

Tornagrain

A Planned Town for the Highlands

Environmental Statement

Technical Annex 8

**Socio-economic
Assessment**



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1.0 Introduction

The A96 Growth Corridor Development Framework identifies an opportunity for development of a new town near Inverness Airport, as part of the wider strategy for balanced development between Inverness and Nairn. Moray Estates Development Company Limited (MEDCO) is now seeking outline planning permission for this new town.

An environmental impact assessment (EIA) has been carried out in accordance with the Environmental Impact Assessment (Scotland) Regulations, 1999, the findings of which are presented in the form of an Environmental Statement (ES). The ES comprises a Main Report, a Non-Technical Summary, a Construction Environmental Management Plan (CEMP) and 12 Technical Annexes.

This report comprises Technical Annex 8: Socio-economics. It details the existing baseline characteristics of the site and surrounding area, predicts the likely population, employment and income generation, and identifies the potential social and economic impacts.

The key objectives of the assessment are:

- to determine the nature of the local economy and associated social and economic issues, taking account of the local context;
- to identify the principal social and economic impacts (both positive and negative) that may result from the proposed development and assess the significance of these impacts;
- to recommend measures for avoiding or reducing any identified adverse impacts, and/or enhancing positive impacts, where possible; and
- to highlight any residual negative impacts that cannot be mitigated and to identify any positive impacts from the proposal.

The planning policy context is fully described in the Planning Statement, which is being submitted in support of the application; therefore, relevant policy is not repeated in this report.

2.0 Assessment methodology

The assessment follows best practice methodologies and guidance as appropriate, including advice set out in:

- Scottish Planning Policy 1: The Planning System, Scottish Executive (2002); and
- Scottish Planning Policy 2: Economic Development, Scottish Executive (2002).

The assessment uses desk-based information and expert judgements to assess the likely scale of direct, indirect and secondary impacts of the development, both during its construction and following its completion.

A review of demography in the A96 Corridor area has been undertaken, and a number of population scenarios have been examined to test the case for the new town.

A socio-economic baseline analysis has involved profiling the area to assess the structure of the local economy and representation in certain sectors. This has informed the extent to which each of the scenarios may be achieved.

In addition, a social and economic impact assessment has been carried out, based on the HM Treasury Green Book guidance¹ and additionality guidance developed for the UK Government and regional development agencies².

As well as the quantifiable economic indicators (output, employment, income and GVA), a commentary has been provided on the potential non-quantifiable benefits that a development of this type may have, i.e. the social costs and benefits.

Table 2.1 below sets out the criteria that have been applied in this socio-economic assessment to measure the significance of potential impacts. These are the type of criteria that would typically be used by economists to decide on the magnitude of impacts.

¹ HM Treasury, *Green Book: Appraisal and evaluation in central government*. London: TSO.

² English Partnerships, *Additionality Guidance*. Second edition. 2004.

Table 2.1 Significance criteria

Major Significance	Impacts on the economic activity or population measurable at the national level.
Moderate Significance	Impacts on the economic activity or population measurable at the regional/local level.
Minor Significance	Impacts on the economic activity or population measurable to a minority of individuals in the area.
Negligible	No measurable impacts on the economic activity or the population.

The assessment necessarily relies on future projections, particularly of population and economic growth levels. Evidence is presented to justify the alternative scenarios considered. However, there is inevitably uncertainty about future socio- economic conditions, and this is an unavoidable limitation on the assessment.

3.0 Socio-economic Baseline

This section provides a Socio-economic profile of the A96 Corridor area, considering regional and national benchmarks where appropriate.

The datazones comprising the Inverness and Nairn areas (as defined by The Highland Council) are used whenever possible throughout this report. These datazones are shown in Appendix D. Where data are not available at this detailed level, the most appropriate alternative has been used (this varies throughout the report, but is clearly shown in the heading and/or source information alongside each figure or table).

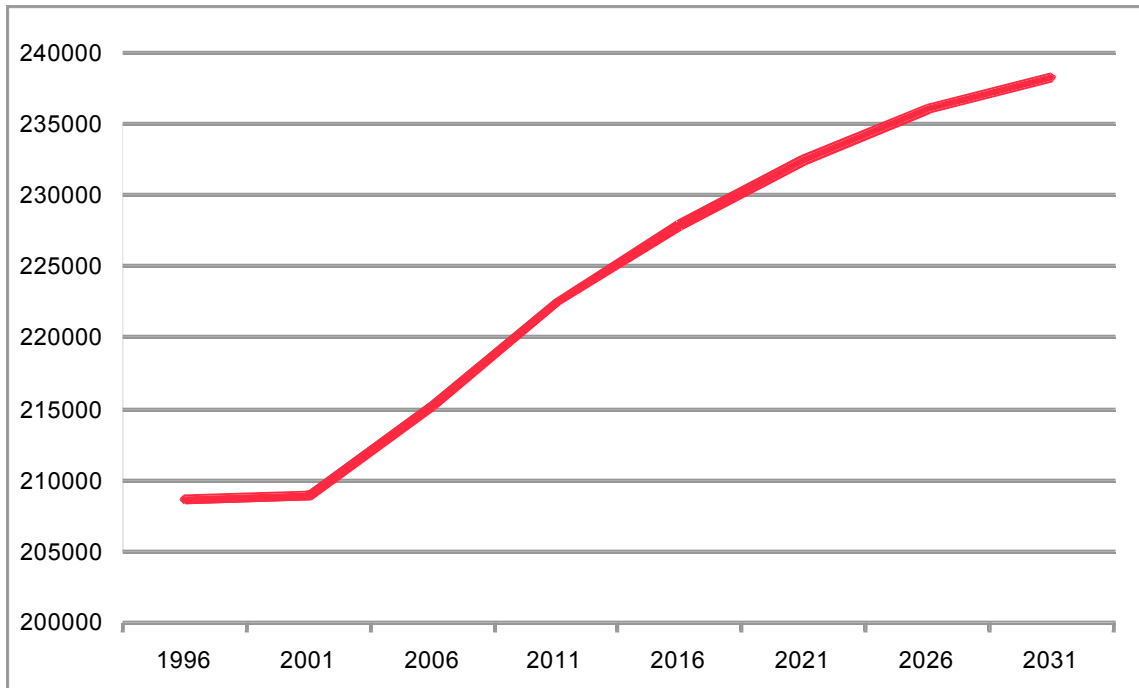
3.1 Population and demographic trends

3.1.1 Population

The Highland population has been steadily increasing since the mid-1990s, with the pace of growth accelerating since 2001. The General Registry Office for Scotland (GROS) only publishes projections for smaller areas (local authorities and health boards) up to 2031. GROS has considerably revised its population projections for Highland since its publication of 2004-based population projections. It now forecasts that the population of Highland will exceed 235,000 by 2026 and reach 238,000 by 2031. Highland currently has 4.2% of the total Scottish population and this share is projected to remain broadly constant over the projection period, increasing by just 0.2% between 2006 and 2031, as Highland population trends are expected to mirror Scottish population growth.

