



Stage 1 Road Safety Audit

**Residential Development, Shanganagh Castle,
Cork Little, Co. Dublin**

On behalf of **Dun Laoghaire Rathdown County Council**

Prepared By:

CST Group Chartered Consulting Engineers
1, O'Connell Street, Sligo, F91 W7YV
+353 (0)71 919 4500 info@cstgroup.ie www.cstgroup.ie

December 2019

Civil
Structural
Traffic

Table of Contents

Document History.....	2
1. Introduction.....	3
2. Items Resulting from this Stage 1 Audit	4
3. Audit Team Statement.....	11
Appendix A List of Documents Examined	12
Appendix B RSA Feedback Form.....	13

Document History

Revision	RO	RO							
Purpose of Issue: P=Preliminary PG=Progress C=Comment I=Information PL=Planning T=Tender CN=Construction	C	I							
Date:	06 12 19	12 12 19							
Originator:	SS								
Checked By:	FF								
Approved By:	FF								

© CST Group 2019

1. Introduction

1.1. This report describes a Stage 1 Road Safety Audit carried out on a proposed residential development to be accessed off the R119 Dublin Road on behalf of Dun Laoghaire Rathdown County Council. The audit was carried out between 27th November and 2nd December 2019.

1.2. The audit team were as follows:

Team Leader:

Stuart Summerfield, HNC (Civil) MCIHT FSoRSA, Partner
Certificate of Competency in Road Safety Audits (SoRSA, Jul 2015)
TII Auditor Ref. SS73290

Team Member(s):

Francis Fidgeon, Chartered Engineer, BE CEng MIEI, Partner
Certificate of Competency in Road Safety Audits (NUI Dublin, Oct 2013)
TII Auditor Ref. FF74289

1.3. The audit comprised an examination of the drawings relating to the scheme supplied by the design office. A site visit was carried out by both audit team members together on 27th November between the hours of 07:45-08:15. Weather conditions during the inspection were raining and the road surface was wet. Photographs were taken during the inspection.

1.4. This Stage 1 audit has been carried out generally in accordance with the relevant sections of the Transport Infrastructure Ireland (TII) Publication (Standard) GE-STY-01024 (Dec 2017) 'Road Safety Audit'. The audit team has examined only those issues within the design relating to the road safety implications of the scheme and has therefore not examined or verified the compliance of the design to any other criteria.

1.5. Appendix A describes the documents examined by the audit team.

1.6. All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise accident occurrence.

2. Items Resulting from this Stage 1 Audit

2.1 Collision Data

Collision data has not been supplied with this scheme.

Road Collision Data available on the Road Safety Authority Database, within the period 2014 to 2016, recorded no collisions at the existing Shanganagh Castle/Allies Road junction. Some collisions were recorded at the existing junction for Shankill FC.

2.2 General Problems / Problems at Multiple Locations

2.2.1 Internal Road Geometry

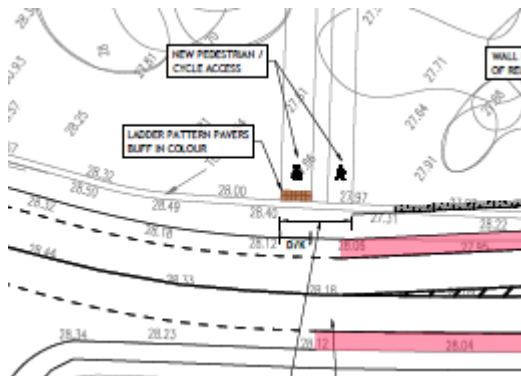
Problem: Long straight and sweeping curved roads are proposed for the internal arrangement.

Hazard: High vehicle speeds may result in impact with cyclists or crossing pedestrians.

Recommendation: Provide an alternative roads layout that incorporates the desires of the Design Manual for Roads and Streets.

2.2.2 Cyclists use of Footpath.

Problem: Dropped kerbs are provided at some locations where the cyclists seem to be encouraged to cross or make use of the footpath.



