



**Proposed Mixed Use Development
Ravelrig Road
Balerno
Edinburgh**

Transport Assessment

April 2020

Prepared for:



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1. INTRODUCTION

Background

- 1.1 Transport Planning Ltd has been appointed by [REDACTED] to advise on transport related issues associated with an application to develop land to the east and west of Ravelrig Road, Balerno for a mixed use development.
- 1.2 The application is for a proposed mixed use development comprising residential development, doctors' surgery, community facility (Class 10), outdoor recreational area and associated landscaping, access and infrastructure works.
- 1.3 The application site is bounded on the north by the Glasgow to Edinburgh via Shotts and West Calder railway line, to the east by new residential development currently under construction, to the south by existing and new residential development and to the west by a dense tree belt and open agricultural land. Ravelrig Road passes through the site generally on a north to south alignment. A site location plan is included as Figure 1 of Appendix A.
- 1.4 An indicative layout plan prepared by the applicant's architects is also included in Appendix A.
- 1.5 The Scottish Government's guidelines, "Transport Assessment Guidance", along with relevant transport related paragraphs of Scottish Planning Policy (SPP) and Planning Advice Note (PAN)75 (Planning and Transport) recommend that a scoping exercise is submitted to the Local Authority to lay out fundamental parameters prior to the preparation of the Transport Assessment.
- 1.6 A scoping letter was issued to the City of Edinburgh Council (CEC) on the 17th January 2020 and a response was received on 27th January 2020. Scoping correspondence is included in Appendix B.
- 1.7 A summary table based on scoping is included in Chapter 9.

Development proposals

- 1.8 The proposal is to develop the site for mixed use including residential, a GP surgery and a Community Hub and as outlined above. The anticipated number of homes will be up to 350 in the form of detached, semi-detached and terraced houses.
- 1.9 The exact size and scale of both the GP Surgery and the Community Hub have yet to be fixed up, however a 1,000 sq m building has been assumed for the GP Surgery while a 500 sq m building has been assumed for the Community Hub.
- 1.10 Vehicular access to the site will be in the form of a minimum of two new priority junctions from Ravelrig Road.

Methodology and Policy guidance

1.11 The following Policy and guidance has been consulted in the preparation of this report:-

- Edinburgh Local Development Plan 2016 (the LDP), developer contributions and infrastructure delivery supplementary guidance and LDP action programme;
- CEC's Parking Standards contained within Edinburgh design guidance;
- CEC's Movement and Development;
- Scottish Planning Policy (SPP);
- Planning Advice Note 75, Planning for Transport (PAN75); and
- Transport Assessment Guidance.

Local Development Plan 2016

1.12 The LDP was adopted by CEC in November 2016 and includes the following transport related policy:

"Policy Des 7 Layout Design

- *Planning permission will be granted for development where:*
 - a) *a comprehensive and integrated approach to the layout of buildings, streets, footpaths, cycle paths, public and private open spaces, services and SUDS features has been taken*
 - b) *new streets within developments are direct and connected with other networks to ensure ease of access to local centres and public transport and new public or focal spaces are created where they will serve a purpose*
 - c) *the layout will encourage walking and cycling, cater for the requirements of public transport if required and incorporate design features which will restrict traffic speeds to an appropriate level and minimise potential conflict between pedestrians, cyclists and motorised traffic*
 - d) *car and cycle parking areas and pedestrian and cycle paths are overlooked by surrounding properties*
 - e) *safe and convenient access and movement in and around the development will be promoted, having regard especially to the needs of people with limited mobility or special needs*
 - f) *public open spaces and pedestrian and cycle routes are connected with the wider pedestrian and cycle network including any off-road pedestrian and cycle routes where the opportunity exists."*

1.13 Regarding points a) to c) and f) an integrated approach has been taken to the planning of the proposed development, ensuring that access for all modes links with existing infrastructure.

- 1.14 Regarding point d) the layout of the proposed development maintains parking in secure areas. The needs of people with limited mobility (point e) will be fully considered in the detailed design of the proposed development.
- 1.15 The proposed development is considered to comply with policy Des 7.
- 1.16 In addition to the above, the site is not specifically identified as a housing site within the LDP. However, para 15 of the LDP states in part *“The plan continues to promote the reuse of previously developed land and relies on windfall sites to contribute to meet the city’s housing requirement.”*
- 1.17 This para illustrates that the Council anticipates a ‘reliance’ on windfall sites to help meet the housing requirement. The application site is one such windfall site.
- 1.18 Policy Hou 1 refers transport impacts to Policies Tra 8 and Del 1. Tra 8 *“Provision of Transport Infrastructure”* refers to *“Development proposals relating to major housing or other development sites... which would generate a significant amount of traffic...”* In traffic terms the development proposal is modest. This report shows that traffic associated with the proposal is projected to be able to be accommodated on the surrounding road network.
- 1.19 Finally, the site lies within contribution zones as identified in the *“Developer contributions and infrastructure delivery supplementary guidance”* of August 2018. More recently (January 2020) the Scottish Government advised CEC not to adopt this guidance, however it is commented upon in Chapter 3.

Report structure

- 1.20 Following this Chapter, the report has been structured as follows:
- Chapter 2 - Current accessibility and transport provision for the application site;
 - Chapter 3 - The development and its transport infrastructure;
 - Chapter 4 - People trip assessment
 - Chapter 5 - Measures to influence travel behaviour
 - Chapter 6 - Existing road network;
 - Chapter 7 - Generation and distribution of proposed mixed use development;
 - Chapter 8 - Site access and traffic impact of the proposed mixed use development; and
 - Chapter 9 - Summary and conclusions.

2. CURRENT ACCESSIBILITY AND TRANSPORT PROVISION FOR THE SITE

Introduction

- 2.1 This Chapter provides an overview of the current accessibility and public transport provision at the application site. Each mode of transport will be discussed in accordance with the hierarchy of travel modes set out in the SPP and will take account of promoting travel choices by considering walking, cycling and public transport ahead of the private car.
- 2.2 The main pedestrian routes surrounding the application site have been assessed with appropriate pedestrian catchments in mind which can be established using ‘door-to-door’ journey times of 20 – 30 minutes.
- 2.3 The overall title of pedestrian covers fit and able bodied people, disabled people, with or without the use of wheelchairs, the infirm, the elderly and those who have children in push-chairs or buggies. The following sections and paragraphs will deal with pedestrian access and will concentrate on external routes and linkages adjacent to the applicant site, with consideration being given to the different groups that make up ‘pedestrians’.
- 2.4 The proposed development will involve pedestrians making the return trip to or from work, the local centre, schooling etc. therefore door-to-door walking distances of up to 1,600m (approx. 20 mins) in line with advice contained in Planning Advice Note 75 have been considered from the application site.
- 2.5 Figure 2 of Appendix A illustrates the 400m, 800m and 1,600m isochrones around the site centre. Figure 2 also indicates existing pedestrian and cycle routes in the vicinity of the site and the key local facilities.

Walking

Ravelrig Road (section between the northern and southern boundaries of the site)

- 2.6 There is no footway provision along this section of Ravelrig Road, although there is a grassed verge on the eastern side for a short distance northwards from the edge of the built up area. The following photo shows this provision.



Grassed verge on eastern side of Ravelrig Road looking north towards the application site which straddles both sides of Ravelrig Road

Ravelrig Road (section between southern site boundary and Lanark Road West)

- 2.7 There is footway provision presently provided on the eastern side of Ravelrig Road along its full length, whilst a short section of footway exists on the western side between Lanark Road West and just north of the western cul-de-sac off Ravelrig Road. The following photos show examples of this provision.



Eastern footway along Ravelrig Road looking south towards Dalmahoy Crescent



Eastern footway along Ravelrig Road looking north towards Dalmahoy Crescent



Eastern footway along Ravelrig Road looking south towards Turner Avenue



Western footway on Ravelrig Road looking north from Lanark Road West



Eastern footway on Ravelrig Road looking south towards Lanark Road West



Western footway on Ravelrig Road looking north from the cul-de-sac off Ravelrig Road



Western footway on Ravelrig Road looking south towards the cul-de-sac off Ravelrig Road



The raised table/ level pedestrian crossing at the mouth of the cul-de-sac off Ravelrig Road



Western footway on Ravelrig Road looking north from Lanark Road West



Western footway on Ravelrig Road looking south towards Lanark Road West

- 2.8 There are dropped kerb crossings of the side roads on the eastern side of Ravelrig Road as shown below.



Dropped kerb crossing of Dalmahoy Crescent



Dropped kerb crossing of Turner Avenue

Lanark Road West

- 2.9 Lanark Road West has footway provision on both sides of the carriageway along its full length within the built up area. The following photos show examples of this provision.



Northern footway along Lanark Road West looking west from Ravelrig Road



Northern footway along Lanark Road West looking east towards Ravelrig Road



Southern footway along Lanark Road West looking west from Ravelrig Road



Southern footway along Lanark Road West looking east towards Ravelrig Road



Northern footway along Lanark Road West looking east from Ravelrig Road



Northern footway along Lanark Road West looking west towards Ravelrig Road



Southern footway along Lanark Road West looking east from Ravelrig Road



Southern footway along Lanark Road West looking west towards Ravelrig Road



Northern footway along Lanark Road West looking east towards Bridge Road



Northern footway along Lanark Road West looking west from Bridge Road



Southern footway along Lanark Road West looking east towards Bridge Road



Southern footway along Lanark Road West looking west from Bridge Road



Northern footway along Lanark Road West looking west towards Bridge Road



Northern footway along Lanark Road West looking east from Bridge Road



Southern footway along Lanark Road West looking west towards Bridge Road



Southern footway along Lanark Road West looking east from Bridge Road

- 2.10 There are dropped kerb crossings of the side roads on Lanark Road West as shown in the photos below.



Dropped kerb crossing of Ravelrig Road

- 2.11 There are signalised crossings of Lanark Road West as part of the Bridge Road traffic signals as shown below.



The signalised pedestrian crossing on Lanark Road West as part of the Bridge Road traffic signals



The signalised pedestrian crossing on Lanark Road West as part of the Bridge Road traffic signals

Bridge Road

2.12 Bridge Road also has footway provision on both sides of the carriageway as shown below.



Western footway along Bridge Road looking north towards Lanark Road West



Western footway along Bridge Road looking south from Lanark Road West



Eastern footway along Bridge Road looking north towards Lanark Road West



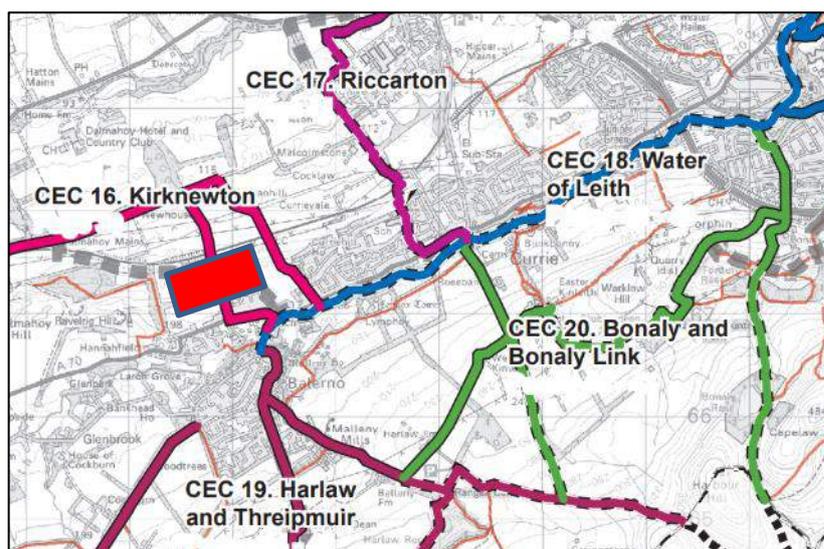
Eastern footway along Bridge Road looking south from Lanark Road West

- 2.13 There is signalised crossing of Bridge Road as part of the Lanark Road West traffic signals as shown below.