The latest population estimate for Highland from GROS is 217,440 (June 2007). This is 2,000 higher than GROS's 2004-based population projections for the region in 2007 and suggests that Highland has attracted a considerably higher level of migrants over the last three years than had previously been anticipated.

Figure 3.1 Highland population trend and projection, 2001-31

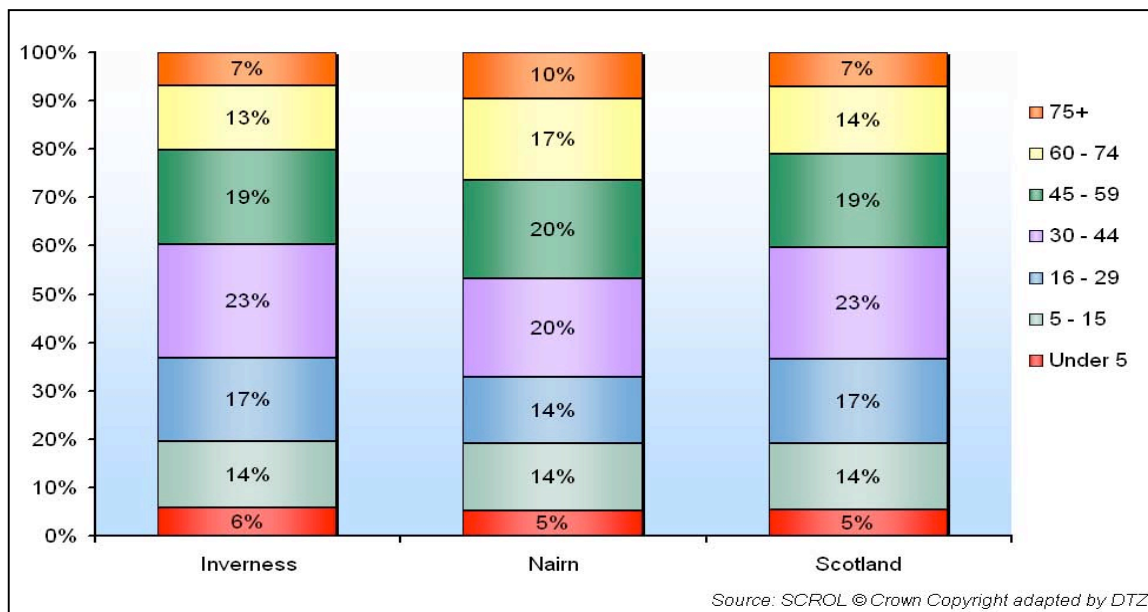


Further analysis of the 2001 Census shows that population growth in the Highland & Islands region continues to be centred on the main settlements, especially Inverness and the surrounding areas³.

Housing demand will arise from existing residents or future residents (e.g. in-migrants). The numbers and composition of the resident population will be important, as it will help to indicate how many people may need housing and what type of housing is required. Figure 3.2 highlights that the population profile in Inverness and Nairn is broadly similar to that in Scotland as a whole.

³ NFO Social Research (2004) *In-migration to the Highlands & Islands*, Highlands and Islands Enterprise http://www.hie.co.uk/in_migration_2003.html

Figure 3.2 Population age structure, 2001



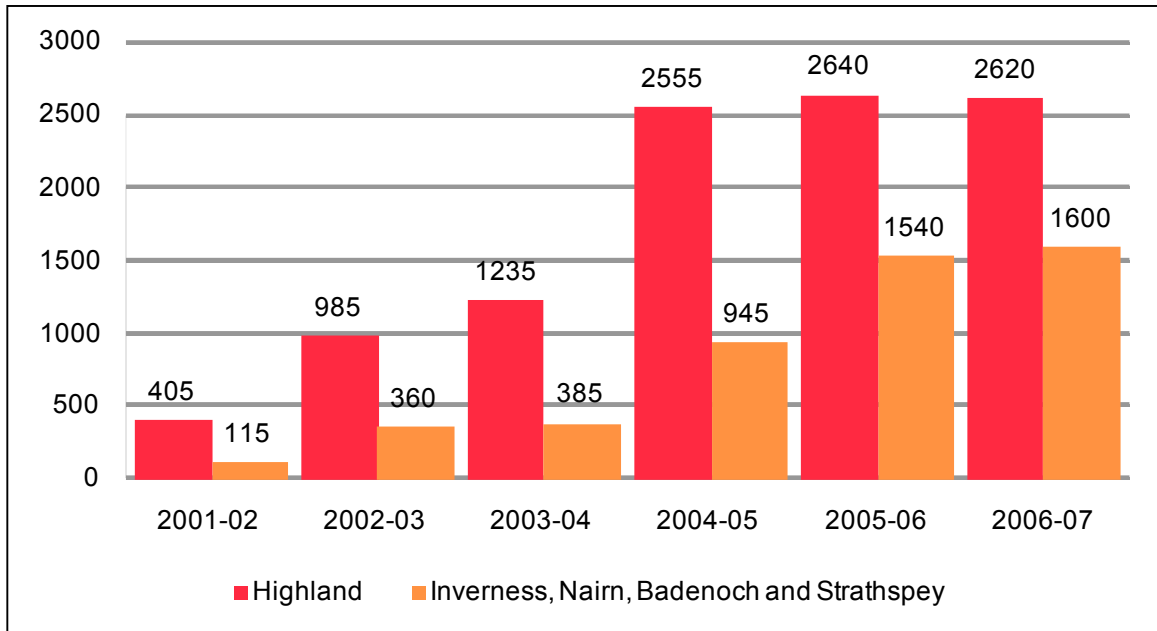
Migration into the Highland Area has been significant, but so has migration out of the Highland area. Highland Council figures, from mid-2002 to mid-2004⁴, show in-migration from the rest of Scotland to total 4,393 and out-migration to total 4,613. The greatest proportion of out-migration is in the 15 to 19 year-olds group, suggesting a significant drain on Highland resources as young people leave school and enter Higher and Further Education elsewhere. In-migration from England and Wales during this period averaged 4,328, while out migration to England and Wales averaged 1,923, suggesting a high net gain from the rest of the UK. The figures suggest that young families and those in the 45 to 59 year-old age bracket are particularly attracted to the Highland area.