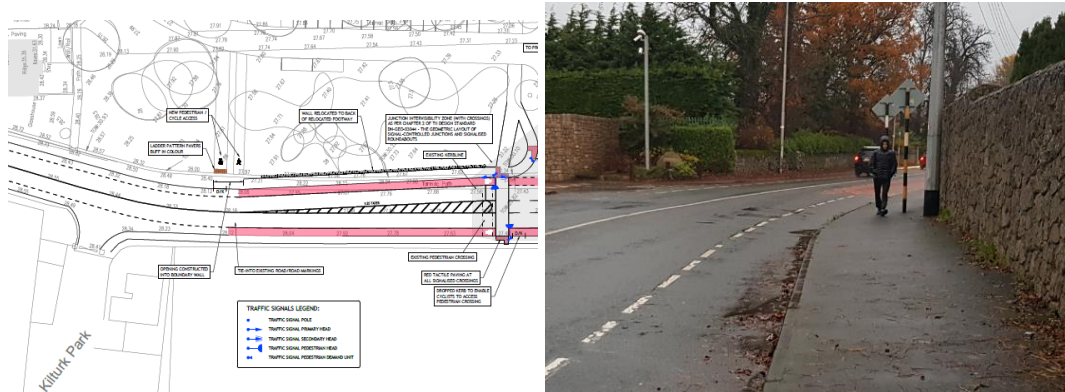
Hazard: Cycle / Pedestrian impact may result.

Recommendation: Amend the design so all users have a safe dedicated space within the roads network.

2.3 Problems at Specific Locations

2.3.1 Signalised Junction Location

Problem: The proposed signalised junction is likely to result in queuing of vehicles on the R119. This is of concern where vehicle queues extend back on the southbound approach as there is a bend in the road with limited forward visibility in advance of the junction.



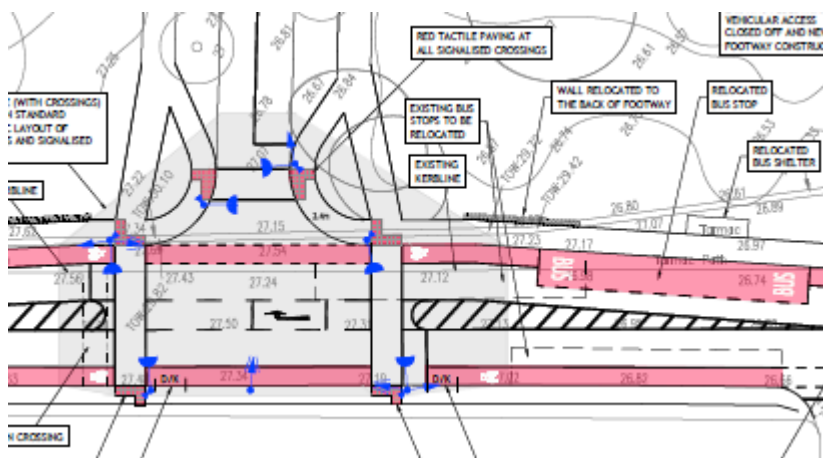
Hazard: Rear end shunts may result.

Recommendation: Relocate the junction further to the south.

Note: Combining this signalised junction with the Allies River Road junction may provide betterment to the existing junction arrangement.

2.3.2 Signalised Junction - Capacity

Problem: The right-turning lane for traffic to access the development from the south is very short. Right turning vehicles may queue back into the through lane.

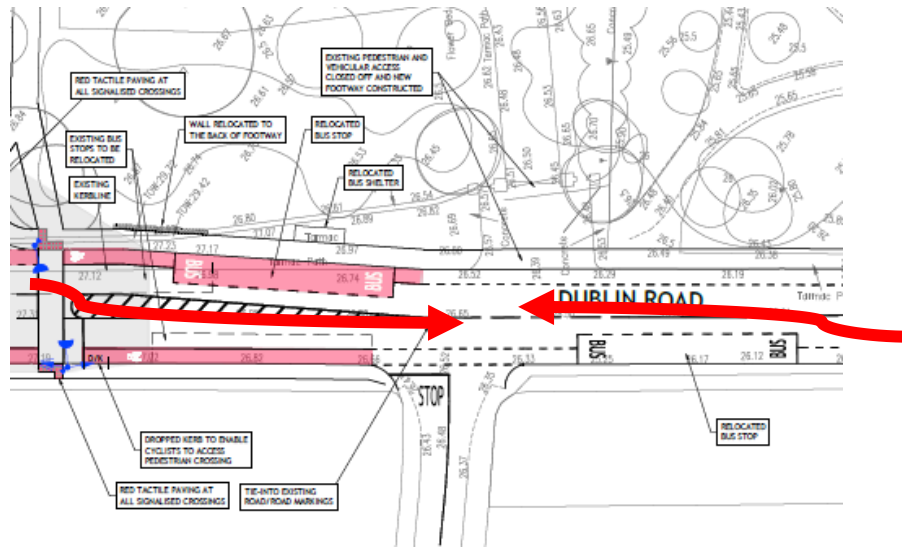


Hazard: Driver frustration may result in northbound users breaking the red signal in order to clear the junction.

Recommendation: Ensure the right-turning lane is sufficiently long to accommodate the anticipated demand.

