|  |
| --- |
| **Appendix B** |
| Sample Feasibility and Options Report for Road Safety Improvement Scheme |



Local Authority Logo

Date: 01/01/2020

(Type: A / B / C / D)

*[INSERT TII Ref. No.]*

Feasibility and Options Report

*[INSERT Scheme Name]*

Contents

[1 Introduction 4](#_Toc36108712)

[2 Description of the Safety Problem and Collision History 4](#_Toc36108713)

[2.1 Identification of Problem & Objective 4](#_Toc36108714)

[2.2 Constraints 4](#_Toc36108715)

[2.3 Future Development / Scheme 4](#_Toc36108716)

[3 Proposed Options 5](#_Toc36108717)

[3.1 Options Considered 5](#_Toc36108718)

[3.2 Option 1 5](#_Toc36108719)

[3.3 Option 2 5](#_Toc36108720)

[3.4 Option 3 6](#_Toc36108721)

[4 Preferred Option 8](#_Toc36108722)

[4.1 Evaluation of Options 8](#_Toc36108723)

[4.2 Collision Modification Factor 8](#_Toc36108724)

[4.3 First Year Rate of Return Based on Collision History 8](#_Toc36108725)

[5 Programme 9](#_Toc36108726)

[6 Conclusions and Recommendation 9](#_Toc36108727)

[Appendix A – Sample Cost Estimate i](#_Toc36108728)

[Appendix B – TII High Collision Locations / Road Safety Inspections iii](#_Toc36108729)

[Appendix C - Drawings iv](#_Toc36108730)

# Introduction

[Insert a description of the scheme, the scheme objective and justification for the scheme]

e.g. The proposed scheme has been assessed under the GE-STY-01022 Review of TII High Collision Locations and is identified as a site having a collision rate threshold of twice the average for National roads therefore needing further assessment of collisions to identify if there is a treatable Engineering solution. This report provides the options considered and the preferred option including a programme for implementation.

[INSERT LOCATION MAP]

# Description of the Safety Problem and Collision History

## Identification of Problem & Objective

[XX County Council assessment of the existing site, collision data evaluation and other data.]

[Review of the HCL or RSI and site visit etc. ]

[Summary of road safety problem and scheme objective.]

## Constraints

[List any project/design constraints if applicable (e.g. Land Acquisition, Utilities Diversions, Environmental, IAPS, Vulnerable Road Users/existing geometry etc. )]

[N/A if no constraints]

## Future Development / Scheme

[Please state if there are Pavement Schemes or Minor/Major Schemes planned at the location (e.g. Route Realignment, Bypass, Pavement Schemes, Signing and Lining etc.)]

[N/A if no Schemes]

# Proposed Options

## Options Considered

[This section presents the Concept Design for each option considered]

## Option 1

[e.g. Do-Nothing / Do-Minimum / Short-term/ Do-something]

[INSERT Option Illustration]

[Sample estimated costs]

|  |  |  |
| --- | --- | --- |
| Description | Cost/€ | Total Estimate (ex VAT) |
| Series 200 Site Clearance | 5,000 | € 49,000 |
| Series 1200 - signs | 16,000 |
| Series 1200 - markings | 15,000 |
| Junction radii improvements | 10,000 |
| Planning and Design (incl.GI & Topo) *if applicable* | - |
| Road Safety Audit *(estimate)* | 3,000 |
| Archaeology *( if applicable)* | - |
| Land and Property *( if applicable)* | - |
| Other costs *(as applicable to scheme scope or complexity)* | - |

## Option 2

[e.g. Do-something/Medium-Term]

[INSERT Option Illustration]

[Sample estimated costs]

| Description | Cost/€ | Total Estimate (ex VAT) |
| --- | --- | --- |
| Series 100 Preliminaries | 80,000 | € 1, 465,000 |
| Series 200 Site Clearance | 25,000 |
| Series 300 Fencing | 100,000 |
| Series 400 Safety Barrier | 25,000 |
| Series 500 Drainage | 250,000 |
| Series 600 Earthworks | 150,000 |
| Series 700 Pavement | 600,000 |
| Series 1100 Kerbs Footways and Paved Areas | 45,000 |
| Series 1200 Traffic Signs and Road Markings | 40,000 |
| Advanced Works *(e.g. Utilities Diversions estimated costs)* | 100,000 |
| Planning and Design (incl. GI & Topo) *if applicable* | 47,000 |
| Road Safety Audit *(estimate)* | 3,000 |
| Archaeology *( if applicable)* |  |
| Land *( if applicable)* |  |
| Other costs *(as applicable to scheme scope or complexity e.g. geotechnical)* |  |

## Option 3

[e.g. Do-something/Long-term]

[INSERT Option Illustration]