Migration patterns have been changing significantly over the last three decades and, in particular, the last few years. Not only has the direction of net migration in Scotland and the Highland region changed (i.e. from net loss to net gain), but the countries of origin and age and skill compositions of migrants have also shifted in recent times.

⁴ Highland Council Planning & Development Service, *Migration in Highland 2002-2004*. Policy & Information Briefing Note No.6. Nov. 2005.

Additional support for this continued increase in migration comes from the registrations of overseas nationals on the National Insurance Recording System. Figure 3.3 considers this for the Highland region as a whole and the Inverness, Nairn, Badenoch and Strathspey electoral constituency in particular.⁵ These figures show the sharp rise in these registrations from 2004-05 and are principally due to EU Accession 8 countries joining the EU in 2004 and its citizens having the right to live and work in the UK, particularly people from Poland. In 2006-07, Polish people made up 60% of NI registrations by overseas nationals in Highland and 63% of those in Inverness, Nairn, Badenoch and Strathspey. While this has undoubtedly fuelled population growth in the area, its long-term sustainability is open to question. It is unlikely that Polish people will continue to come to the UK in such large numbers in subsequent years, particularly if their own domestic economy improves.

Figure 3.3 Registrations of overseas nationals on the National Insurance Recording System in Scotland/HIE area by tax year, 2001/02-2006/07



Source: DTZ analysis of HIE and DWP data

⁵ From Department of Work and Pensions, National Insurance Number Allocations to Overseas Nationals entering the UK 2007. http://www.dwp.gov.uk/asd/asd1/niall/nino_allocation.asp

3.1.2 Future demographic trends

A key element in assessing the potential for new developments will be expectations of population and household numbers for the area.

GROS estimates⁶ that the populations in Scotland and the Highland region are expected to grow. At the same time, average household size is expected to fall and the total number of households in Highland is expected to rise by almost 24,510 between 2006 and 2031 (an increase of 25%), or an average annual change of 1,000 more households in the region. This increase is greater than Scotland as a whole, where the total number of households is expected to rise by 19% in the same time period. This suggests strong positive net demand for new houses in the area.

Table 3.1 Household statistics, 2006-2036

	Scotland		Highland	
	Projected number of households	Projected average household size	Projected number of households	Projected average household size
2006	2,291,420	2.19	96,330	2.20
2011	2,398,150	2.13	102,550	2.13
2016	2,500,420	2.07	108,000	2.07
2021	2,590,160	2.02	112,960	2.02
2026	2,668,590	1.97	117,300	1.97
2031	2,731,090	1.93	120,840	1.93

Source: GROS

DTZ developed its own population and household projections for the A96 Corridor area⁷, using many of the same assumptions as GROS (for example, on fertility and mortality rates), but, crucially, building in varying migration assumptions (the biggest influence on population change in the area and the most difficult factor to estimate). Discussions with The Highland Council indicated that the migration figures used by GROS in its 2004-based projections (2,100 for 2004-05, 1,600 for 2005-06, 1,050 for 2006-07 and 700 per annum from 2007-08 to 2023-24), were based on what the Council and GROS believed were “realistic” projections for the longer-term, which could be exceeded and did not take account of the vision of having in excess of 100,000 people in the A96 corridor within a period of 30 years or so.

In developing our own projections for the A96 Corridor, we considered a range of data sources covering historic and future job growth in the Highland Council area, as shown in Table 3.2. All data sources refer to the number of people in employment apart from the Annual Business Inquiry (ABI), which measures jobs. Cambridge Econometrics growth data are based on forecast employment

⁶ For full details, see <http://www.gro-scotland.gov.uk/statistics/publications-and-data/household-projections-statistics/household-projections-for-scotland-2006-based/list-of-tables.html>

⁷ The definition of the Inverness and Nairn area used is included in Appendix D.

growth of 0.2% per annum using 2004 ABI data as the base year. Full details on how the population and housing projections were derived are provided in Appendix A.

Table 3.2 Annual employment growth in the Highland area

Data Source	Period Covered	Annual Employment Growth
Annual Business Inquiry	1998-2005	+1,190
Labour Force Survey	1995-2005	+650
Census of Population	1991-2001	+480
Cambridge Econometrics	2004-2020	+190

Source: Data sources adapted by DTZ

Estimates of annual employment growth can be used to imply annual inward migration by multiplying employment by the average household size. GROS has projected that the average household size in Scotland will decline over the next 30 years; a figure of 2.1 has therefore been used to estimate the average number of migrants associated with employment (being around the average household size, so takes account of dependents). Implied annual inward migration figures are shown in Table 3.3 below.

Table 3.3 Implied annual inward migration into the Highland area

Data Source	Annual Employment Growth	Implied Annual Net Inward Migration
Annual Business Inquiry	+1,558	+2,500
Labour Force Survey	+650	+1,400
Census of Population	+480	+1,000
GROS	-	+700
Cambridge Econometrics	+190	+400

Source: Data sources adapted by DTZ

Using the most generous estimate of employment growth based on ABI data, annual inward migration may be around 2,500 persons per annum, which has been the approximate rate of growth 2004-06 (when the rate of population growth was quite exceptional). The Labour Force Survey (LFS) implies growth of 1,400 persons per annum and takes account of a longer timeframe (ten years), which will tend to flatten out 'booms' and 'busts' and therefore seems more reliable than the ABI data and is more up-to-date than Census data. They are both significantly more than the long-run average GROS figure, but are based on actual employment trends over a long time period. Such trends look set to continue if the strategies to enhance economic performance in the area have the anticipated effect. Therefore, the LFS implied forecast is used as a 'best fit case' as it best fits with the vision and the strategies that have been put in place to achieve further economic expansion.