Signalised pedestrian crossing on Bridge Road as part of the Lanark Road West traffic signals

- 2.14 All of the aforementioned footways on Ravelrig Road, Lanark Road West and Bridge Road link the application site with the surrounding local area offering direct and easy walking connections with local facilities including employment, shopping, education and leisure.
- 2.15 In addition, there are designated core paths in the area (principally CEC 16 which passes through the site on Ravelrig Road. Paths 17, 18 and 19 are also readily accessible from the site as shown in the Core Paths extract contained below. A copy of the core paths map is included in Appendix A.



Core Paths Plan extract

Cycling

- 2.16 National Cycle Network route No. 75, which basically runs in an east-west direction and connects the Cowal Peninsula in Argyll with Edinburgh via Glasgow, runs along Ravelrig Road as shown in the Sustrans extract below, thus immediately passing between the parcels of the application site.



Extract from Sustrans mapping

- 2.17 There is NCR75 signage on Ravelrig Road plus other cycle signage in the surrounding area such as on Lanark Road West as shown below.



National Cycle Route 75 Signage on Ravelrig Road



National Cycle Route 75 Signage on Ravelrig Road



Cycle Signage on Lanark Road West at Ravelrig Road

- 2.18 CEC's cycle / quiet routes GIS mapping also illustrates NCR75 and a copy of the cycle map is included in Appendix A.

Public transport

2.19 Bus and rail services can be reached from the application site.

Bus services

2.20 A pair of bus stops is located to the south east of the application site on Bridge Road. The following photos show the Bridge Road bus stops.



Northbound bus stop on Bridge Road to the south of the A70 Lanark Road West



Southbound bus stop on Bridge Road to the south of the A70 Lanark Road West

- 2.21 A shelter and timetable information display board is provided at the northbound bus stop on Bridge Road, while the southbound bus stop has a timetable information display board.
- 2.22 At the time of writing, the bus routes that serve the Bridge Road bus stops are summarised below in Table 2.1.

Table 2.1 – Bus Routes Serving the Application Site			
Route No.	Route Description	Frequency	
		Mon – Sat Daytime	Evenings/ Sun
Bridge Road			
44 (Lothian Buses)	Balerno (Cockburn Crescent) – Balerno (Bridge Road) – Curriehill – Juniper Green – Slateford Station – Haymarket – Princes Street – London Road – Brunstane – Eastfield – Musselburgh – Wallyford	At least every 10 mins Mon – Fri 12 mins on Sat	30 mins evenings 20 mins Sun daytime
X44 (Lothian Buses)	Balerno (Cockburn Crescent) – Balerno (Bridge Road) – Curriehill – Juniper Green – Limited Stop – Slateford Station – Limited Stop – Haymarket – Princes Street – Waterloo Place	4 city bound AM peak hour journeys 3 Balerno bound PM peak hour journeys	-

- 2.23 It can be seen from the above table that bus stops within walking distance of the application site are served by a regular and frequent services.

Rail services

- 2.24 Curriehill rail station lies within a 30 minutes walk/ 10 minutes cycle to the east of the application site and affords regular connection by rail to Edinburgh city centre as well as Livingston town centre and Glasgow City centre.



Curriehill station

- 2.25 As well as access by foot, there are 12 cycle spaces plus a park & ride car park with 39 spaces, including 2 accessible spaces.



Entrance to Curriehill Park & Ride Car Park off Curriehill Road

- 2.26 Curriehill Station has two platforms which have large passenger waiting shelters. A pedestrian footbridge allows access over the railway, while an at-grade footway along Curriehill Road is available to the west of the station park & ride vehicular access.



Curriehill eastbound platform with sheltered waiting area and pedestrian footbridge



Curriehill westbound platform with sheltered waiting area

2.27 Table 2.2 below summarises the train service from Curriehill station.

Table 2.2 – Trains Serving Curriehill Station			
Route No.	Route Description	Frequency	
		Mon – Sat Daytime	Evenings/ Sun
Scotrail	Glasgow (Central) – Uddingston – Bellshill – Holytown – Carfin – Cleland – Hartwood – Shotts – Fauldhouse – Breich – Addiewell – West Calder – Livingston South – Kirknewton – Curriehill – Wester Hailes – Kingsknowe – Slateford – Edinburgh (Haymarket) – Edinburgh (Waverley)	60 mins with extra peak hour journeys	120 mins

Existing road network

Ravelrig Road (between built up area and the railway line)

2.28 The section of Ravelrig Road between the edge of the built up area and the Glasgow to Edinburgh via Shotts railway line effectively splits the application site into two halves. The southern section of Ravelrig Road is subject to a 30 mph speed limit (reducing to 20mph south of the site boundary) with the remainder being de-restricted (i.e. subject to the national speed limit).



Ravelrig Road looking north from the national speed limit signs with the application site on either side



Ravelrig Road looking south towards the 30 mph speed limit signs with the application site on either side



Ravelrig Road looking north towards the national speed limit signs with the application site on either side



Ravelrig Road looking south from the 30 mph speed limit signs with the application site on either side



Ravelrig Road looking north from the southern boundary of the application site



Ravelrig Road looking south from the southern boundary of the application site (and showing 20mph zone)

Ravelrig Road (from the southern boundary of the site to Lanark Road West)

- 2.29 The section of Ravelrig Road to the south of the southern boundary of the application site and Kingston Road lies wholly within the 30mph speed limit, while a 20 mph speed limit also applies over some sections.



Ravelrig Road looking north from Dalmahoy Crescent with the 20 mph/ 30 mph speed limit signs



Ravelrig Road looking south from Dalmahoy Crescent



Ravelrig Road looking north from Cassidy Wynd (the Cala Homes development)



Ravelrig Road looking south from Cassidy Wynd (the Cala Homes development)



Ravelrig Road looking north from Turner Avenue



Ravelrig Road looking south from Turner Avenue



Ravelrig Road looking north from Lanark Road West



Ravelrig Road looking south towards Lanark Road West

A70 Lanark Road West

- 2.30 The A70 is one of the main arterial routes into the centre of Edinburgh and connects the villages of Balerno, Currie and Juniper Green as its heads eastwards. Through Balerno, the A70 is called Lanark Road West and is a single carriageway, which is subject to a 30mph speed limit.



Lanark Road West looking west from Ravelrig Road



Lanark Road West looking east towards Ravelrig Road



Lanark Road West looking west towards Ravelrig Road



Lanark Road West looking east from Ravelrig Road



Lanark Road West looking west from Bridge Road



Lanark Road West looking east towards Bridge Road



Lanark Road West looking west towards Bridge Road

Bridge Road

- 2.31 Bridge Road is a main road into the centre of Balerno from Lanark Road West. Bridge Road is a single carriageway and is subject to a 30mph speed limit.



Bridge Road looking North towards Lanark Road West



Bridge Road looking South from Lanark Road West

Summary

- 2.32 The application site is located adjacent to existing development and the linkages that affords. Local facilities within the area including shopping and schools are reachable on foot from the application site. The application site is also well situated in relation to cycling opportunities and is able to utilise existing bus routes and rail services.

3. PROPOSED DEVELOPMENT

Introduction

- 3.1 This chapter of the report will provide a summary of the scale and nature of the proposed mixed use development and initial comments on the access to serve the application site.

Scale and nature of development

- 3.2 The mixed use development will comprise of up to 350 homes, a GP surgery and a community hub on a site which straddles Ravelrig Road.
- 3.3 The majority of the 350 homes are envisaged to be on the western side of Ravelrig Road as will be the GP surgery and the community hub and will be accessed by two new priority junctions from Ravelrig Road. A further new priority junction from Ravelrig Road will access development to the eastern side of the site.
- 3.4 An indicative layout, produced by the applicant's architects, is contained in Appendix A.

Connectivity to existing facilities

- 3.5 It is considered that the most likely destinations that residents of the proposed residential part of the mixed use development will travel to are shops, leisure facilities, work and schools. The nearest foodstore (Scotmid Co-operative) is situated in Balerno village centre lies and is accessible via Ravelrig Road, Lanark Road West and Bridge Road – well within the 1,600m walk distance to local facilities laid out in Planning Advice Note 75.
- 3.6 Primary schooling is available at Dean Park (Marchbank Gardens) and St Cuthbert's RC (Hutchison Crossway) while secondary education is catered for at Balerno Community High (Bridge Road) and St Augustine's RC High (Broomhouse Road). Walking isochrone analysis indicates that both Dean Park primary and Balerno Community High schools lie within the Council parameters for walking to school. Figures 3 and 4 (Appendix A) show the walking routes to each of these schools from the site. Pupils attending St Cuthbert's primary and St Augustine's RC High would likely be bussed.
- 3.7 Figure 2 contained in Appendix A illustrates the sites connectivity.

Development access

Pedestrians / cyclists

- 3.8 Pedestrians would be able to access the proposed mixed use development from Ravelrig Road.
- 3.9 Within the application site, a new footway/ footpath will be created on the eastern side of Ravelrig Road from the new vehicular access, created to serve the eastern part of the site, and will connect with the existing provision to the south along Ravelrig Road. Safe crossing areas of Ravelrig Road, in the form of double "d" islands or raised tables,

would assist those pedestrians who wish to cross to and from the western part of the site. It is also likely that the 20mph limit would be extended northwards owing to the presence of new development.

- 3.10 Any required extensions to street lighting will also be provided.
- 3.11 Also within the application site, the creation of a new core path/ cycle path is proposed, running from the southeast corner to the north west corner.
- 3.12 New footways/ footpaths will be developed in accordance with current guidance, some of which will connect directly into this facility.
- 3.13 All new footway/ footpath links will also be provided to a standard suitable for shared use by cyclists where such links are able to be shared appropriately.

