at mid-point of each 5 year cycle or as may be agreed with the Department of Public Expenditure & Reform |

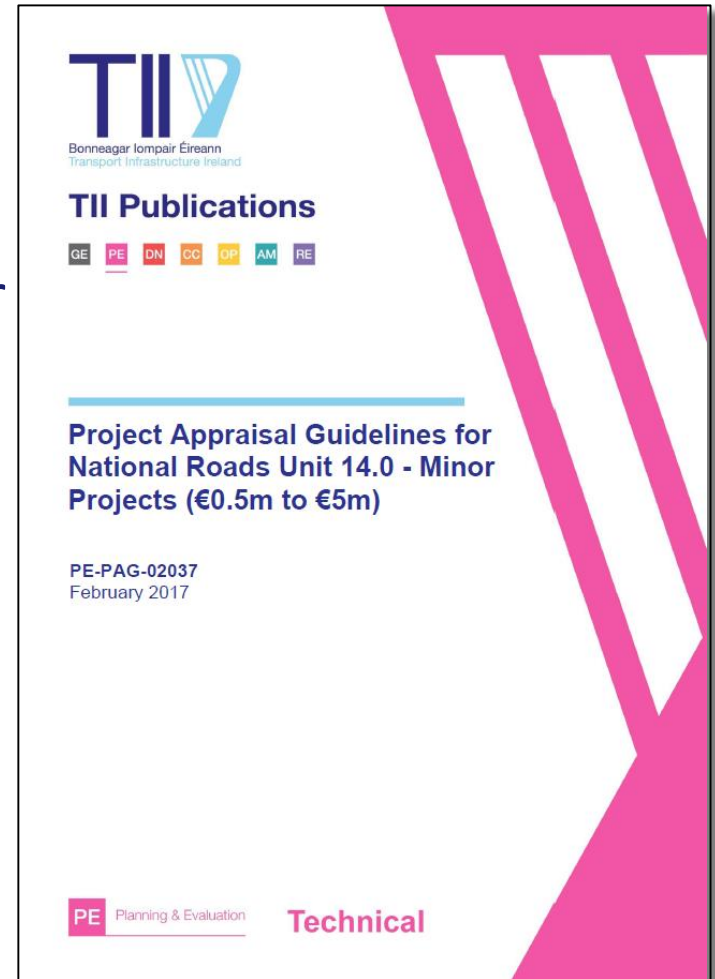
*Source: Table 1 CAF

Minor Projects (€0.5m - €5m)

- Dedicated Unit – PE-PAG-02037
- Appraisal comprises a Project Appraisal Balance Sheet
- If more than one option complete for all options
- Similar to MCA approach

Multi Criteria Analysis Scale

| | | |
|----------------------------|---|---------------------|
| Major or highly positive | 7 | Highly Positive |
| Moderately positive | 6 | Moderately Positive |
| Minor or slightly positive | 5 | Slightly Positive |
| Not significant or Neutral | 4 | Neutral |
| Minor or slightly negative | 3 | Slightly Negative |
| Moderately negative | 2 | Moderately Negative |
| Major or highly negative | 1 | Highly Negative |



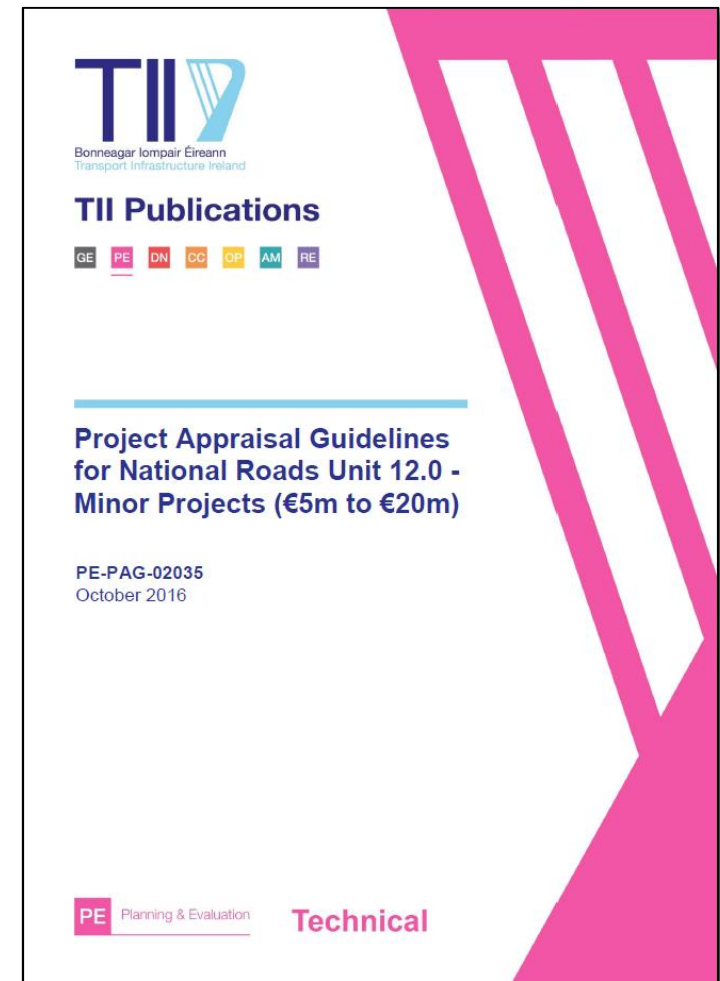
Minor Projects (€0.5m - €5m)