In addition, scenarios to demonstrate the 'boundaries of the possible' have been developed: a high case scenario (using the ABI data) to demonstrate the effect of the population continuing to grow at the rates experienced in the last two years; and a low case scenario using the most pessimistic implied migration figures (from Cambridge Econometrics). Both of these scenarios are unlikely, but demonstrate the range of potential migration growth levels.

Given that the A96 Corridor area constitutes 38% of the total Highlands population, pro rata estimates can be made to arrive at high, best fit, and low case figures for this area. On a 38% proportion basis, this implies annual growth of 950 persons based on the 2,500 p.a. increase for the region. However, allowing for the fact that the A96 Corridor area accounts for about 65% of current in-migration, annual in-migration growth figures of 1,625 (high), 910 (best fit) and 260 (low) are projected.

The population change under the three scenarios is highlighted in Figure 3.4. The data on which this is based can be found in Appendix C. Under the high case scenario, the population continues to climb at current rates, passing 100,000 people by 2019, reaching nearly 125,000 by 2036 and over 135,000 by 2046 (a rise of 69% from 2006). Together with the falling average household size, this leads to a near doubling in the number of households in the A96 Corridor area 2006-2046 (see Figure 3.5). While this scenario is unlikely, it demonstrates the significant growth that could be expected if the exceptional current rates in migration in recent years were to continue.

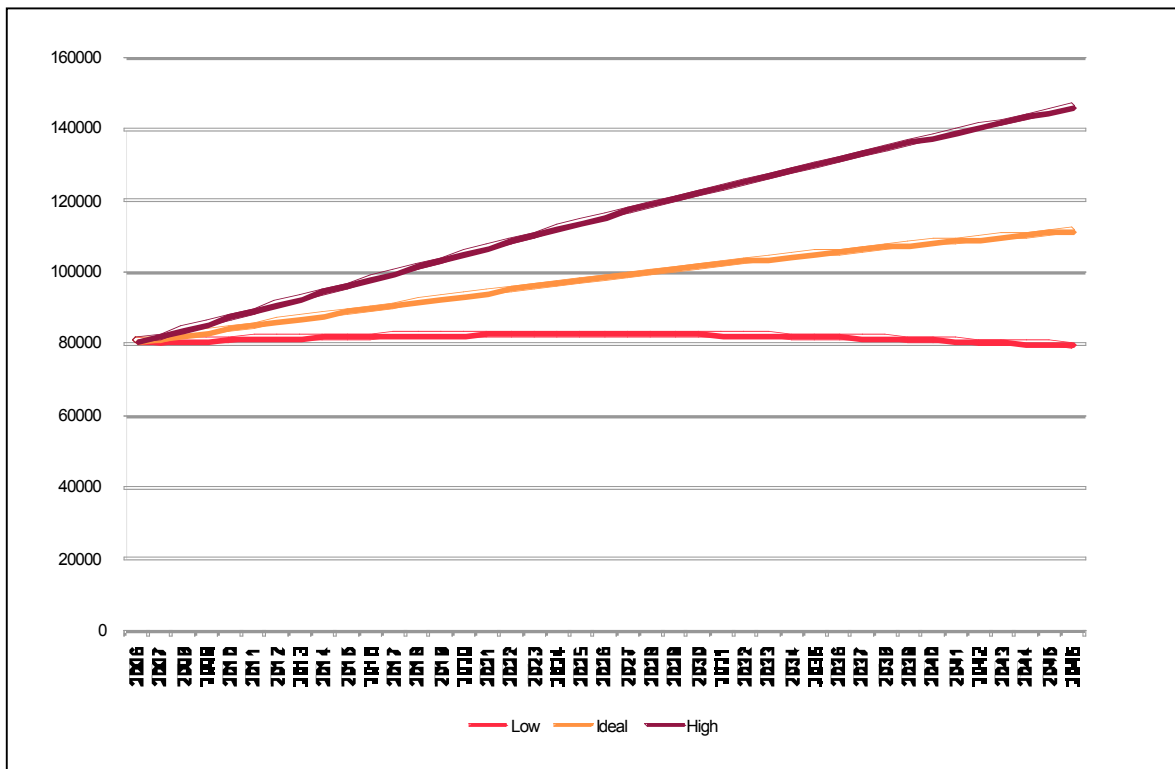
In contrast, under the low case scenario, the population climbs slightly to 2023, before beginning to fall back as the in-migration is not enough to compensate for natural population decline (deaths exceeding births). However, the number of households still climbs to just over 40,500 (a rise of 10% from 2006 levels) as average household size falls over the period. Less than 4,000 new households would be created under this scenario throughout the whole A96 Corridor area in a 40-year period. This scenario reflects more pessimistic forecasts that probably assume lower levels of economic growth going forward, and perhaps do not take account of the strategies for economic expansion and strengthening that are already being developed. This projection is unlikely, but it illustrates that population decline could occur again in the region if economic growth stalled and the strategies for economic strengthening and diversification were not successful.

The best fit case suggests that population growth (including migration) could result in a population of around 100,000 in the A96 Corridor area within a period of 30 years. The population and number of households grow substantially over this period (by 31% and 49% respectively), with the creation of an additional 18,000 households. As already noted, continued population growth at these levels requires continued economic expansion in the A96 Corridor and wider Highland region. The best fit case reflects migration and employment growth over the last ten years (flattening out peaks and troughs) and, therefore, seems more likely than the high case scenario, which is comparable to what has happened since 2004. The economic growth that has occurred over the last ten years can be maintained, particularly if the strategies and plans of The Highland Council and other partner bodies are successful. These include plans for Inverness Airport Business Park (IABP), Beechwood Campus and Castle Stuart Golf course. These initiatives will help to tackle some of the intrinsic socio-economic difficulties in the area, such as an economy lacking in diversity, the lack of private sector jobs growth in high value-added industries and the lack of a high reputation university and central university campus. This will all therefore help to generate sustainable population and economic growth over the longer term. This is further discussed in section 5.2.