Public transport

Bus

- 3.14 The application site is located in the area of a well established local bus network and the footway links available in the area provide easy connectivity with onward bus services.
- 3.15 The bus stops and bus routes on Bridge Road are within walking distance of the development.
- 3.16 Notwithstanding this, initial discussions with the principal bus operator, Lothian Buses, have taken place with a view to the possibility of diverting some of the existing Bridge Road routes to serve Ravelrig Road and into the application site subject to suitable facilities being available.
- 3.17 These facilities do not refer only to a suitable road network for bus turning within the site but also to the provision of toilet facilities to enable comfort breaks for drivers.
- 3.18 Lothian have indicated that rather than divert existing services, they anticipate a new service could depart from Ravelrig, call at Curriehill and make its way into the west of the City via the garden district.
- 3.19 Meantime, the current service 44 operates on a regular and frequent basis and observation confirms the service has capacity to cater for any anticipated uplift in bus patronage.

Train

- 3.20 Footway links also exist off site to enable walking (or cycling) to Curriehill station, while the new core path/ cycle path would provide a more direct route via Newmills Road.

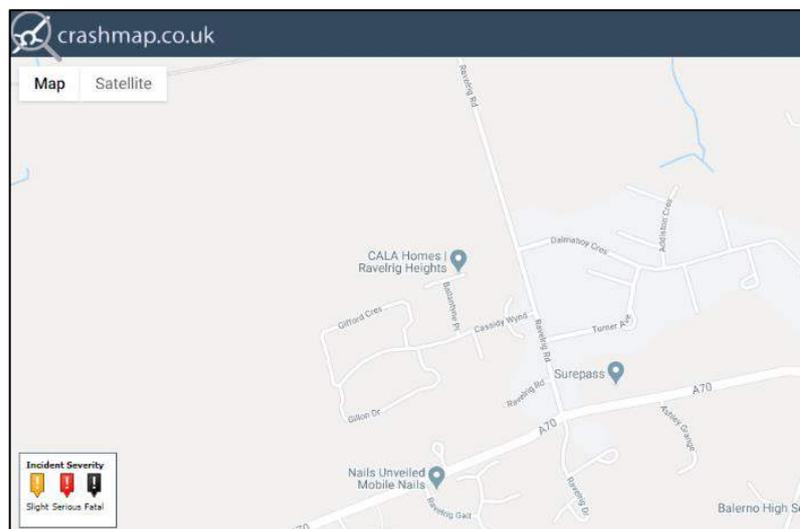
Road access

- 3.21 As the application site straddles Ravelrig Road, new priority junctions will be created to access both parcels of the site.

- 3.22 A minimum of one new priority junction will be created to serve the eastern parcel of land, while a minimum of two new priority junctions will be created to serve the western parcel.
- 3.23 Furthermore, the section of Ravelrig Road to the south of the most northerly priority junction will be widened to a minimum of 6 metres where the current carriageway width is less than that dimension.
- 3.24 Sketch TP658/SK/003 (Appendix C) shows an indicative layout of these new priority junctions along with the widening on the section of Ravelrig Road.

Ravelrig Road

- 3.25 A review of accident data using the resource ‘Crashmap’ reveals no recorded injury accidents on Ravelrig Road over the last 5 years.



Parking provision

- 3.26 The appropriate levels of parking standards for residential land use are contained in the Edinburgh design guidance, updated in 2020. Pages 58 and 59 discuss parking standards, Page 60 shows the public transport accessibility levels within Edinburgh and page 61 has a table showing the relevant parking standards for each land use class.
- 3.27 As the site lies within City Parking Standards Zone 3, the maximum vehicular parking standard applicable to this zone is 1 space per home irrespective of the number of habitable rooms.
- 3.28 Car parking spaces will be provided appropriately throughout the development.
- 3.29 Parking provision for the GP surgery and community hub will be agreed at the detailed design stage.

Cycle parking

- 3.30 The Edinburgh design guidance recommends a minimum cycle parking provision of 1

for a home with 1 habitable room, 2 per home with 2 and 3 habitable rooms and 3 per home with 4 or more habitable rooms.

- 3.31 Appropriate cycle parking provision will be accommodated within the scheme.
- 3.32 As with car parking provision, cycle parking provision for the GP surgery and community hub will be agreed at the detailed design stage.

Accessible parking and electric vehicle provision

- 3.33 Where vehicle parking is communal in residential developments, 8% of spaces should be marked as accessible parking bays. Electric vehicle provision in parking court areas should be 1 for every 6 spaces.

Car club

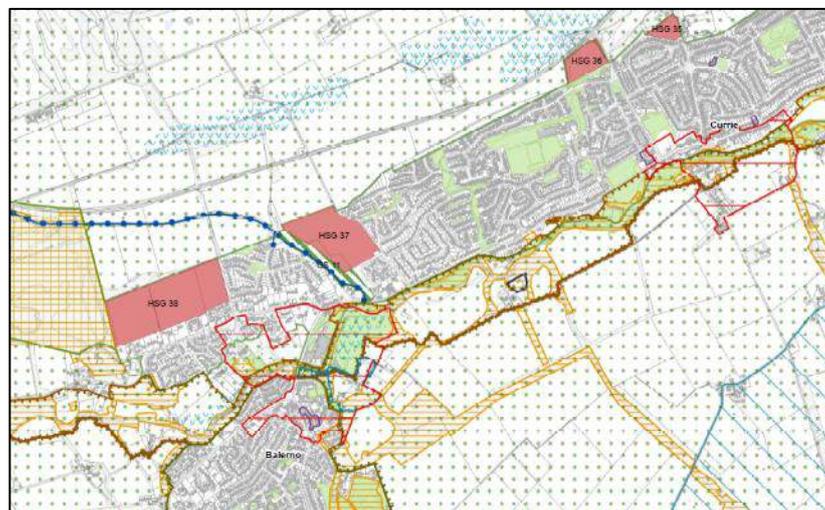
- 3.34 In addition to the above points covering general parking, cycle parking, accessible parking and electric vehicle provision, the applicants propose to make contributions towards car club spaces appropriately located within the scheme.

Site internals

- 3.35 Internally, the site layout will be developed taking cognisance of the Scottish Government policy document ‘Designing Streets’.
- 3.36 It is also anticipated that Quality Audits dealing with the internal site layout will be required and an early workshop to discuss Quality Auditing involving Transport Planning Ltd; the scheme architects; the clients engineers; CEC transportation; CEC planning and a road safety auditor is recommended.

CEC Local Development Plan (LDP), Action Programme February 2020.

- 3.37 The latest LDP Action Programme dates from February 2020. In this document there are actions identified for LDP sites HSG 37 (Newmills, Balerno) and HSG 38 (Ravelrig Road), the locations of which are shown in the extract of the LDP South West Proposals Map



Location of LDP Sites HSG37 and HSG38

3.38 As these sites lie close to the application site, the action programme information for each of these two LDP sites is discussed below.

HSG37 – Newmills Road, Balerno (application no. 15/05100/FUL).

3.39 The decision notice for this full application for 206 homes was issued on 17th July 2017 following the signing of a legal agreement. Development is currently well underway. The actions identified with this site and their apparent status are summarised in Table 3.1 below:

Table 3.1 – Action Programme for HSG37 – Newmills, Balerno			
Action	Further Details	Planning and legal Agreements references and status	Estimated Delivery Date
Gillespie Crossroads and Hermiston Park and Ride Contributions	£164,835 and £206,000 respectively	Secured by s.75 agreement	2021/22 (crossroads) and not stated for park and ride
Bus infrastructure	Provide new bus stop facilities on A70, and improve the pedestrian access between these and the proposed site. Crossing point required. Need for bus stop facilities to be confirmed in context of wider bus corridor work.	Secured by s.75 agreement	Crossing Delivered
Cycle access to Ravelrig Road	Newmills Road site to Ravelrig Road via old railway line: New 4m wide 1km long path along old railway line to Ravelrig Road (new off road NCN 75), includes tree clearance, ramp to road and crossing of burn.	Not funded through signed s.75.	2020/21
High quality pedestrian/cycle routes through site	-	To be delivered as integral part of development secured through planning conditions.	2020/21
Improved pedestrian/cycle crossing facilities on A70	Layout to be determined, but to incorporate appropriate dropped kerb and tactile paving arrangements to current standards.	Partly secured through signed s.75 (one crossing secured).	2020/21
New footway along east frontage boundary, linking into Newmills Road footways	-	To be delivered as integral part of development secured through planning conditions.	2020/21
Provide additional cycle parking at Curriehill Station	-	£500 secured in s.75	2020/21
Provide extended car park at Curriehill Station	-	£28,340 financial contribution secured by signed s.75	2020/21

Upgrade cycle routes between Newmills Road and Curriehill Station	Detailed route to be confirmed (cost is based on alternative route using NCN75, including toucan crossing of A70 and ramp to NCN75, alternative is to reopen tunnel mouth to link with NCN75).	Partly secured through s.75 agreement (one crossing secured) £61,340	2020/21
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3.40 To date only one of the actions has been implemented (Bus infrastructure) and it is assumed that the remainder will be implemented in the next 12 months or thereby.

HSG38 – Ravelrig Road (application nos. 14/02806PPP and 16/05744/AMC).

3.41 The latest decision notice for this site for 140 homes was issued on 25th April 2017 following the signing of a legal agreement. Development is currently well underway. The actions identified with this site and their status are summarised in Table 3.2 below:

Table 3.2 – Action Programme for HSG38 – Ravelrig Road			
Action	Further Details	Planning and legal Agreements references and status	Estimated Delivery Date
Gillespie Crossroads and Hermiston Park and Ride Contributions	£94,192 and £120,000 respectively	Secured by s.75 agreement	2021/22 (crossroads) and not stated for park and ride
Bus infrastructure	-	Not funded through a signed s.75	2020/21
Improved pedestrian/cycle crossing facilities on A70 and Ravelrig Road	Newmills Road site to Ravelrig Road via old railway line: New 4m wide 1km long path along old railway line to Ravelrig Road (new off road NCN 75), includes tree clearance, ramp to road and crossing of burn.	Not funded through signed s.75.	2020/21
New cycle path along Ravelrig Road	Provide high quality pedestrian/cycle routes through site to be secured by condition, connecting with and making improvements to adjacent walking and cycle routes e.g. NCN75 which is on-road along Ravelrig Road: New 3.5m shared use path along the northern boundary of the site, approximately 500m. New 4m wide 1km long path along part of Ravelrig Road to join up with the re-routed NCN75.	To be delivered as integral part of development secured through planning conditions..	2020/21
New footway along west side of Ravelrig Road linking into Ravelrig Road and A70 footways	-	To be delivered as integral part of development secured through planning conditions..	2020/21
Provide upgrade to cycle routes between site and Curriehill Station	Detailed route to be confirmed.	£55,040 secured for Curriehill Station improvements.	2020/21

3.42 To date none of the actions has been implemented and, like the Newmills Road development, it is assumed that they would expected to be implemented in the next 12

months or thereby.

Action Programme summary

- 3.43 Once the new footway along the west side of Ravelrig Road is in place, the proposed development site will be able to connect into this facility as well as connecting into any re-routing of NCN75, which will form an integral part of the proposal.
- 3.44 The other action programme items for these other two sites can combine with similar actions and/or contributions that could be applied to the application site to build on, enhance and extent connectivity in the area.