PAG Unit 14 Project Appraisal Balance Sheet - Summary Table for Minor Projects (€0.5m to €5m) as defined by DN-GEO-03030

| Scheme Name: | | Description: | | Problems Identified: | | | Budget Cost (m) | | | | |
|---------------------------------------|--|---|------------------------|----------------------|--------------------------------|--------------------------------------|--------------------|----------------------------|---|----------------|--|
| | | | | | | | | | | | |
| Current Typical Carriageway Width: | | Route No: | | Speed Limit: | Proposed Carriageway Standard: | | | €2.2m | | | |
| | | | | | | | | | | | |
| Appraisal Criteria | Appraisal Sub-Criteria | Objectives (Guidance available in PAG Unit 3.8) | Qualitative Statement: | | | Sub-criteria Performance Description | Sub-criteria Score | Appraisal Criteria Score | | | |
| Environment | Air Quality | | | | | Not significant or Neutral | 4 | Neutral | | | |
| | Noise and vibration | | | | | Not significant or Neutral | 4 | | | | |
| | Landscape & visual quality | | | | | Not significant or Neutral | 4 | | | | |
| | Biodiversity | | | | | Not significant or Neutral | 4 | | | | |
| | Cultural, Archaeological, Architectural Heritage | | | | | Not significant or Neutral | 4 | | | | |
| | Land Use | | | | | Not significant or Neutral | 4 | | | | |
| | Water resources | | | | | Not significant or Neutral | 4 | | | | |
| Safety | Collision reduction | | | | Current Rate: | ? PIA/mvkm | | Not significant or Neutral | 4 | Neutral | |
| | | | | | Proposed Rate (see PAG 6.11): | 2 Lane Single carriageway > 60kph | 0.080 PIA/mvkm | | | | |
| | Security | | | | | Not significant or Neutral | 4 | | | | |
| Economy | Transport Efficiency and Effectiveness | | | | Current AADT: | | | Not significant or Neutral | 4 | Neutral | |
| | | | | | Forecast 2030 HG AADT: | | | | | | |
| | Wider economic impact | | | | | Not significant or Neutral | 4 | | | | |
| | Transport Reliability and Quality | | | | | Not significant or Neutral | 4 | | | | |
| Accessibility and Social Inclusion | Vulnerable groups | | | | | Not significant or Neutral | 4 | Neutral | | | |
| | Deprived geographic areas | | | | | Not significant or Neutral | 4 | | | | |
| Integration | Transport integration | | | | | Not significant or Neutral | 4 | Neutral | | | |
| | Land-use integration | | | | | Not significant or Neutral | 4 | | | | |
| | Integration with other government policies | | | | | Not significant or Neutral | 4 | | | | |
| Physical Activity | Physical Activity | | | | | Not significant or Neutral | 4 | Neutral | | | |
| Overall Description of Scheme: | | | | | | | | | | Neutral | |

Minor Projects (€5m - €20m)

- Dedicated Unit – PE-PAG-02035
- Simple Appraisal Tool developed
- Limitations of use – realignments or similar
- Greater complexity may require use of other tools- modelling
- Not appropriate to apply Major Project requirements
- Details should be in Project Appraisal Plan



Minor Projects (€5m - €20m)

Simple Appraisal Tool - PAG Unit 12



Part A - Overview

Date
Version No.

| | |
|---------------------------|----------------------|
| Project Title | <input type="text"/> |
| Project Description | <input type="text"/> |
| PRS Reference Number | <input type="text"/> |
| Project Phase | <input type="text"/> |
| National Roads Office | <input type="text"/> |
| TII Project Manager | <input type="text"/> |
| Appraisal Team Author | <input type="text"/> |
| Design Team Reviewer | <input type="text"/> |
| TII Engineering Inspector | <input type="text"/> |
| External Auditor | <input type="text"/> |

Part B: Scheme Information

Thank You
Questions??