Of the three scenarios, we believe that the best fit case is the most likely and will be achieved if these conditions for enhanced economic performance are achieved. The arguments that support this case may be summarised as follows:

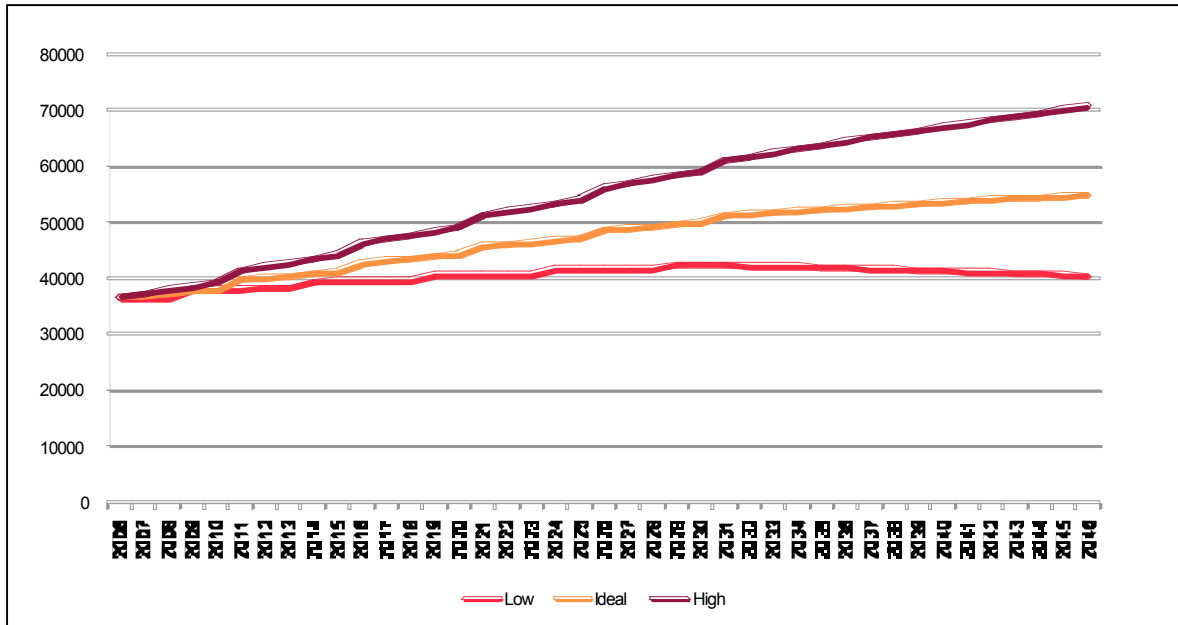
- it has a clear evidence base from LFS data over a long-term period;
- the area is currently more than achieving this amount of migration growth;
- it fits well with current plans by The Highland Council and its partners; and
- there are further tangible strategies and plans in place to enhance economic performance.

Figure 3.4 Population projections under three scenarios for the A96 Corridor, 2006-2046



Source: DTZ

Figure 3.5 Household projections under three scenarios for the A96 Corridor, 2006-2046



Source: DTZ

3.1.3 Implications for Tornagrain

The best fit case projection, together with market advice from DTZ Residential, was used to project the likely mix of households in the Tornagrain development over the projection period. The data on which this is based can be found in Appendix D. The projections are summarised in Table 3.4.

Projections for the high and low cases have not been developed further. They were produced for the A96 area as a whole to show the boundaries of possible population growth projections, but are considered unlikely. The high case assumes continuing high levels of economic growth experienced in recent years, but this is not considered sustainable because it is very exceptional and driven by in-migration, particularly from Eastern Europe, that looks unlikely to continue in the current economic climate. The low case assumes a return to stagnation in the region, which also seems unlikely over the longer-term given the high levels of recent growth and strategies that are in place to enhance economic performance.

Under the high case, there would be growth of some 34,000 households 2006-46, which goes way beyond current Highland Council plans for residential development. Under the low case, there would be growth of only 4,500 housing units in the A96 Corridor in the same period. This would mean that The Highland Council's plans for the whole area would have to be revised as the anticipated growth in housing units and people would not occur. Both cases are considered to be very unlikely; they reflect the most optimistic and pessimistic economic forecasts for the area.

The DTZ population projections under the different scenarios shown above were converted to estimates of households using Scottish Government data for Highland.⁸ This data shows the proportion of people by gender and age band that will become head of a household and therefore allows the population forecasts to be converted into estimates of number of households by type. This data was only available up to 2016; however, the formula by which it was calculated was used to extend this to 2030. Beyond 2030 (in line with the population projection model), all underlying characteristics are assumed to remain constant and 2030 rates of household formation are carried forward to the end of the projection period (2046).

Advice from the DTZ Residential Team indicated that the development would have an initial starting point of around 350 houses (also accepted in Highland Council's A96 Corridor Masterplan), with a 60/40 split in favour of single person and small households over family size larger houses. This split would continue for 5-10 years, when the split would reverse to 40/60 for additional housing, eventually ending up as a 20/80 split in favour of families. It was estimated that the maximum amount of housing that could be brought on-stream year on year was around 200 units.

These figures, together with the projections for the Study Area, were used to project forward the composition of the housing units in Tornagrain from completion of the first phase of residential units in 2016 through to 2046. Taking the same starting point of 350 housing units, 60% (210) were single person or small households and this was split by type of small household (one person male, one person female, two person adult or one adult one child) according to the share that each of these groups had of the all small households in the Study Area. 40% (140) were assigned as family homes and this was split by family household type (three plus person adult, one adult and two plus children or two adults and one plus child(ren)) according to the share that each of these groups had of the all-family households in the Study Area. Family households are declining across the Study Area (and regionally and nationally), but as Tornagrain is a unique development that will be designed to attract these household types, it is believed that this type of mix is likely.

As demonstrated under the best fit case, a population of over 100,000 is achieved within the A96 Corridor area by 2041. Under this scale of population growth, Tornagrain could achieve a 10,000 population over the same timescale. Given that there will be an increasing number of family homes, the overall A96 Corridor area average household size figures were revised from those listed in Table 3.1. There is a starting point of 2.25 in 2016, but this figure increases to 2.3 by 2022 and 2.4 by 2032 and 2.5 from 2041. Assuming these household sizes, Tornagrain would reach its capacity of 4,960 units by 2045.