Supplementary guidance, developer contributions & infrastructure delivery, august 2018

- 3.45 CEC have been advised by Scottish Government not to adopt the above guidance. However, the site lies within three zones:-
- The Calder and Hermiston transport contribution zone;
 - The Hermiston park and ride contribution zone; and
 - The Gillespie Crossroads transport contribution zone.
- 3.46 It will be necessary to understand how CEC propose to deal with the guidance in light of the Governments view.

Summary

- 3.47 The site can be developed to be permeable to those on foot, travelling by cycle, using public transport or private car.
- 3.48 Cycle parking provision in line with City standards can be accommodated.
- 3.49 Appropriate parking levels for private vehicles, accessible parking and electric vehicle charging will also be provided.
- 3.50 Car Club contributions are also proposed to be made by the applicants.
- 3.51 The 2020 Action Programme indicates that measures are underway in the wider area to enhance wider transport connectivity and the site can build on these.

4. PEOPLE TRIP ASSESSMENT

Introduction

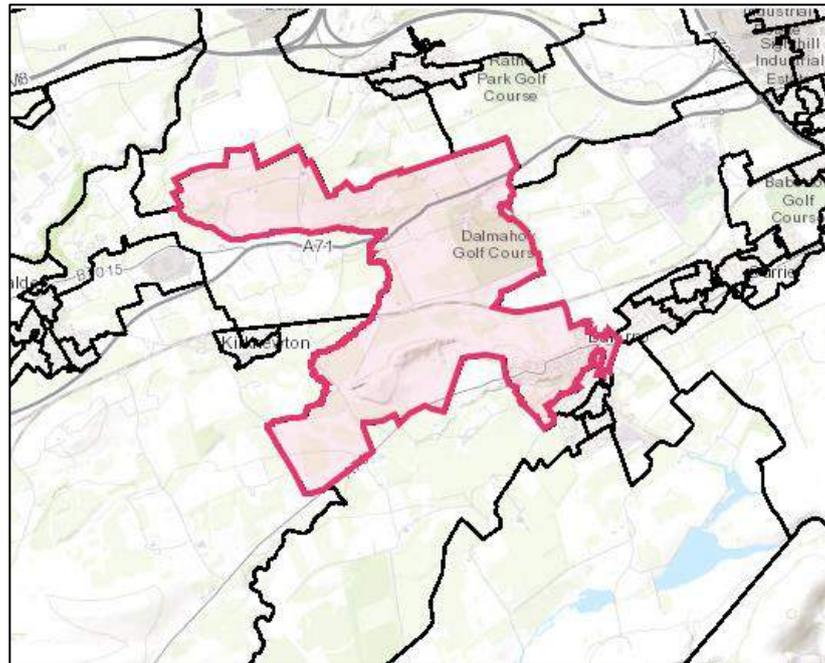
- 4.1 It is recommended within the publication ‘Transport Assessment Guidance’ to complete a people trip assessment for all development proposals.

People trip modal split

- 4.2 It is useful to understand the existing travel to work and education habits of the residents of the area to allow a modal split to be determined for new residential developments. Using the Scotland’s Census website, the “travel to work and place of study” modal splits for Scotland, City of Edinburgh Council, Pentland Hills (the electoral ward) and the local Datazone Sector 01008423 (Ravelrig Road) have been extracted and are shown in Table 4.1 below.

Table 4.1 – Modal Split for Journey to Work or Education Trips				
Travel Mode	Scotland	City of Edinburgh Council	Pentland Hills	S01008423 (Ravelrig Road)
Walk	18.48%	25.36%	19.70%	14.33%
Cycle	1.30%	3.85%	2.09%	2.23%
Bus	13.39%	24.87%	18.39%	11.68%
Train	3.77%	1.62%	0.98%	1.67%
Taxi	0.70%	0.38%	0.49%	0.83%
Car	41.14%	26.60%	36.86%	41.31%
Car Passenger	9.01%	5.43%	6.43%	13.07%
Works or Studies from Home	11.29%	11.29%	14.54%	13.07%
Other	0.92%	0.59%	0.52%	1.81%
Total	100%	100%	100%	100%

- 4.3 Appendix D contains more detail of the journey to work or education modal splits for Scotland, City of Edinburgh Council, Pentland Hills and Datazone Sector 01008423 (Ravelrig Road) – a map of the Datazone sector is shown overleaf.



Datzone Sector 01008423 (Ravelrig Road)

- 4.4 The modal splits for the City of Edinburgh Council, Pentland Hills and the Datzone sector are similar in some modes but differ in other modes. Therefore, as the application site lies adjacent to local Datzone sector 01008423, it is considered that the modal split for this local Datzone sector is the most appropriate one to be used for predicting the people trips associated with the proposed mixed use development.
- 4.5 In order for the local modal split to be used in predicting people trips, an adjustment is required to remove the ‘work at home’ modal split and re-proportion the other travel modes. This results in the following modal split for Datzone sector 01008423 as shown in Table 4.2.

Table 4.2 – Adjusted Modal Split for Journey to Work or Study Trips excluding Works or Studies at Home	
Travel Mode	Percentage
Walk	16.48%
Cycle	2.56%
Bus	13.44%
Train	1.92%
Taxi	0.96%
Car	47.52%
Car Passenger	15.04%
Other	2.08%
Total	100%

Summary

- 4.6 Suitable people trip modal splits to be applied to the proposed mixed use development have been established which will be used to predict people trips during the weekday AM and PM peak hours.

5. MEASURES TO INFLUENCE TRAVEL BEHAVIOUR

Introduction

- 5.1 The previous Chapters have demonstrated that the application site is in an area with a good level of pedestrian provision, will benefit from well-maintained and well lit footways and is close to cycling opportunities and public transport services. The bus routes close to the application site provide a high level of service plus rail services are available. The use of a residential travel plan (pack) offers the potential to influence the travel behaviour of residents through raising awareness of the travel choices available at and around the application site.

Travel plan framework

- 5.2 It is proposed that a residential travel plan will be developed, to be issued as part of the welcome package for each household within the development.
- 5.3 This chapter of the report provides an outline of the potential objectives and implementation methods for a residential travel plan. This framework should only be used as a preliminary outline of the likely contents of the travel plan / pack.
- 5.4 The general objectives of a residential travel plan can be summarised as follows
- To help address the needs of future residents to access a full range of facilities for work, education, health, leisure, shopping etc. by providing information on accessibility and alternative travel modes;
 - To reduce the traffic generated by the development to a lower level of private car usage than would be predicted with a similar site without the inclusion of a travel plan;
 - To promote healthier lifestyles and a sustainable vibrant local community; and
 - To maximise the positive travel attributes of the location of the site through the use of good design principles that seek to increase permeability through the development for walking and cycling.

Implementation

- 5.5 To meet these objectives, the travel plan will be implemented through a range of measures including physical provision of linkages within and from the application site together with the provision of a residential travel pack.

Residential travel pack

- 5.6 A residential travel pack is a package of measures designed to reduce the number and length of car trips generated by a development, which also supports more sustainable forms of travel.

- 5.7 The residential travel pack will be contained within welcome packs issued to each new householder within the development. The information contained in the travel pack will highlight the available alternatives to private car use to help residents make an informed decision about travel choices.
- 5.8 The key role of residential travel packs is to ensure that during the marketing of the development, new householders are made aware of sustainable travel opportunities in their area and are provided with accurate and up to date information to enable them to make an informed decision over their choice of travel mode.
- 5.9 The travel pack (which may be web based) is likely to contain *inter alia* the following information:
- maps showing local pedestrian/ cycle and public transport networks;
 - public transport routing and timetable information;
 - railway station information;
 - details of any car share clubs, car club provision, cycle parking areas and local convenience retail opportunities;
 - website links for local travel operators; and
 - contact details for local transport user groups.

6. EXISTING ROAD NETWORK

Introduction

- 6.1 This chapter contains details of the collection of baseline traffic information and the estimation of future year traffic projections.

Scope of study area and existing traffic conditions

- 6.2 Residential developments typically generate the largest amount of traffic during the weekday AM and PM peak periods.

- 6.3 Scoping indicated that the study area should include the following junctions:

1. A70 Lanark Road West/ Ravelrig Road/ Ravelrig Wynd crossroads;
2. A70 Lanark Road West/ Bridge Road traffic signals;
3. Long Dalmahoy Road/ Ravelrig Road priority;
4. A71/ Long Dalmahoy Road priority;
5. Curriehill Road/ Long Dalmahoy Road priority; and
6. A71/ Curriehill Road priority.

- 6.4 Classified junction surveys were undertaken on Tuesday 3rd March 2020. The weekday AM and PM peak periods have been extracted from these junction surveys. For clarity, the surveys pre dated any changes to travel patterns that may have resulted from the coronavirus outbreak.

- 6.5 The weekday AM peak hour from these surveys was between 0730 and 0830 and the weekday PM peak hour was between 1645 and 1745. The turning movements at the junctions within the study area during these two peak hours are shown in Diagrams 1a&b respectively (Appendix E). The 2020 traffic count data was fully classified by vehicle type, with the OGV1s, OGV2s, and PCVs shown in Diagrams 2a&b (Appendix E). This has allowed the count data to be converted into standard Passenger Car Units (PCU's) for the purposes of assessment as shown in Diagrams 3a&b (Appendix E).

Years of assessment

- 6.6 In accordance with Transport Assessment Guidance, junction assessment will be completed for the anticipated year of opening of the development, which for present purposes is assumed to be 2025.

Traffic growth

- 6.7 The guidance offered in Transport Assessment Guidance states *“No future year transport growth will be applied beyond year of opening or first year of assessment. The assumption is that any growth prior to opening year should apply since nothing is being done as a consequence of the development to influence this, but that beyond that time the emphasis should be on the applicant/developer addressing the impacts of their additional transport movements and ensuring that measures are in place to deal with those specific impacts.”*

- 6.8 Traffic growth is linked to the economy and an element of this is directly attributable to the likelihood of future development within the surrounding area. Due to the nature of the adjacent area, the National Road Traffic Forecasts (NRTF) 'Low' growth factors, obtained from the Department of the Environment, Transport and the Regions, is considered appropriate and will be used to predict future background traffic levels on the local road network for the future design year. The 'low' growth factor between the years of 2020 and 2025 corresponds to an overall growth factor of 1.030%. This low growth factor will be applied to the 2020 flows to give 2025 predicted traffic flows.
- 6.9 The 2025 weekday AM and PM projected traffic flows are shown in Diagrams 4a&b (Appendix E).