2.3.3 R119 Bus Stops - Stagger

Problem: The relocated bus stops are separated by a short distance whereas the existing bus stop arrangement is directly opposite each other. If both stops are occupied simultaneously following traffic can now attempt to overtake the waiting bus.



Hazard: Opposing overtaking vehicles may meet in the middle of the road. Head-on impact may result.

Recommendation: Relocate the bus stops to ensure the problem above does not result.

2.3.4 Allies Road Junction – Bus Stop

Problem: There is a bus stop proposed to the south of the existing Allies Road Junction. This junction already has limited junction visibility to the right for exiting vehicles. If the bus stop is occupied users may believe it is safe to exit right out of the junction. Drivers behind the bus may also believe it is safe to overtake the bus.



Hazard: The overtaking vehicle and the vehicle exiting Allies Road may impact to the offside of the bus.

Recommendation: Relocate the bus stop.

2.3.5 R119 Eastern Bus Stop

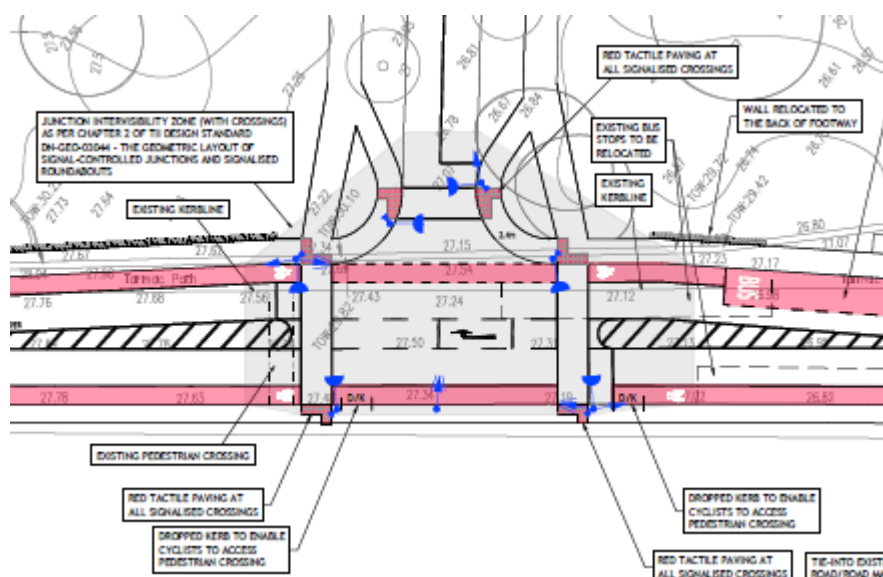
Problem: The bus stop is close to the signalised Junction. The ghost island road markings make overtaking of the bus stop an illegal movement. Following traffic may queue through the junction. Upon departure of the bus following traffic may ignore any change to a red signal and drive through the junction.

Hazard: Impact with vehicles now offered a green light may result.

Recommendation: Relocate the bus stop.

2.3.6 R119 Cyclists – Right Turn

Problem: Cyclists wishing to turn right into the development junction are not catered for. Drivers may believe the cyclists should remain in the provided cycle lane and be surprised by a cyclist departing this lane in order to make use of the right-turning pocket.



Hazard: Impact between cyclists and motorists may result.

Recommendation: Provide suitable facilities to accommodate the cyclists in compliance with the National Cycleway Manual.

2.3.7 Junction Street 5 with Street 2

Problem: Street 5 seems to continue into Street 2 at the junction. Although Street 2 is a continuous alignment traffic traveling along this street must yield priority to Street 5 traffic.



Hazard: Impact between users of the two streets may occur.

Recommendation: Change the priority at the junction so Street 5 users yield to Street 2.

2.3.8 Junction of Street 1 with Street 6

Problem: The predominate traffic movement at this junction is likely to be from Street 6 into Street 1 and vice versa, however traffic from the cul-de-sac end of Street 1 is offered priority at the junction.



Hazard: It is likely users of Street 6 will become complacent over time and fail to yield at the junction. Impact with cul-de-sac traffic may result.

Recommendation: Amend the junction priority and implement a change in materials or road level to ensure the cul-de-sac traffic obey the change in priority.

2.3.9 Cycleway Junction at Playing Fields.

Problem: The proposed cycleway junction at the playing fields is in the vicinity of a stream with deep water.




Hazard: Users may lose control when slowing or avoiding other users in the area of the junction. These users may enter the water and risk drowning.

Recommendation: Provide suitable railings to prevent entry to the water.

3. Audit Team Statement

We certify that we have examined the drawings and other information listed in Appendix A. This examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified to improve the safety of the scheme. The problems that we have identified have been noted in the report, together with suggestions for improvement which we recommend should be studied for implementation. No one in the audit team has been involved with the scheme design as shown in Appendix A.