It is important to note, particularly in the context of the current economic downturn, that the projections are over a 35-year timeframe, and peaks and troughs in the market are taken into account in trying to project forward at an appropriate annual rate.

⁸ Source: <http://www.scotland.gov.uk/Resource/Doc/933/0004172.xls>

Table 3.4 Households in Tornagrain under the best fit case

BEST FIT CASE	2016	2021	2026	2031	2036	2041	2046
1 person male	46	155	230	305	338	375	398
1 person female	58	196	291	390	449	497	528
2 person adult	98	325	470	612	679	753	800
1 adult, 1 child	8	27	39	51	55	61	65
3+ person, adult	36	119	235	343	500	656	752
1 adult, 2+ children	15	57	134	225	326	428	491
2 adult, 1+ child(ren)	89	292	591	885	1281	1680	1927
Total households	350	1170	1990	2810	3630	4450	4960
<i>Average household size</i>	2.25	2.25	2.3	2.3	2.4	2.5	2.5
Total population	788	2633	4577	6463	8712	11125	12400

Source: DTZ

3.2 Economy

The importance of continued economic success in the Study Area has already been noted. The economic indicators for the area are now considered, as well as the impacts that these may have for population growth.

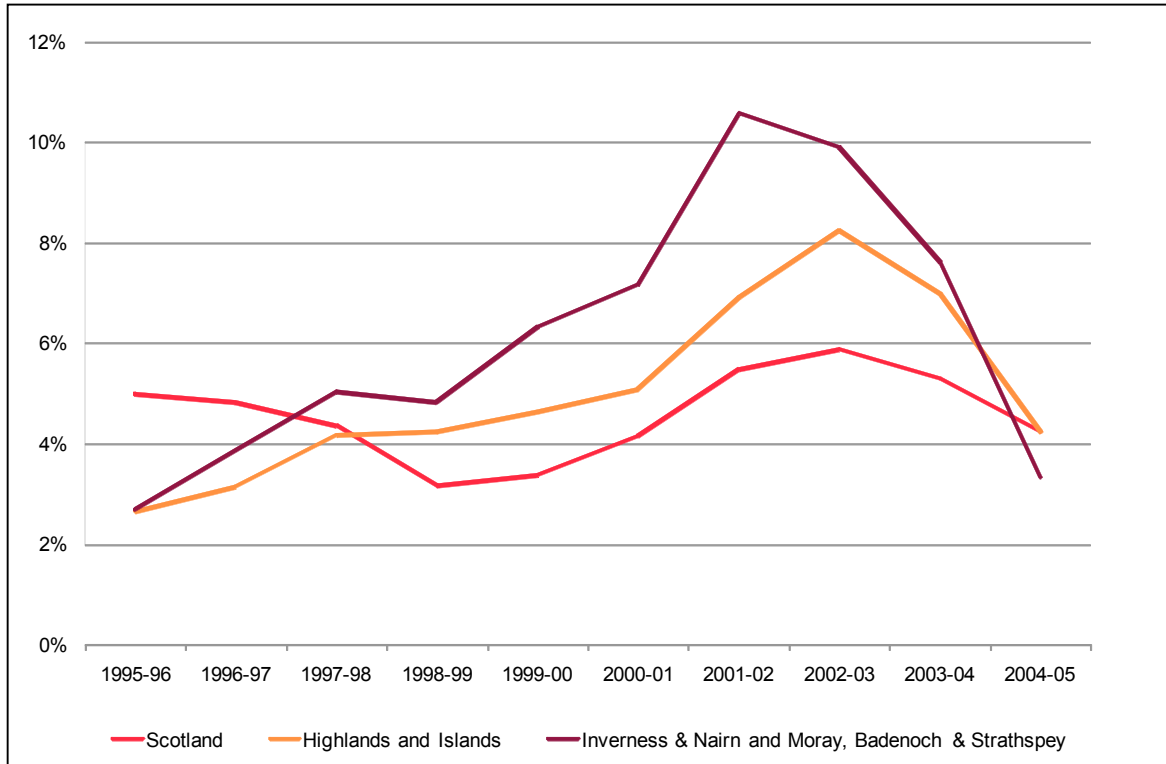
3.2.1 Gross value added (GVA)⁹

Value added is a measure of income created in an economy (or the amount of goods and services produced). The chart below highlights the ongoing growth in GVA in Scotland since the mid-1990s. Over recent years, the growth rate in Scotland slowed slightly (but remained positive), while in the Highlands and Islands growth slowed (but again remained positive) from 2002 to 2005. The Inverness & Nairn and Moray, Badenoch & Strathspey area showed accelerating rates of growth almost constantly between 1995 and 2002, which was significantly stronger than either the Highlands and Islands region or the Scottish national growth rate for much of this time. However, its rate of growth fell from 2002 and had dipped below the regional and national growth rates by 2004-05, whilst remaining positive.

It must be noted that even though the Inverness & Nairn and Moray, Badenoch & Strathspey area has been growing at a faster rate than Scotland and the Highlands and Islands for much of this period, it has started from a much lower base (in terms of GVA per employee) than Scotland.

⁹ Latest statistics for the relevant areas only available up to 2004-05.

Figure 3.6 Changes in Headline GVA



Source: Office for National Statistics

GVA per employee as a proportion of the Scottish average across sub-areas of Scotland is summarised in Table 3.5, below. This shows that while in terms of growth in headline GVA, shown above, the Inverness & Nairn and Moray, Badenoch & Strathspey area is performing well, it remains a relatively poorly performing region of Scotland in terms of GVA per employee, with only three areas having a lower level of GVA per employee. This shows that Inverness and Nairn, and Highland generally, are growing quickly but from a relatively low base.