Committed developments

- 6.10 There is a committed development in the vicinity of the site that requires consideration, that being the Cala Homes site immediately to the south and west of Ravelrig Road, Balerno for 120 homes.
- 6.11 The Cala Homes site is partly built out (circa 84 homes) and hence some traffic associated with this new residential development will be contained within the traffic surveys which have recently been carried out as part of this study. However, for the purposes of this assessment, all of the committed traffic information associated with the full development content has been carried forward into this report.
- 6.12 This, together with the application of NRTF, accounts for all likely background traffic growth up to the study year.
- 6.13 The Transport Assessment for the Cala Homes development was reviewed and the generated trips and distributions extracted. Diagrams 5a&b (Appendix E) show the traffic flows for the committed development during the weekday AM and PM peak hours.

2025 projected + committed development traffic flows

- 6.14 The trips associated with the Cala Homes committed development have then been added to the 2025 projected traffic flows to create 2025 projected + committed development traffic flows for the weekday AM and PM peak hours and are shown in Diagrams 6a&b (Appendix E).

Summary

- 6.15 The extent of the study area has been laid out.
- 6.16 The 2020 base traffic flows have been projected to 2025 design year flows using Low Growth NRTF factors.
- 6.17 Committed development in the vicinity of the site the south and west of Ravelrig Road, Balerno (Cala Homes) has been considered.
- 6.18 The trips associated with committed development have been obtained and then been added to create 2025 design year + committed development traffic flows.

7. GENERATION AND DISTRIBUTION OF THE PROPOSED DEVELOPMENT

Introduction

- 7.1 Discussion on the volume and distribution of the traffic likely to be generated by the proposed mixed use development, and likely to impact on the study network, is presented in this Chapter.

Trip generation

People trip generation rates

Residential

- 7.2 An interrogation of the TRICS database for Land Use ‘03 – Residential’ and Category ‘A – Houses Privately Owned’ multi-modal sites has resulted in the people trip rates as shown below in Table 7.1.

Time Period	Land Use	Range (No. of Units)	People Trip Rates per dwelling		
			Arrive	Depart	Total
Weekday AM Peak	Houses Privately Owned	7 to 432	0.202	0.703	0.905
Weekday PM Peak	Houses Privately Owned	7 to 432	0.522	0.276	0.798

- 7.3 The TRICS output for the ‘Residential – Houses Private Owned’ multi-modal total people trip rates is included within Appendix F.

Estimation of generated people trips

- 7.4 The predicted people trips associated with the proposed development of 350 homes during the weekday AM and PM peak hours, using the revised modal split in Table 4.2, in conjunction with the people trip rates in Table 7.1, are shown in Table 7.2.

Travel Mode	Weekday AM Peak			Weekday PM Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Walk	12	41	52	30	16	46
Cycle	2	6	8	5	2	7
Bus	10	33	43	25	13	38
Train	1	5	6	4	2	5
Taxi	1	2	3	2	1	3
Car Driver	34	117	151	87	46	133
Car Passenger	11	37	48	27	15	42
Other	1	5	7	4	2	6
TOTAL	71	246	317	183	97	279

- 7.5 Table 7.2 shows that a total of 151 vehicular trips (two-way) are predicted during the weekday AM peak hour and 133 during the weekday PM peak hour.

GP surgery

7.6 An interrogation of the TRICS database for '05 Health' and Category 'G – GP Surgeries' multi-modal sites has resulted in the people trip rates as shown in Table 7.3 below.

Table 7.3 – People Trip Rates for Proposed GP Surgery					
Time Period	Land Use	Range (sq m GFA)	People Trip Rates per 100 sq m		
			Arrive	Depart	Total
Weekday AM Peak	GP Surgeries	350 to 1,400	4.490	1.982	6.472
Weekday PM Peak	GP Surgeries	350 to 1,400	3.634	4.246	7.880

7.7 Full TRICS output for the 'Health – GP Surgeries' multi-modal people trip rates is included within Appendix F.

Estimation of generated people trips

7.8 The predicted people trips associated with the proposed development of a 1,000 sq m GP surgery during the weekday AM and PM peak hours, using the revised modal split in Table 4.2, in conjunction with the people trip rates in Table 7.3, are shown in Table 7.4.

Table 7.4 – People Trips for Proposed GP Surgery (1,000 sq m)						
Travel Mode	Weekday AM Peak			Weekday PM Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Walk	7	3	11	6	7	13
Cycle	1	1	2	1	1	2
Bus	6	3	9	5	6	11
Train	1	0	1	1	1	2
Taxi	0	0	1	0	0	1
Car Driver	21	9	31	17	20	37
Car Passenger	7	3	10	5	6	12
Other	1	0	1	1	1	2
TOTAL	45	20	65	36	42	79

7.9 Table 7.4 shows that a total of 31 vehicular trips (two-way) are predicted during the weekday AM peak hour and 37 during the weekday PM peak hour.

Community hub

7.10 An interrogation of the TRICS database for '07 Leisure' and Category 'Q – Community Centre' multi-modal sites has resulted in the people trip rates as shown in Table 7.5 below.

Table 7.5 – People Trip Rates for Proposed Community Hub					
Time Period	Land Use	Range (sq m GFA)	People Trip Rates per 100 sq m		
			Arrive	Depart	Total
Weekday AM Peak	Community Centre	100 to 2,329	1.337	0.144	1.481
Weekday PM Peak	Community Centre	100 to 2,329	1.673	1.056	2.729

7.11 Full TRICS output for the 'Leisure – Community Centre' multi-modal people trip rates is included within Appendix F.

Estimation of generated people trips

7.12 The predicted people trips associated with the proposed development of a 500 sq m community hub during the weekday AM and PM peak hours, using the revised modal split in Table 4.2, in conjunction with the people trip rates in Table 7.5, are shown in Table 7.6.

Table 7.6 – People Trips for Proposed Community Hub (500 sq m)						
Travel Mode	Weekday AM Peak			Weekday PM Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Walk	1	0	1	1	1	2
Cycle	0	0	0	0	0	0
Bus	1	0	1	1	1	2
Train	0	0	0	0	0	0
Taxi	0	0	0	0	0	0
Car Driver	3	0	4	4	3	6
Car Passenger	1	0	1	1	1	2
Other	0	0	0	0	0	0
TOTAL	7	1	7	8	5	14

7.13 Table 7.6 shows that a total of 4 vehicular trips are predicted during the weekday AM peak hour and 6 during the weekday PM peak hour.

Vehicle trip generation rates

Residential

- 7.14 Alternatively, vehicle trip rates have also been extracted from TRICS as a comparison.
- 7.15 A detailed interrogation of the TRICS database for Land Use ‘03 – Residential’ and Category ‘A– Houses Privately Owned’ non multi-modal sites has been made and has resulted in the vehicle trip rates as shown below in Table 7.7.

Table 7.7 – Vehicle Trip Rates for the Proposed Residential Development					
Time Period	Land Use	Range (No. of Units)	Vehicle Trip Rates per dwelling		
			Arrive	Depart	Total
Weekday AM Peak	Houses Privately Owned	7 to 432	0.129	0.385	0.514
Weekday PM Peak	Houses Privately Owned	7 to 432	0.313	0.168	0.481

- 7.16 The TRICS output for the ‘Residential – Houses Privately Owned’ vehicle trip rates is included within Appendix F.

Residential area traffic survey

- 7.17 As part of the suite of traffic surveys, the junctions of Ravelrig Road and Dalmahoy Crescent and Ravelrig Road and Turner Avenue were surveyed allowing a local hourly trip rate to be calculated. From the Scottish Assessors Association website, there are 117 properties within this residential area. Therefore, the surveyed residential vehicle trip rates are shown in Table 7.8 below.

Table 7.8 – Vehicular Trip Rates Based on Actual Traffic Survey						
Travel Mode	Weekday AM Peak			Weekday PM Peak		
	Arr	Dep	Tot	Arr	Dep	Tot
Dalmahoy Crescent/ Turner Avenue	0.111	0.379	0.491	0.385	0.239	0.624

Comparison of trip rates and actual traffic survey approaches

- 7.18 Converting the extracted TRICS people trip rates into equivalent vehicular trip rates allows a comparison to be made with the extracted TRICS vehicular trip rates and the surveyed vehicular trip rates from the existing residential area accessed via Dalmahoy Crescent and Turner Avenue. All the aforementioned trip rates are summarised in Table 7.9 below.

Table 7.9 – Vehicular Trip rate comparison						
Travel Mode	Weekday AM Peak			Weekday PM Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Equivalent Veh Trip Rate for Houses Privately Owned People Trip Rates	0.102	0.354	0.456	0.263	0.139	0.402
Veh Trip Rate for Houses Privately Owned	0.129	0.385	0.514	0.313	0.168	0.481
Surveyed Residential Area (Dalmahoy Crescent and Turner Avenue)	0.111	0.379	0.490	0.385	0.239	0.624

7.19 It can be seen in Table 7.9 overleaf that the vehicle trip rates provide the highest results during the weekday AM peak hour while the surveyed residential area trip rates provide the highest results during the weekday PM peak hour (both sets of trip rates highlighted in bold above).

Estimation of generated vehicular trips

7.20 The predicted vehicular trips to the proposed residential development of 350 homes during the weekday AM and PM peak hours, using the highlighted vehicle trip rates from Table 7.9. above, are shown in Table 7.10 below.

Table 7.10 – Vehicle Trips for the Proposed Residential Development (350 homes)						
Travel Mode	Weekday AM Peak			Weekday PM Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Car	45	135	180	135	84	218

7.21 Table 7.10 shows that a total of 180 vehicular trips (two-way) are predicted during the weekday AM peak hour and 218 during the weekday PM peak hour applying the vehicle trip rates from Table 7.5.

GP surgery

7.22 An interrogation of the TRICS database for '05 Health' and Category 'G – GP Surgeries' non multi-modal sites has resulted in the vehicle trip rates as shown in Table 7.11 below.

Table 7.11 – Vehicle Trip Rates for the Proposed GP Surgery					
Time Period	Land Use	Range (sq m GFA)	Vehicle Trip Rates per 100 sq m		
			Arrive	Depart	Total
Weekday AM Peak	GP Surgeries	325 to 1,400	2.641	1.368	4.009
Weekday PM Peak	GP Surgeries	325 to 1,400	2.214	2.301	4.515

7.23 Full TRICS output for the 'Health – GP Surgeries' non multi-modal vehicle trip rates is included within Appendix F.

Estimation of generated vehicular trips

7.24 The predicted vehicular trips to the proposed GP surgery development of 1,050 sq m during the weekday AM and PM peak hours, using the TRICS vehicle trip rates from the GP Surgeries category, are shown in Table 7.12 below.

Table 7.12 – Vehicle Trips for the Proposed GP Surgery						
Travel Mode	Weekday AM Peak			Weekday PM Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Car	26	14	40	22	23	45

7.25 Table 7.12 shows that a total of 40 vehicular trips are predicted during the weekday AM peak hour and 45 during the weekday PM peak hour applying the vehicle trip rates from Table 7.11.

Community hub

7.26 An interrogation of the TRICS database for '07 Leisure' and Category 'Q – Community Centre' non multi-modal sites has resulted in the vehicle trip rates as shown in Table 7.13 below.

