

RPS Consulting Engineers

Residential Development at
Collins Avenue, Co. Dublin

Combined Stage 1 & 2
Road Safety Audit

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Rev	Prepared By	Reviewed By	Approved By	Issue Date	Reason for Revision
2.0	TAG	AOR	TAG	7 th Sept 2021	Final
1.0	TAG	AOR	TAG	28 th July 2021	Draft Report

Table of Contents

1	Introduction	1
2	Project Description	2
3	Main Report.....	3
4	Observations	5
5	Road Safety Audit Team Statement	6
	Appendix A – Road Safety Audit Brief Checklist	7
	Appendix B – Documents Submitted to the Road Safety Audit Team	9
	Appendix C – Feedback Form	11
	Appendix D – Problem Locations	13

1 Introduction

1.1 General

This report results from a Combined Stage 1 & 2 Road Safety Audit on the proposed Residential Development, at Collins Avenue, Co. Dublin, carried out at the request of Mr Padraic Mac Giolla Bhríde of RPS Consulting Engineers.

The members of the Road Safety Audit Team are independent of the design team, and include:

Mr. Aly Gleeson

(MBA, MEng, BSc, RSACert, CEng, FIEI)
Road Safety Audit Team Leader

Mr. Alan O'Reilly

(BA BAI MSc CEng MIEI RSACert)
Road Safety Audit Team Member

The Road Safety Audit took place during July 2021 and comprised an examination of the documents provided by the designers (see Appendix B). In addition to examining the documents supplied the Road Safety Audit Team visited the site of the proposed measures on the 15th July 2021. Weather conditions during the site visit were dry and the road surface was dry. Traffic volumes during the site visit were moderate, pedestrian and cyclist volumes were low and traffic speeds were considered to be generally within the posted speed limit.

Where problems are relevant to specific locations these are shown on drawing extracts within the main body of the report and their locations are shown in Appendix D. Where problems are general to the proposals sample drawing extracts are within the main body of the report, where considered necessary.

This Combined Stage 1 & 2 Road Safety Audit has been carried out in accordance with the requirements of GE-STY-01024 - Road Safety Audit (December 2017), contained on the Transport Infrastructure Ireland (TII) Publication's website.

The scheme has been examined and this report compiled in respect of the consideration of those matters that have an adverse effect on road safety and considers the perspective of all road users. It has not been examined or verified for compliance with any other standards or criteria. The problems identified in this report are considered to require action in order to improve the safety of the scheme and minimise collision occurrence.

If any of the recommendations within this road safety audit report are not accepted, a written response is required, stating reasons for non-acceptance. Comments made within the report under the heading of Observations are intended to be for information only. Written responses to Observations are not required.

1.2 Items Not Submitted for Auditing

Details of the following items were not submitted for audit; therefore, no specific problems have been identified at this stage relating to these design elements, however where the absence of this information has given rise to a safety concern it has been commented upon in Section 3: -

- Personal Injury Collision data
- Vehicle swept paths
- Drainage
- Public Lighting
- Visibility splays

2 Project Description

2.1 General

A new residential development is proposed on Collins Avenue in Co. Dublin (see Figure 2-1). Collins Avenue is typically a two-way single carriageway road that extends in an eastern direction from its junction with the R132. It includes public footways on both sides of the carriageway, public lighting and a 50kph speed limit. Collins Avenue widens to four westbound lanes (including 1No left turn lane, 1No straight-ahead lane, and 2No right turn lanes) on its approach to the R132, and one eastbound lane.

Bus stops are located near the new development access, with one on-street bus stop in the westbound direction, and one bus lay-by in the eastbound direction.