Table 3.5 GVA per employee as a proportion of Scottish GVA per employee (2005)

North Eastern Scotland	115%
Aberdeen City, Aberdeenshire & North East Moray	115%
Eastern Scotland	103%
Angus and Dundee City	96%
Clackmannanshire and Fife	93%
East Lothian and Midlothian	111%
Scottish Borders	85%
Edinburgh, City of	114%
Falkirk	104%
Perth & Kinross and Stirling	90%
West Lothian	107%
South Western Scotland	98%
East & West Dunbartonshire and Helensburgh & Lomond	102%
Dumfries and Galloway	92%
East Ayrshire and North Ayrshire Mainland	103%
Glasgow City	95%
Inverclyde, East Renfrewshire and Renfrewshire	105%
North Lanarkshire	97%
South Ayrshire	102%
South Lanarkshire	98%
Highlands and Islands	84%
Caithness & Sutherland and Ross & Cromarty	89%
Inverness & Nairn and Moray, Badenoch & Strathspey	86%
Lochaber, Skye & Lochalsh and Argyll & the Islands	78%
Eilean Siar (Western Isles)	86%
Orkney Islands	86%
Shetland Islands	79%

Source: Office for National Statistics

3.2.2 Economic activity

Table 3.6 shows that Highland has higher economic activity and employment rates than Scotland as a whole. This indicates a relatively well-utilised workforce, but may also indicate little scope within the existing population to increase employment if additional jobs are created, further emphasising the need for continued in-migration of working-age people. There are an estimated 7,500 economically inactive individuals who would like a job, as well as just over 4,000 economically active but unemployed individuals seeking work. This indicates some unused capacity, but there may be skills issues with some of the individuals in this group.

Table 3.6 Economic Activity 2007

	Highland	Scotland
Economically active	83.6%	80.0%
In employment (employees and self-employed)	81.6%	75.9%
Economically inactive	16.4%	20.0%

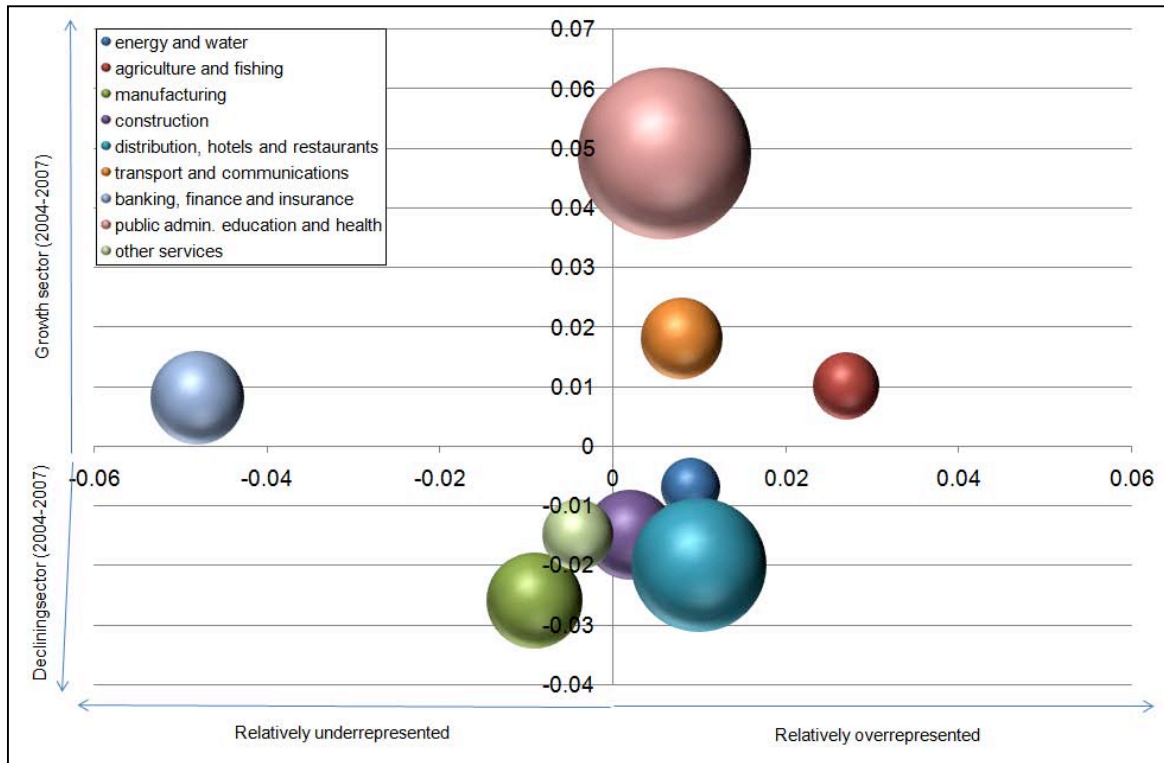
Source: Labour Force Survey, 2007

3.2.3 Industrial structure

Job growth has been largely propelled by a large and growing public sector in the region. The largest private sector is in distribution, hotels and restaurants, where jobs tend to be of lower value-added, with a lack of presence of high value-added jobs (e.g. banking and finance), as also outlined in Figure 3.7. Several of the key private sectors are also in decline in terms of employment numbers, although banking and finance and transport and communication are growing.

One of the benefits of having a public sector of this size is that it is relatively recession-proof and economies with larger public sectors are better protected against slowdowns in the economy, such as that currently occurring.

Figure 3.7 Job growth, decline and specialisation by sector, Highland Council 2004-2007



Source: ABI data adapted by DTZ

3.2.4 Occupational profile

Another indicator that gives an insight into the economic position of the workforce is the occupational profile. Both the Inverness and Nairn areas have proportionately less workers employed in professional occupations than in Scotland as a whole. The proportion of the workforce employed in personal service occupations and sales and customer service occupations is higher in the Inverness and Nairn areas compared to the national average. Otherwise, the occupational profile is quite similar to the national picture.

Comparing Table 3.7 with Figure 3.7, this would seem to demonstrate that the same broad type of jobs are being undertaken in the Study Area as in the country as a whole, but with a greater proportion of these types of jobs being undertaken in the public sector in the Highland region. However, this is a tentative conclusion, as each set of data is covering a different time period.