Time Period	Land Use	Range (sq m GFA)	Vehicle Trip Rates per 100 sq m		
			Arrive	Depart	Total
Weekday AM Peak	Community Centre	100 to 2,329	0.982	0.367	1.349
Weekday PM Peak	Community Centre	100 to 2,329	0.726	0.782	1.508

7.27 Full TRICS output for the 'Leisure – Community Centre' non multi-modal vehicle trip rates is included within Appendix F.

Estimation of generated vehicular trips

7.28 The predicted vehicular trips to the proposed Community Hub of 500 sq m during the weekday AM and PM peak hours, using the TRICS vehicle trip rates from the Community Centre category, are shown in Table 7.14 below.

Travel Mode	Weekday AM Peak			Weekday PM Peak		
	Arrive	Depart	Total	Arrive	Depart	Total
Car	5	2	7	4	4	8

7.29 Table 7.14 shows that a total of 7 vehicular trips are predicted during the weekday AM peak hour and 8 during the weekday PM peak hour applying the vehicle trip rates from Table 7.13.

Trip distribution

Residential

7.30 The use of a gravity model methodology is normally considered appropriate for establishing a distribution pattern for assignment of new vehicular trips generated for new residential developments. However, it is considered that using the background traffic patterns in and out of the study area would be more appropriate in this instance.

7.31 The location of the site means that routes to and from it are restricted in number and the surrounding network, having been surveyed, provides a clear illustration of traffic patterns leaving and entering the study area. New vehicular trips have therefore been apportioned to each external route in line with surveyed traffic as per Table 7.15.

Table 7.15 – Distribution of Vehicular Trips				
External Route	Weekday AM Peak		Weekday PM Peak	
	In	Out	In	Out
A71 (west)	15.5%	19.8%	18.4%	14.0%
A71 (east)	6.7%	28.0%	27.0%	5.3%
A70 Lanark Road West (east)	23.5%	38.4%	37.6%	37.5%
Bridge Road	25.1%	11.6%	11.5%	23.7%
A70 Lanark Road West (west)	29.2%	2.2%	5.4%	19.6%

7.32 The generated traffic flows for the proposed residential development during the weekday AM and weekday PM peak hours, using the generated trips set out in paragraph 7.21 above, have been assigned using the above trip distribution. Diagrams 7a&b contained in Appendix E show the generated traffic flows throughout the study network.

GP surgery and community hub

7.33 Due to the nature of these land uses, the majority of trips during the weekday AM and PM peaks hours will be staff travelling to and leaving from the GP surgery and the community hub. Hence, it is considered that mirroring the background traffic patterns in and out of the study area for the generated traffic associated with both the proposed GP surgery and the community hub would also be appropriate.

7.34 Therefore, the generated traffic flows for the proposed GP surgery and the community hub during the weekday AM and weekday PM peak hours, using the trip rates set out in paragraph 7.25 and 7.29 respectively above, have been assigned using the above trip distribution. Diagrams 8a&b and 9a&b contained in Appendix E show these generated traffic flows throughout the study network.

Mixed use development total traffic flows

7.35 The total generated traffic flows for the proposed residential development of up to 350 homes, the proposed GP surgery of 1,000 sq m and the community hub of 500 sq m during the weekday AM and weekday PM peak hours is shown in Diagrams 10a&b (Appendix E).

2025 projected + committed & proposed development traffic flows

7.36 The total trips associated with the proposed mixed use development as described in the previous paragraphs have then been added to the 2025 projected + committed development traffic flows to create 2025 projected + committed & proposed mixed use development generated traffic flows for the weekday AM and PM peak hours and are shown in Diagrams 11a&b (Appendix E).

Summary

- 7.37 The trip rates and distribution for the various land uses of the proposed mixed use development have been derived from a combination of TRICS information. The projected trip generation and distribution of the proposed mixed use development has then been calculated.
- 7.38 The total future year traffic flows, including the proposed mixed use development, have been predicted to allow detailed analysis to be undertaken where appropriate.

8. SITE ACCESS AND TRAFFIC IMPACT OF THE PROPOSED DEVELOPMENT

Introduction

8.1 This Chapter presents a capacity assessment of the junctions on the local road network.

Area of influence

8.2 The Scottish Government's guidelines for the preparation of TA's, Transport Assessment Guidance, do not contain any firm definitions of a traffic impact. Therefore, the guidelines offered in the IHT guidelines have been adopted. The IHT guidelines advise that capacity assessments should be conducted at junctions where traffic to or from the development proposal exceeds 10% of the existing two way traffic flow on the adjoining highway, although CEC-Transportation requested that all junctions where traffic to or from the development proposal exceeds 5% of the existing two way traffic flow should be assessed.

8.3 Therefore, all of the existing junctions within the study area, along with the proposed site access junctions onto Ravelrig Road, have been examined:

- A70 Lanark Road West/ Ravelrig Road/ Ravelrig Wynd crossroads;
- A70 Lanark Road West/ Bridge Road traffic signals;
- Long Dalmahoy Road/ Ravelrig Road priority;
- A71/ Long Dalmahoy Road priority;
- Curriehill Road/ Long Dalmahoy Road priority; and
- A71/ Curriehill Road priority.

Junction analysis

8.4 The junction analysis was undertaken using the PICADY module of the industry standard computer modelling packages JUNCTIONS9 for the priority junctions and LINSIG for the traffic signal junction.

8.5 Geometric parameters of the existing junctions were measured on-site, with the physical layouts confirmed by OS mapping. Sketches showing the layout of the junction (and also used to establish the other modelling parameters) is included at a scale of 1:500 in Appendix C.

8.6 The performance of the junctions has been measured using standard outputs for PICADY - Ratio of Flow to Capacity (RFC), Maximum Queuing (Q), Delay and Reserve Capacity, while for LINSIG the standard outputs are Degree of Saturation (DoS), Mean Maximum Queue (MMQ), Total Delay (Delay) and Practical Reserve Capacity (PRC).

8.7 The output files for the PICADY and LINSIG assessments are included in Appendix G.

8.8 The scenarios that have been tested are as follows:

1. 2020 weekday AM Peak surveyed
2. 2025 weekday AM Peak projected + committed development
3. 2025 weekday AM Peak projected + committed & proposed residential development
4. 2020 weekday PM Peak surveyed
5. 2025 weekday PM Peak projected + committed development
6. 2025 weekday PM Peak projected + committed & proposed residential development

Ravelrig Road/ Site Access (west) priority

8.9 Based on a simple T junction layout as shown in Sketch TP658/SK/003, Table 8.1 below summarises the PICADY results for scenarios 3 and 6.

Table 8.1 – Summary of PICADY Analysis Future Results (Ravelrig Road/ Site Access (west) priority junction)										
Scenario	Ravelrig Road (south)			Site Access (west)			Ravelrig Road (north)			Reserve Capacity
	RFC	Queue (pcu)	Delay (min/ pcu)	RFC	Queue (pcu)	Delay (min/ pcu)	RFC	Queue (pcu)	Delay (min/ pcu)	
3	-	-	-	0.29	0.4	0.17	0.03	0.0	0.11	125%
6	-	-	-	0.24	0.3	0.17	0.14	0.2	0.10	136%

8.10 The assessment indicates that the junction will operate satisfactorily during the weekday morning and evening peak periods in 2025 with the traffic associated with the proposed mixed use development. A maximum RFC of 0.29 and a 0 PCU queue is predicted to occur on the site access west approach.

Ravelrig Road/ Site Access (east) priority

8.11 Based on a simple T junction layout as shown in Sketch TP658/SK/003, Table 8.2 below summarises the PICADY results for scenarios 3 and 6.

Table 8.2 – Summary of PICADY Analysis Future Results (Ravelrig Road/ Site Access (east) priority junction)										
Scenario	Ravelrig Road (south)			Site Access (west)			Ravelrig Road (north)			Reserve Capacity
	RFC	Queue (pcu)	Delay (min/ pcu)	RFC	Queue (pcu)	Delay (min/ pcu)	RFC	Queue (pcu)	Delay (min/ pcu)	
3	-	-	-	0.04	0.0	0.12	0.01	0.0	0.09	555%
6	-	-	-	0.02	0.0	0.11	0.02	0.0	0.10	508%

8.12 The assessment indicates that the junction will operate satisfactorily during the weekday morning and evening peak periods in 2025 with the traffic associated with the proposed mixed use development. A maximum RFC of 0.04 and a 0 PCU queue is predicted to occur on the site access east approach.

A70 Lanark Road West/ Ravelrig Road/ Ravelrig Wynd crossroads junction

8.13 The existing layout of the A70 Lanark Road West/ Ravelrig Road/ Ravelrig Wynd crossroads junction is shown in Sketch TP658/SK/101 (Appendix C). Table 8.3 below summarises the PICADY results for scenarios 1 to 6.

Table 8.3 – Summary of PICADY Analysis Results (A70 Lanark Road West/ Ravelrig Road/ Ravelrig Wynd priority crossroads)													
Scenario	A70 Lanark Road West (west)			Ravelrig Road			A70 Lanark Road West (east)			Ravelrig Wynd			Reserve Cap
	RFC	Queue (pcu)	Delay (min/ pcu)	RFC	Queue (pcu)	Delay (min/ pcu)	RFC	Queue (pcu)	Delay (min/ pcu)	RFC	Queue (pcu)	Delay (min/ pcu)	
	Weekday AM Peak												
1	0.00	0.0	0.00	0.18	0.2	0.14	0.21	0.3	0.14	0.02	0.0	0.16	132%
2	0.00	0.0	0.00	0.26	0.4	0.16	0.25	0.4	0.14	0.02	0.0	0.16	103%
3	0.00	0.0	0.00	0.44	0.8	0.21	0.34	0.6	0.17	0.02	0.0	0.16	53%
Weekday PM Peak													
4	0.00	0.0	0.10	0.30	0.4	0.16	0.18	0.4	0.09	0.00	0.0	0.00	112%
5	0.00	0.0	0.10	0.36	0.6	0.18	0.25	0.5	0.10	0.00	0.0	0.00	85%
6	0.00	0.0	0.10	0.56	1.3	0.26	0.45	1.2	0.14	0.00	0.0	0.00	32%

- 8.14 The PICADY assessment indicates that the junction currently operates with a maximum RFC of 0.30 and corresponding maximum queue of 0 PCUs on the Ravelrig Road approach during the 2020 weekday evening peak hour.
- 8.15 With 5 years of growth and the additional of the traffic associated with the committed development, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.36 and corresponding maximum queue of 1 PCU on the Ravelrig Road approach during the 2025 weekday evening peak hour.
- 8.16 With the addition of the traffic associated with the proposed mixed use development, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.56 and corresponding maximum queue of 1 PCU again on the Ravelrig Road approach during the 2025 weekday evening peak hour.