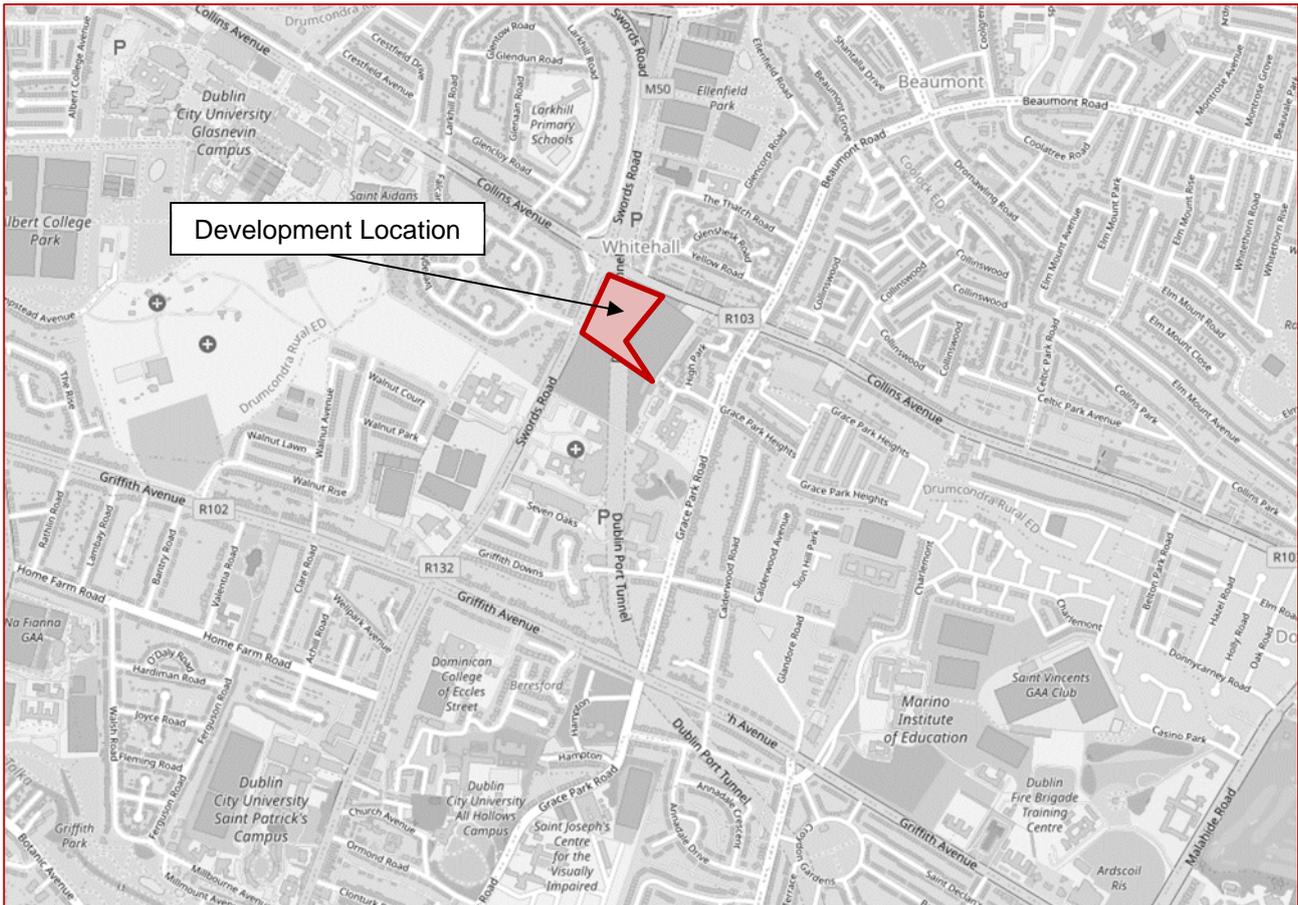


FIGURE 2-1: LOCATION PLAN

The proposed development is located on a brownfield site and shall include several apartment blocks and a creche, with a mix of on-street and undercroft parking. The development shall include a single access road that provides connection between the development's parking provision, and Collins Avenue.

Parking provision includes 27 on-street parking spaces (including 1No Mobility Parking Space), and 22 bicycle parking spaces. Four additional on-street car parking spaces have been provided for the Creche building, which is located at the northern extents of the development, near the Collins Avenue access. The undercroft car park includes 17 car parking spaces and 2 motorbike parking spaces.

3 Main Report

3.1 General Problem

Location: Drawing No WHL-COA-ZZ-XX-DR-A-0100 (Rev P-1)

Summary: Information regarding drainage not provided to the Audit Team.

Information regarding drainage within the proposed development has not been provided to the Audit Team. Should inadequate drainage measures be provided, this could lead to ponding on the footpath or within the carriageway resulting in slips and trips during wet or icy weather.

Recommendation

Ensure the proposed drainage provision removes all surface water from the pedestrian and vehicle catchment areas.

3.2 General Problem

Location: Drawing No WHL-COA-ZZ-XX-DR-A-0100 (Rev P-1)

Summary: No lighting has been indicated within the development.

No public lighting columns have been indicated within the development. A lack of public lighting provision within the development may lead to drivers being unable to see vulnerable road users within the footpath or carriageway during the hours of darkness, resulting in an increased risk of collisions between vehicles and vulnerable road users.

Recommendation

Public lighting should be provided within the development.