[Sample estimated costs]

| Description | Cost/€ | Total Estimate (ex VAT) |
| --- | --- | --- |
| Series 100 Preliminaries | 80,000 | € 1,893,000 |
| Series 200 Site Clearance | 25,000 |
| Series 300 Fencing | 100,000 |
| Series 400 Safety Barrier | 25,000 |
| Series 500 Drainage | 250,000 |
| Series 600 Earthworks | 150,000 |
| Series 700 Pavement | 600,000 |
| Series 1100 Kerbs Footways and Paved Areas | 45,000 |
| Series 1200 Traffic Signs and Road Markings | 40,000 |
| Utilities Diversions *(estimated)* | 100,000 |
| Planning and Design (incl. GI & Topo) *if applicable* | 120,000 |
| Land Acquisition Cost *(e.g. realignment of a bend)* | 350,000 |
| Road Safety Audit*(estimate)* | 3,000 |
| Archaeology *( if applicable)* | - |
| Other costs *(as applicable to scheme scope or complexity e.g. Project Appraisals)* | - |
| Programme risk *(e.g. Accommodation Works if applicable)* | 5,000 |

[TII Publication <https://www.tiipublications.ie/downloads/> for the TII-Cost-Estimating-Datasheets.xlsx and PE-PAG-02021\_Unit-6.2-Attachments.zip may assist preparation of the cost estimates.]

# Preferred Option

## Evaluation of Options

[This section discusses the estimated collision savings and other benefits for the proposed improvement options for the N XX and states the preferred option based on the FYRR and/or CMF].

## Collision Modification Factor

[Sample: The Collision Modification Factor is evaluated using a number of repositories including but not limited to the following:

* ‘Table I, Road Safety Remedial Measures Programme, Evaluation of Programme 9 to 11, Schemes Implemented between 2004 and 2006’, NRA, 2012
* PRACT -Predicting Road Accidents - A Transferable methodology across Europe
* CMF Clearing House
* Austroads
* PIARC

Based on the main collision types at site XX the proposed options are likely to have a positive effect to reduce the main collision types. The CMF calculated for each option is:

* Option 1 – XX%
* Option 2 – XX%
* Option 3 – XX% ]

## First Year Rate of Return Based on Collision History

[Sample: First Year Rate of Return (FYRR) was used to assess each option’s likely return generated in the first year of a road safety initiative implementation as follows:]

[Sample comparison table]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Description | Annual Collision Saving | Average Collision Cost\* € | Scheme Cost € | FYRR\*\* (%) |
| Option 1 | 0.09 | 162000\* | 49000 | 29.8 |
| Option 2 | 0.18 | 162000\* | 1465000 | 2 |
| Option 3 | 0.4 | 162000\* | 1893000 | 3.4 |

[Notes :

**\* (Sample For illustration only)-** To calculate Average Collision Costs use the methodology in Chapter 5 of ‘A Guide to Road Safety Engineering in Ireland (1996) Government. Publications Office. Dublin.

(Source: <http://www.rmo.ie/uploads/8/2/1/0/821068/aguidetoroadsafetyengineeringinireland1996.pdf>)

Injury collision costs are published by the Road Safety Authority in the Road Casualty and Collision Report available at [www.rsa.ie](http://www.rsa.ie).

**\*\* FYRR -** For guidance on the calculation of the FYRR please refer to Chapter 5 of ‘A Guide to Road Safety Engineering in Ireland (1996) Government. Publications Office. Dublin.

(Source: <http://www.rmo.ie/uploads/8/2/1/0/821068/aguidetoroadsafetyengineeringinireland1996.pdf>)]

# Programme

[This section should set out the programme that XX County Council intend to implement for the preferred option.]

|  |  |  |
| --- | --- | --- |
| [SAMPLE Programme ] | Year / Q ( 1-4 ) | Costs (€ incl. VAT) |
| Technical Advisor | 2020 Q1 |  |
| Preliminary Design completion (incl. Stage 1 RSA) | 2020 Q1 |  |
| Departure Application to TII | 2020 Q1 |  |
| Part 8 process completed | 2020 Q3 |  |
| Detailed Design and Tender (incl. Stage 2 RSA) | 2020 Q4 |  |
| Construction (incl. Stage 3 RSA) | 2021 Q2 |  |
| Close out | 2021 Q4 |  |

# Conclusions and Recommendation

[Sample: The purpose of this report was to identify measures on the N XX over an X km stretch of National road to address the GE-STY-01022 HCL [INSER TII Ref. No.] safety issues identified and the assessment of the site by XX County Council.

Three options including various safety measures were identified by the XX County Council to reduce the potential safety problems identified in the study area on the N XX. The proposed measures were considered by XX Council and it is recommended that Options X be implemented based on the FYRR and the CMF.

Based on the above recommendation XX County Council seek funding from TII Road Safety as outlined in the programme in Section 5 above. ]

# Appendix A – Sample Cost Estimate



**[Please see TII Publications at** [**https://www.tiipublications.ie/downloads/**](https://www.tiipublications.ie/downloads/) **for work sheets** [**PE-PAG-02021\_Unit-6.2-Attachments.zip**](https://www.tiipublications.ie/downloads/project_appraisal_guidelines/PE-PAG-02021_Unit-6.2-Attachments.zip) **that maybe used.]**

# Appendix B – TII High Collision Locations / Road Safety Inspections

# Appendix C - Drawings