A70 Lanark Road West/ Bridge Road traffic signals

- 8.17 The existing layout of the A70 Lanark Road West/ Bridge Road traffic signal junction is shown in Sketch TP658/SK/102 (Appendix C).
- 8.18 The traffic signals have a maximum of 4 stages per cycle, with the A70 Lanark Road West (west) approach right turn filter and pedestrian stages occurring on demand. From a review of the video surveys that covered the operation of the traffic signals, the average cycle time during the weekday AM and PM peak hours was approximately 62 and 56 seconds respectively. The number of times the right turn filter and pedestrian stages were called was also counted - 16 and 7 times respectively out of 58 cycles during the weekday AM peak hour and 19 and 9 times respectively out of 64 cycles during the weekday PM peak hour.
 - 8.18.1 In order to replicate the observed operation of the traffic signals, both the weekday AM and PM peak hours were modelled on a 100 second cycle with all 4 stages called every cycle, even though the A70 Lanark Road West (west) approach right turn filter and pedestrian stages were each called less than once every 3 cycles.
- 8.19 The results of the LINSIG analysis are summarised in Table 8.4 for the base year (scenarios 1 and 4).

Table 8.4 – Summary of LINSIG Analysis Base Results (A70 Lanark Road West/ Bridge Road traffic signals junction)										
Scenario	A70 Lanark Road West (east)			Bridge Road			A70 Lanark Road West (west)			PRC
	DoS	MMQ	Delay	DoS	MMQ	Delay	DoS	MMQ	Delay	
	%	(pcu)	(pcu/hr)	%	(pcu)	(pcu/hr)	%	(pcu)	(pcu/hr)	
Weekday AM Peak										
1	49.0	7.1	2.8	69.5	10.0	4.5	69.1	12.3	4.8	29.5
Weekday PM Peak										
4	68.4	13.4	4.7	66.3	6.6	3.7	34.7	2.8	1.6	31.6

- 8.20 The indicator ‘Degree of Saturation’ (DoS) is taken to be an assessment of the practical operation of a signal controlled junction and DoS’ of over 0.9 illustrate congested conditions whereas DoS’ over 1 indicate over capacity conditions.
- 8.21 The assessment indicates that the junction operates with a maximum DoS of 69.5% and corresponding maximum mean queue of 10.0 PCUs on the Bridge Road approach during the weekday morning peak hour. During the weekday evening peak hour, the junction operates with maximum DoS of 68.4% and corresponding maximum mean queue of 13.4 PCUs on the A70 Lanark Road West (east) approach.
- 8.22 The results of the LINSIG analysis of scenarios 2, 3, 5 and 6 are summarised in Table 8.5.

Table 8.5 – Summary of LINSIG Analysis Future Results (A70 Lanark Road West/ Bridge Road traffic signals junction)										
Scenario	A70 Lanark Road West (east)			Bridge Road			A70 Lanark Road West (west)			PRC
	DoS	MMQ	Delay	DoS	MMQ	Delay	DoS	MMQ	Delay	
	%	(pcu)	(pcu/hr)	%	(pcu)	(pcu/hr)	%	(pcu)	(pcu/hr)	
Weekday AM Peak										
2	51.3	7.5	2.9	72.8	10.8	4.9	74.9	14.1	5.6	20.2
3	50.9	7.7	3.0	80.1	12.1	5.9	81.0	16.8	6.7	11.2
Weekday PM Peak										
5	71.1	14.5	5.1	72.8	7.4	4.3	39.2	3.1	1.9	23.7
6	78.4	17.1	6.3	75.5	7.8	4.7	53.0	4.7	2.7	14.8

- 8.23 The assessment indicates that the junction is predicted to operate with a maximum DoS of 74.9% and corresponding maximum mean queue of 14.1 PCUs on the A70 Lanark Road West (west) approach during the weekday morning peak hour and a maximum DoS of 72.8% and corresponding maximum mean queue of 7.4 PCUs on the Bridge Road approach during the weekday evening peak hour with 5 years of growth and the addition of the committed development traffic.
- 8.24 With the addition of the traffic associated with the proposed mixed use development, the maximum DoS is predicted to rise to 81.0% and corresponding maximum mean queue of 16.8 PCUs on the A70 Lanark Road West (west) approach during the weekday morning peak hour and a maximum DoS of 78.4% and corresponding maximum mean queue of 17.1 PCUs on the A70 Lanark Road West (east) approach during the weekday evening peak hour.

Long Dalmahoy Road/ Ravelrig Road priority junction

8.25 The existing layout of Long Dalmahoy Road/ Ravelrig Road priority junction is shown in Sketch TP658/SK/103 (Appendix C). Table 8.6 below summarises the PICADY results for scenarios 1 to 6.

Table 8.6 – Summary of PICADY Analysis Results (Long Dalmahoy Road/ Ravelrig Road priority junction)										
Scenario	Long Dalmahoy Road (east)			Ravelrig Road			Long Dalmahoy Road (west)			Reserve Capacity
	RFC	Queue	Delay	RFC	Queue	Delay	RFC	Queue	Delay	
		(pcu)	(min/ pcu)		(pcu)	(min/ pcu)		(pcu)	(min/ pcu)	
1	-	-	-	0.32	0.5	0.18	0.06	0.1	0.11	137%
2	-	-	-	0.35	0.5	0.19	0.06	0.1	0.11	119%
3	-	-	-	0.51	1.0	0.25	0.09	0.1	0.11	52%
4	-	-	-	0.10	0.1	0.13	0.10	0.1	0.11	485%
5	-	-	-	0.11	0.1	0.13	0.11	0.1	0.12	416%
6	-	-	-	0.16	0.2	0.14	0.17	0.2	0.13	265%

8.26 The PICADY assessment indicates that the junction currently operates with a maximum RFC of 0.32 and corresponding maximum queue of 0 PCUs on the Ravelrig Road approach during the 2020 weekday morning peak hour.

8.27 With 5 years of growth and the additional of the traffic associated with the committed development, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.35 and corresponding maximum queue of 0 PCUs on the Ravelrig Road approach during the 2025 weekday morning peak hour.

8.28 With the addition of the traffic associated with the proposed mixed use development, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.51 and corresponding maximum queue of 1 PCU again on the Ravelrig Road approach during the 2025 weekday morning peak hour.

A71/ Long Dalmahoy Road priority junction

8.29 The existing layout of the A71/ Long Dalmahoy Road priority junction is shown in Sketch TP658/SK/104 (Appendix C). Table 8.7 below summarises the PICADY results for scenarios 1 to 6.

Table 8.7 – Summary of PICADY Analysis Results (A71/ Long Dalmahoy Road priority junction)										
Scenario	A71 (east)			Long Dalmahoy Road			A71 (west)			Reserve Capacity
	RFC	Queue	Delay	RFC	Queue	Delay	RFC	Queue	Delay	
		(pcu)	(min/pcu)		(pcu)	(min/pcu)		(pcu)	(min/pcu)	
1	-	-	-	L 0.11 R 0.12	0.1 0.2	0.12 0.41	0.10	0.1	0.14	16%
2	-	-	-	L 0.12 R 0.13	0.2 0.2	0.13 0.44	0.10	0.2	0.14	12%
3	-	-	-	L 0.17 R 0.13	0.2 0.2	0.13 0.46	0.13	0.2	0.14	10%
4	-	-	-	L 0.06 R 0.08	0.1 0.1	0.14 0.46	0.12	0.1	0.17	7%
5	-	-	-	L 0.06 R 0.09	0.1 0.1	0.14 0.51	0.13	0.2	0.17	4%
6	-	-	-	L 0.10 R 0.09	0.1 0.1	0.15 0.57	0.22	0.3	0.18	1%

8.30 The PICADY assessment indicates that the junction currently operates with a maximum RFC of 0.12 and corresponding maximum queue of 0 PCUs on the Long Dalmahoy Road right turn movement during the 2020 weekday morning peak hour and the A71 west right turn movement during the 2020 weekday evening peak hour.

8.31 With 5 years of growth and the additional of the traffic associated with the committed development, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.13 and corresponding maximum queue of 0 PCUs on the Long Dalmahoy Road right turn movement during the 2025 weekday morning peak hour and the A71 west right turn movement during the 2025 weekday evening peak hour.

8.32 With the addition of the traffic associated with the proposed mixed use development, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.22 and corresponding maximum queue of 0 PCUs on the A71 west right turn movement during the 2025 weekday evening peak hour.

Curriehill Road/ Long Dalmahoy Road priority junction

8.33 The existing layout of the Curriehill Road/ Long Dalmahoy priority junction is shown in Sketch TP658/SK/105 (Appendix C). Table 8.8 below summarises the PICADY results for scenarios 1 to 6.

Table 8.8 – Summary of PICADY Analysis Results (Curriehill Road/ Long Dalmahoy Road priority junction)										
Scenario	Curriehill Road (south)			Long Dalmahoy Road			Curriehill Road (north)			Reserve Capacity
	RFC	Queue	Delay	RFC	Queue	Delay	RFC	Queue	Delay	
		(pcu)	(min/pcu)		(pcu)	(min/pcu)		(pcu)	(min/pcu)	
1	-	-	-	0.23	0.3	0.15	0.01	0.0	0.12	206%
2	-	-	-	0.24	0.3	0.15	0.02	0.0	0.12	188%
3	-	-	-	0.32	0.5	0.17	0.03	0.0	0.12	131%
4	-	-	-	0.03	0.0	0.13	0.10	0.2	0.10	344%
5	-	-	-	0.04	0.0	0.13	0.13	0.2	0.10	292%
6	-	-	-	0.05	0.1	0.12	0.22	0.4	0.11	186%

- 8.34 The PICADY assessment indicates that the junction currently operates with a maximum RFC of 0.23 and corresponding maximum queue of 0 PCUs on the Long Dalmahoy Road movement during the 2020 weekday morning peak hour.
- 8.35 With 5 years of growth and the additional of the traffic associated with the committed development, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.24 and corresponding maximum queue of 0 PCUs on the Long Dalmahoy Road movement during the 2025 weekday morning peak hour.
- 8.36 With the addition of the traffic associated with the proposed development of 350 homes, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.32 and corresponding maximum queue of 0 PCUs again on the Long Dalmahoy Road movement during the 2025 weekday morning peak hour.

A71/ Curriehill Road priority junction

- 8.37 The existing layout of the A71/ Curriehill Road priority junction is shown in Sketch TP658/SK/106 (Appendix C). Table 8.9 below summarises the PICADY results for scenarios 1 to 6.