3.3 Problem

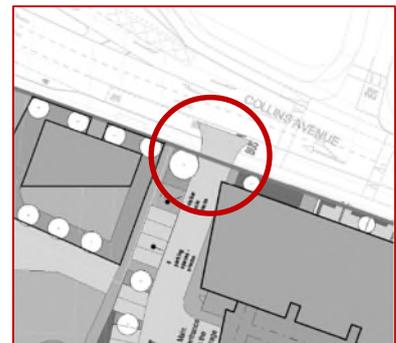
Location: Drawing No WHL-COA-ZZ-XX-DR-A-0100 (Rev P-1)

Summary: No junction control or priority type has been indicated at the development access.

The junction control (stop, yield etc.), and subsequently priority, at the proposed development access has not been indicated. This could increase the risk of overshoot collisions where drivers fail to slow and stop when exiting the development's access.

Recommendation

Ensure the junction control at the development access is clear (via signage/road markings) to drivers exiting the development.

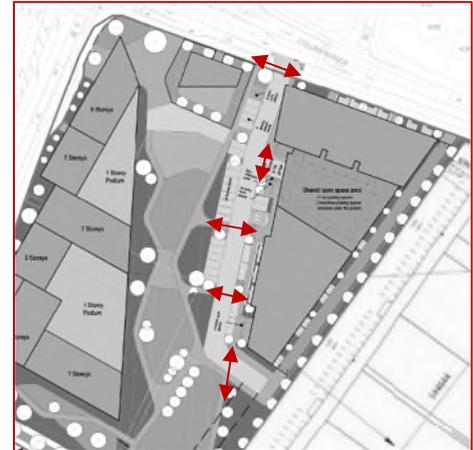


3.4 General Problem

Location: Drawing No WHL-COA-ZZ-XX-DR-A-0100 (Rev P-1)

Summary: No tactile paving provision within the development.

Formal pedestrian crossing points, including dropped kerbs and tactile paving, have not been indicated within the development. A failure to provide dropped kerbs at crossing points and along pedestrian desire lines could result in mobility impaired pedestrians being unable to safely and independently enter the carriageway to cross to the opposite footpath. This could result in slips, trips or falls as these pedestrians attempt to descend the kerb. Similarly, a failure to provide tactile paving at dropped kerb locations could lead to an increased risk of visually impaired pedestrians unintentionally entering the carriageway where they could be struck by vehicles.



Recommendation

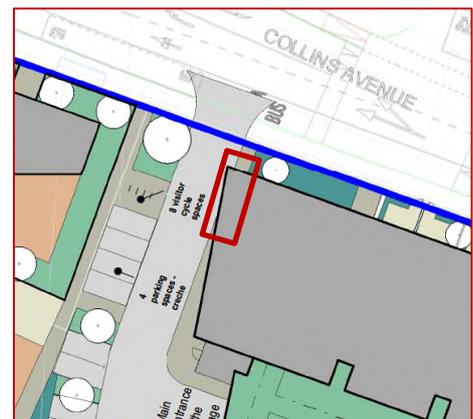
Formal uncontrolled pedestrian crossings, including dropped kerbs and tactile paving, should be provided at pedestrian crossing points/desire lines.

3.5 Problem

Location: Drawing No WHL-COA-ZZ-XX-DR-A-0100 (Rev P-1)

Summary: Unclear if Building Overhang will have sufficient clearance to high sided vehicles entering the development.

The apartment block in the northeast corner of the development appears to overhang the access road. The plan does not indicate what the vertical clearance between the carriageway level and the structure is, so it has not been possible to determine if there is sufficient clearance between the structure and a high sided vehicle. Insufficient clearance may lead to material damage collisions, and critical structural damage to the structure.



Recommendation

Ensure sufficient clearance between the carriageway and the structure is provided for all vehicle types.

3.6 Problem

Location: Drawing No WHL-COA-ZZ-XX-DR-A-0100 (Rev P-1)

Summary: Large vehicles may be forced to reverse long distances within the development, increasing the risk of rear-end-shunt and VRU/vehicle collisions.

A turning head is not indicated at the end of the access road. Large vehicles may therefore be unable to safely turn their vehicle before exiting, increasing the risk of HGV drivers needing to reverse along the development access road to exit the development. This may lead to rear-end-shunt and vehicle/VRU collisions.



Recommendation

Provide a turning head at the end of the access road.

3.7 Problem

Location: Drawing No WHL-COA-ZZ-XX-DR-A-0100 (Rev P-1)

Summary: The location of trees at pedestrian crossing points may block or reduce pedestrian/driver inter-visibility, increasing the risk of a vehicle/pedestrian collisions.