Signed 
Stuart Summerfield
Audit Team Leader

Date *6th December 2019*

Signed 
Francis Fidgeon
Chartered Engineer
Audit Team Member

Date *6th December 2019*

Appendix A List of Documents Examined

DRAWING NO:	DRAWING NAME:	RECEIVED FROM:	DATE:
182-134-021-PR2	Proposed Road Layout	PUNCH Consulting	26/11/19
182-134-031-PR2	Proposed Road Sections	PUNCH Consulting	26/11/19
182-134-SK026 PR2	Proposed Development Entrance	PUNCH Consulting	26/11/19
788/PA 1120 Rev 3	Proposed Site Layout	PUNCH Consulting	26/11/19
SK 191121	Road Layout to Woodbrook-Layout1	PUNCH Consulting	26/11/19

Appendix B RSA Feedback Form

ROAD SAFETY AUDIT FEEDBACK FORM

CST Group Chartered Consulting Engineers
1, O'Connell Street, Sligo, F91 W7YV, Ireland

Scheme: Residential Development, Shanganagh Castle, Cork Little, Co Dublin


Audit Stage: 1 Date Audit Completed: 06/12/19 Route No. _____ Our Ref : 118155|P0


TO BE COMPLETED BY DESIGNER				TO BE COMPLETED BY AUDIT TEAM LEADER
Paragraph No. in Safety Audit Report	Problem accepted (Yes/No)	Recommended measure accepted (Yes/No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted.	Alternative measures or reasons accepted by Auditors (Yes/No)
2.2.1	N	N	The design of the street layout for the site reflects an orthogonal system as per DMURs. In order to reduce traffic speeds the site will be sign posted with 30kph speed limit and additionally speed tables/changes of materials will be constructed to encourage lower speeds internally	Yes
2.2.2	Y	Y	Localised ramp will be provided in conjunction with tactile paving at the separate cycle/pedestrian entrance on the site entrance as there is sufficient space within the site to provide same.	
2.3.1	N	N	Sufficient Sight Stopping Distance is provided at the junction for all queue lengths. Refer to 182134/SK32. Additionally, warning signage will be provided of the new signalised junction to warn drivers of the new signalised junction.	Yes
2.3.2	N	N	The capacity of the signalised junction has been evaluated for the forecast traffic loading and concluded that queuing for only one car is necessary. There will effectively be sufficient space for two vehicles to queue for the right turn when the space behind the turning bay is included.	Yes
2.3.3	Y	N	It is proposed that the bus stop on the southbound lane be omitted. As there is an existing bus stop c. 120m north of this location it could reasonably be concluded that bus users would access that one via the site pedestrian access c. 60m north of the signalised junction. It is worth noting that the Busconnects proposals omits this bus stop.	Yes

ROAD SAFETY AUDIT FEEDBACK FORM

CST Group Chartered Consulting Engineers
1, O'Connell Street, Sligo, F91 W7YV, Ireland

TO BE COMPLETED BY DESIGNER				TO BE COMPLETED BY AUDIT TEAM LEADER
Paragraph No. in Safety Audit Report	Problem accepted (Yes/No)	Recommended measure accepted (Yes/No)	Describe alternative measure(s). Give reasons for not accepting recommended measure. Only complete if recommended measure is not accepted.	Alternative measures or reasons accepted by Auditors (Yes/No)
2.3.4	Y	N	It is not acceptable to the employer to retain the bus stop in its existing location – immediately north of the Allies River junction. If it was relocated north of the Stop line, it would only be c.90 metres from the next stop north, which is impractical. It is therefore proposed to remove the bus stop. It is worth noting that the Busconnects proposals omits this bus stop.	Y
2.3.5	Y	N	Refer to 2.3.3	Yes
2.3.6	Y	N	'Cyclist Dismount' markings will be applied to the footpath at the west side of Dublin Road at the signalised crossing.	Yes
2.3.7	Y	Y		
2.3.8	Y	Y		
2.3.9	Y	Y		

Signed:  Designer Date: 12/12/19
Philip Bayfield
PUNCH Consulting Engineers

Signed:  Audit Team Leader Date: 12/12/19
Stuart Summerfield
CST Group Chartered Consulting Engineers

Signed:  Employer Date: 17/12/19
Sean Manton
Dun Laoghaire Rathdown County Council

* Item 2.3.6
DLRCC Transport does not agree with the 'Cyclists Dismount' solution and has asked for a junction design that includes a 'jug turn', as shown in the National Cycle Manual, or a variation thereof.

 17/12/19