Table 8.9 – Summary of PICADY Analysis Results (A71/ Curriehill Road priority junction)										
Scenario	A71 (east)			Curriehill Road			A71 (west)			Reserve Capacity
	RFC	Queue	Delay	RFC	Queue	Delay	RFC	Queue	Delay	
		(pcu)	(min/ pcu)		(pcu)	(min/ pcu)		(pcu)	(min/ pcu)	
1	-	-	-	L 0.05 R 0.08	0.1 0.1	0.10 0.39	0.34	0.5	0.17	15%
2	-	-	-	L 0.05 R 0.12	0.1 0.2	0.10 0.42	0.35	0.5	0.17	11%
3	-	-	-	L 0.06 R 0.34	0.1 0.6	0.12 0.52	0.35	0.6	0.17	3%
4	-	-	-	L 0.14 R 0.31	0.2 0.4	0.18 1.00	0.44	0.8	0.28	-9%
5	-	-	-	L 0.15 R 0.44	0.2 0.8	0.20 1.47	0.47	0.9	0.30	-12%
6	-	-	-	L 0.17 R 0.56	0.2 1.2	0.22 1.92	0.48	1.0	0.31	-13%

- 8.38 The PICADY assessment indicates that the junction currently operates with a maximum RFC of 0.44 and corresponding maximum queue of 1 PCU on the A71 west right turn movement during the 2020 weekday evening peak hour.
- 8.39 With 5 years of growth and the additional of the traffic associated with the committed development, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.47 and corresponding maximum queue of 1 PCU on the A71 west right turn movement during the 2025 weekday evening peak hour.
- 8.40 With the addition of the traffic associated with the proposed mixed use development, the PICADY assessment indicates that the junction is predicted to operate with a maximum RFC of 0.56 and corresponding maximum queue of 1 PCU on the Curriehill Road right turn movement during the 2025 weekday evening peak hour.

Summary

- 8.41 The analysis predicts that the proposed site access junctions and the existing junctions within the study area will all operate satisfactorily in the future design year with the proposed mixed use development trips included.

9. SUMMARY AND CONCLUSIONS

Introduction

- 9.1 Transport Planning Ltd was appointed to advise on transport related issues associated with an application for planning permission for a mixed use development on a site to the east and west of Ravelrig Road, Balerno.
- 9.2 The site is accessible by a range of transport modes and located within walking distance of local services.
- 9.3 The development proposals will contain opportunities to link the internal network of the site to the existing pedestrian, cycle and public transport networks with the aim of ensuring that as the development progresses all residents are able to utilise non-car modes.
- 9.4 The proposed mixed use development can be served by the creation of new priority controlled junctions onto Ravelrig Road.
- 9.5 This TA examines the accessibility of the application site by a range of travel modes and establishes the development impact on the existing road network.

Site accessibility and transport provision

- 9.6 A review of current accessibility and provision has been undertaken and this has included a review of walking, cycling and public transport provision within the vicinity of the application site.
- 9.7 The application site is well-situated in relation to the existing transport network. Footways and cycle routes exist around the application site linking it to the wider pedestrian and cycle network and key local facilities, while a number of core paths surround the site adding to its connectivity.
- 9.8 Access to public transport services is available with bus routes passing along Bridge Road to the south east.
- 9.9 Curriehill rail station is located to the east and can be reached within a 30 minute walk or 10 minute cycle from the application site.

Measures to influence travel behaviour

- 9.10 A residential travel pack has been discussed and can be supplied to new residents of the development increasing travel awareness and explaining the presence of alternative travel modes in the area.

Existing road network

- 9.11 The base traffic flows have been projected to 2025 design year flows using Low Growth NRTF factors.
- 9.12 The committed residential development to the south and west of Ravelrig Road, Balerno (Cala Homes) has been considered.

Generation and distribution of proposed mixed use development

- 9.13 The trip rates and distribution for the mixed use land use have been derived from a combination of TRICS information. The projected trip generation and distribution of the proposed mixed use development has then been calculated.
- 9.14 The total future year traffic flows, including the proposed mixed use development, have been predicted to allow detailed analysis to be undertaken where appropriate.

Site access and traffic impact of the proposed mixed use development

- 9.15 The analysis predicts that the proposed site access junctions and the existing junctions within the study area are all predicted to operate satisfactorily for the design year with the proposed mixed use development trips included.

Conclusions

- 9.16 Table 9.1 below includes a summary of those transport matters raised in CEC’s response to the Scoping letter.

Table 9.1 – Transport Summary	
Development Plan items	Response
<i>1. Transport information will be required for this development (transport assessment)</i>	This Transport Assessment provides the necessary transport information in the usual format.
<i>2. The TA should demonstrate how the development complies with LDP Policy Tra 1 - where a non-City Centre site is proposed, the suitability of a proposal will be assessed having regard to:</i>	-
<i>a) the accessibility of the site by modes other than car</i>	See Chapter 2 and further commentary in Chapter 3
<i>b) the contribution the proposal makes to Local Transport Strategy objectives and the effect on targets in respect of overall travel patterns and car use</i>	The site falls within a wide city area (zone 3) for parking which restricts provision to a maximum of 1 space per home. Connectivity of the site by foot, cycle, bus, rail and core path connections are laid out in this report and a national cycle route passes through the site. An adjacent site and a nearby site have been approved and the transport requirements of these sites could be reflected at the application

	<p>site. Taken together, these items illustrate the site can offer non car travel alternatives.</p>
<p>c) <i>impact of any travel demand generated by the new development on the existing road and public transport networks</i></p>	<p>Impacts on road networks are covered in detail in this report and paragraph 3.18 comments on the bus network.</p>
<p><i>In general, applicants should demonstrate that the location proposed is suitable with regard to access by walking, cycling and public transport and that measures will be taken to mitigate any adverse effects on networks and bring accessibility by and use of non-car modes up to acceptable levels if necessary</i></p>	<p>The site falls within a wide city area (zone 3) for parking which restricts provision to a maximum of 1 space per home. Connectivity of the site by foot, cycle, bus, rail and core path connections are laid out in this report and a national cycle route passes through the site. An adjacent site and a nearby site have been approved and the transport requirements of these sites could be reflected at the application site. Taken together, these items illustrate the site can offer non car travel alternatives.</p>
<p>3. <i>Specific actions among other measures include – accessibility of site by public transport; provision of 4m wide adoptable walking and cycling route along both sides of Ravelrig Road to link existing footway further south along the road. Shared path besides existing carriageway or if that is not possible because of mature trees then the path be separated from the road by trees/verge to link footways further south on Ravelrig Road to promote sustainable travel and safer route to school (Dean Park Primary/Balerno high school) etc</i></p>	<p>Public transport has been covered in the report. Pathing to the required standard can be accommodated within the site boundary and can connect with paths to the south.</p>
<p>4. <i>The application should comply with LDP Transport Policies Tra 2 Private Car Parking, Tra 3 Private Cycle Parking, Tra 4 Design of Off-Street Car and Cycle Parking, Policy Tra 8 Provision of Transport Infrastructure, Policy Tra 9 Cycle and Footpath network, Tra 10 New and existing Roads and Policy, Des 7 Layout Design and Des 1 and 2</i></p>	<p>Tra 2 Private Car Parking – the development will not exceed the maximum parking standard of 1 space per home and will adopt travel plan measures to encourage the use of more sustainable travel to minimise car use. Expansion and contributions to the city’s car club scheme would be considered.</p> <p>Tra 3 Private Cycle Parking – cycle parking and storage provision will be provide in line with the requirements which is 100% for 1 habitable room, 200% for 2 and 3 habitable rooms and 300% for 4 or more habitable rooms.</p> <p>Tra 4 Design of Off Street Car and Cycle Parking – Any off street car and cycle parking that may be</p>

	<p>provided will take cognisance of any active frontages and be located as close as possible to main site entrances, whilst cycle parking and storage will be provided closer to building entrances than general car parking spaces.</p> <p>Tra 8 Provision of Transport Infrastructure – this Transport Assessment has confirmed that identified local and city wide individual and cumulative transport impacts that are relevant to the proposed development can be adequately and timeously addressed and that none of the transport infrastructure set out in Table 9 of the LDP (Transport Proposals and Safeguards) are impacted upon.</p> <p>The overall cumulative impact of development proposals throughout the SESplan area (including development proposals in West Lothian, East Lothian and Midlothian) in so far as they effect the location of the proposed development have been taken into account in this Transport Assessment.</p> <p>Tra 9 Cycle and Footpath network – new foot and cycle provision will be provided throughout the development with a new foot/ cycle provision created along the eastern side of Ravelrig Road to connect into the existing provision. Further connections into the foot and cycle network which are being provided by LDP sites HSG37 Newmills, Balerno and HSG38 Ravelrig Road will also enhance the sites connectivity. The future improvements to the NCN75 cycle network, as shown in the proposals map (which is a new connection following the old railway alignment between Newmills Road, Ravelrig Road and further west), can be safeguarded and/ or provided for within the application site.</p> <p>Tra 10 New and existing Roads and Policy – none of the Transport Proposals and Safeguards listed in Table 9 of the LDP will be impacted upon or prejudiced by the proposed development. The only road improvements would be the slight widening of a short section of Ravelrig Road to a residential road standard accommodate two-way traffic.</p> <p>Des 7 Layout Design and Des 1 and 2 – the layout of the proposed development will take cognisance</p>
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	of the Des 7 policy, along with Des 1 and 2, at the detailed design stage
5. <i>Site layout should promote walking and cycling to shared path (item 3 above)</i>	Public transport has been covered in the report. Pathing to the required standard can be accommodated within the site boundary and can connect with paths to the south.
6. <i>Site layout to be designed in accordance with Edinburgh Street Design Guidance/Edinburgh Design Guidance- Street scene should not be dominated by parking and double driveways EDG page 50-56</i>	This can addressed at the detailed design stage as the applicants are not housebuilders
7. <i>2016 LDP safeguard walking and cycling route T7 runs through the proposed site from east to west north of site HSG 38 and this is to be designed and built within site area to adoptable lit standards</i>	The applicants propose to provide this
8. <i>In addition to local residential trip survey, we recommend TRICS trips from selected locations Neighbourhood centre and Edge of town only.</i>	Trip rates have been extracted from the TRICS database and Suburban Area locations have also been selected due to low number of sites selecting Neighbourhood centre and Edge of town only sites. A full TRICS and surveys trips comparison is included in this report.
9. <i>Due to the sensitivity of the area road network to vehicular traffic at peak time, traffic impact of 5% or greater as result of the development is recommended for detailed consideration. The following junctions are expected to be included in junction studies-</i> <ul style="list-style-type: none"> • <i>Ravelrig Road/A70 priority junction,</i> • <i>Bridge Road/A70 signal</i> • <i>Site Access junction</i> • <i>Ravelrig/Long Dalmahoy Road priority junction</i> • <i>Long Dalmahoy Road/A71 priority junction</i> 	We have not sought to limit the tested network on the basis of percentage impact and have instead carried out analysis at all junctions noted by CEC

<p><i>10. The proposed is non-LDP site and developer contribution will be assessed when planning application is received</i></p>	<p>Noted</p>
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9.17 This report has assessed the transport issues surrounding the proposed mixed use development on the application site to the east and west of Ravelrig Road in Balerno. It has been concluded that:

- the application site is located in close proximity to well established pedestrian and cycle routes;
- existing bus stops are located within walking distance of the application site;
- Curriehill rail station lies within a reasonable walk / cycle of the application site;
- the development proposals will contain a number of measures to enhance the existing accessibility of the site;
- the application site lies in close proximity and with good access to the wider road network; and
- the development can be satisfactorily accessed via new priority junctions onto Ravelrig Road.