Trees are indicated near pedestrian crossings within the development. The location of the trees may block inter-visibility between drivers and pedestrians. This could lead to pedestrians stepping out onto the crossing being insufficiently aware of approaching vehicles and in turn drivers being insufficiently aware of the pedestrians commencing a crossing. This may result in pedestrian/vehicle collisions and serious injury.



Recommendation

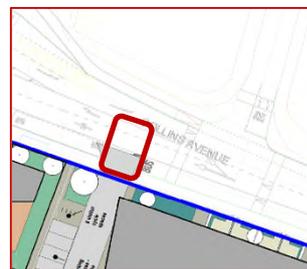
Ensure trees do not block driver/pedestrian inter-visibility on the approach to pedestrian crossings.

4 Observations

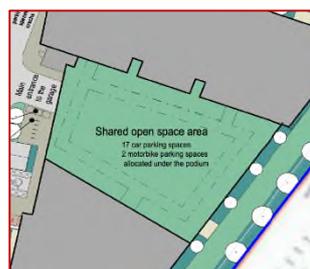
- 4.1 Access radii at development access on Collins Avenue shown extending into the carriageway. Assume this is a CAD error.
- 4.2 A Yellow box may be required on Collins Avenue at the development access to support right turning vehicles into, and out of, the development access. The need for a Yellow box road marking should be investigated when developing the Traffic and Transport Assessment.
- 4.3 The plans provided to the Audit Team did not include the carpark arrangement under the podium. The Designer should ensure that swept path analysis is undertaken to confirm that all drivers can safely enter and exit the 17No parking spaces provided.
- 4.4 It is assumed that the pedestrian footway on the eastern side of the access road continues under the overhanging structure. If this is not the case, ensure a continuous pedestrian footway is provided on the eastern side of the access to accommodate safe VRU movements through the development, including cyclists who will require access to the cycle parking south of the access to the undercroft carpark.



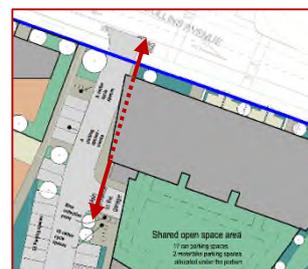
Observation 4.1



Observation 4.2



Observation 4.3



Observation 4.4

5 Road Safety Audit Team Statement

We certify that we have examined the drawings referred to in this report. The examination has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme.

The problems identified have been noted in this report together with associated safety improvement suggestions, which we would recommend should be studied for implementation.

No one on the Road Safety Audit Team has been involved with the design of the scheme.

ROAD SAFETY AUDIT TEAM LEADER

Aly Gleeson

Signed:



Dated:

7th Sept 2021

ROAD SAFETY AUDIT TEAM MEMBER

Alan O'Reilly

Signed:



Dated:

7th Sept 2021

Appendix A – Road Safety Audit Brief Checklist

Have the following been included in the audit brief?: (if 'No', reasons should be given below)

	Yes	No
1. The Design Brief	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Departures from Standard	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Scheme Drawings	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Scheme Details such as signs schedules, traffic signal staging	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Collision data for existing roads affected by scheme	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Traffic surveys	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Previous Road Safety Audit Reports and Designer's Responses/Feedback Form	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Previous Exception Reports	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Start date for construction and expected opening date	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Any elements to be excluded from audit	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Any other information?

(if 'Yes', describe below)

<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Appendix B – Documents Submitted to the Road Safety Audit Team

DOCUMENT/DRAWING TITLE	DOCUMENT/DRAWING NO.	REVISION
Proposed Site Plan	WHL-COA-ZZ-XX-DR-A-0100	P-1

Appendix C – Feedback Form

Road Safety Audit Feedback Form

Scheme: Residential Development at Collins Avenue, Co. Dublin

Route No.: N1, R103

Audit Stage: Combined Stage 1 & 2 RSA **Date Audit Completed:** 27th July 2021

To Be Completed by Designer				To Be Completed by Audit Team Leader
Paragraph No. in Safety Audit Report	Problem Accepted (Yes/No)	Recommended Measure(s) Accepted (Yes/No)	Describe Alternative Measure(s). Give reasons for not accepting recommended measure	Alternative Measures or Reasons Accepted by Auditors (Yes/No)
3.1	Yes	Yes		
3.2	Yes	Yes		
3.3	Yes	Yes		
3.4	Yes	Yes		
3.5	Yes	Yes		
3.6	Yes	Yes		
3.7	Yes	Yes		

Signed:  Designer **Date** 6th Sept '21

Signed:  Audit Team Leader **Date** 7th Sept '21

Signed: _____ Employer **Date** _____

Appendix D – Problem Locations