Table 3.7 Occupational profile in the Inverness area, Nairn area and Scotland, 2001

Occupational Profile – All persons aged 16-74 in employment (excluding full-time students)	Inverness Area	Nairn Area	Scotland
Managers and senior officials	11%	13%	12%
Professional occupations	9%	9%	11%
Associate professional and technical occupations	15%	12%	14%
Administrative and secretarial occupations	13%	10%	13%
Skilled trades occupations	12%	14%	12%
Personal service occupations	8%	9%	7%
Sales and customer service occupations	10%	10%	9%
Process, plant and machine operatives	8%	10%	10%
Elementary occupations	14%	13%	13%

Source: 2001 Census © Crown Copyright

3.2.5 Earnings and income

Mean gross weekly pay for the Highland region continues to lag behind both the Scottish and UK mean gross weekly pay rates. However, between 1998 and 2007, mean gross weekly pay increased by 47% in the Highland region compared to 42% in Scotland and 40% in the UK, indicating that the differential is narrowing slightly, although the gap is still significant.

Table 3.8 Mean gross weekly pay 1998–2007

Year	UK	Scotland	Highland
	Gross Weekly Pay (mean)	Gross Weekly Pay (mean)	Gross Weekly Pay (mean)
1998	£392.5	£360.2	£330.4
1999	£407.8	£377.0	£347.9
2000	£425.1	£388.6	£357.8
2001	£449.7	£411.1	£378.5
2002	£472.1	£434.6	£417.1
2003	£487.1	£447.0	£433.5
2004	£498.6	£455.9	£424.1
2005	£517.0	£479.6	£443.5
2006	£534.9	£498.5	£455.0
2007	£549.8	£512.4	£484.4

Source: Nomis, Annual Survey of Hours and Earnings, 2007 © Crown Copyright

Looking at the average position for the whole of the Inverness and Nairn areas or the Highland region can be misleading and may mask pockets of advantage or disadvantage within small local areas. The Scottish Index of Multiple Deprivation (SIMD) 2006 highlights where groups of individuals are disadvantaged within particular localities.

There are 292 datazones¹⁰ in the Highland region (6,505 in Scotland), with an average population of 800 people per datazone¹¹. The results show that Highland has three datazones in the 5% most deprived in Scotland (0.9% of the national share), eight in the most deprived 10% (1.2% share), 17 in the most deprived 15% (1.7% share) and 24 in the most deprived 20% (1.8% share). Given that Highland comprises 4.2% of the total Scottish population, it does seem underrepresented in terms of deprivation. However, the position has worsened relative to the previous SIMD in 2004, with Highland having seven more datazones in the most deprived 20% than in 2004.

11.3% of people are judged by SIMD 2006 to be income deprived in Highland, against 13.9% in Scotland. 10.6% of the working age population are judged to be employment deprived (12.9% in Scotland). Highland also has a 1.8% national share of the 15% most deprived health zones, 1.3% of the 20% most deprived education, training and skills zones, 0.2% of the 15% most housing deprived and 2.7% of the 15% most crime deprived. Therefore, although there are pockets of deprivation in Highland, and many of these are in the A96 Corridor area, it is a relatively minor problem compared to many other parts of Scotland. Only on deprivation in access to services (13.4% of the national share of 15% most deprived) does Highland have a percentage in excess of its population share. This result is not that surprising given the rural nature of much of the region.

3.2.6 Structure of the business population

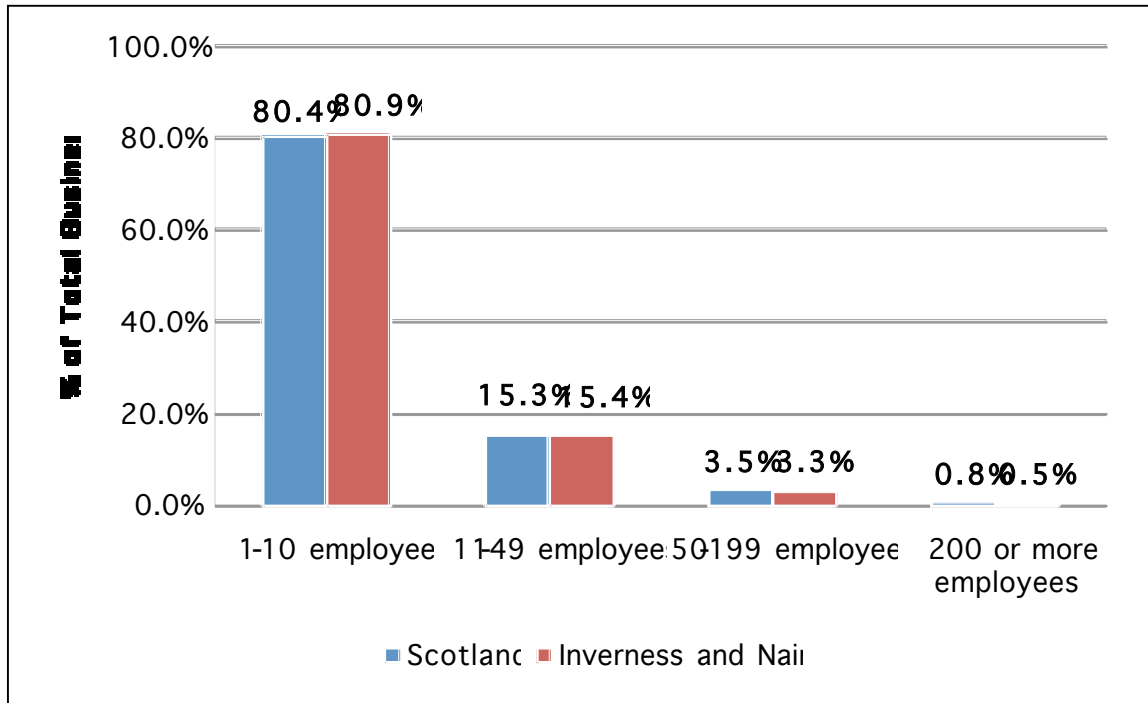
As illustrated in Figure 3.8, the business environment of Inverness and Nairn is characterised by a high concentration of small businesses. This is in keeping with the structure of the business population of Scotland as a whole, as it is for other firm sizes.

¹⁰ Statistical areas used by the Scottish Executive

¹¹ Scottish Index of Multiple Deprivation 2006. Available at:

<http://www.scotland.gov.uk/Topics/Statistics/SIMD/simd2006statcompend1overa>

Figure 3.8 Size structure of the local business population, 2006

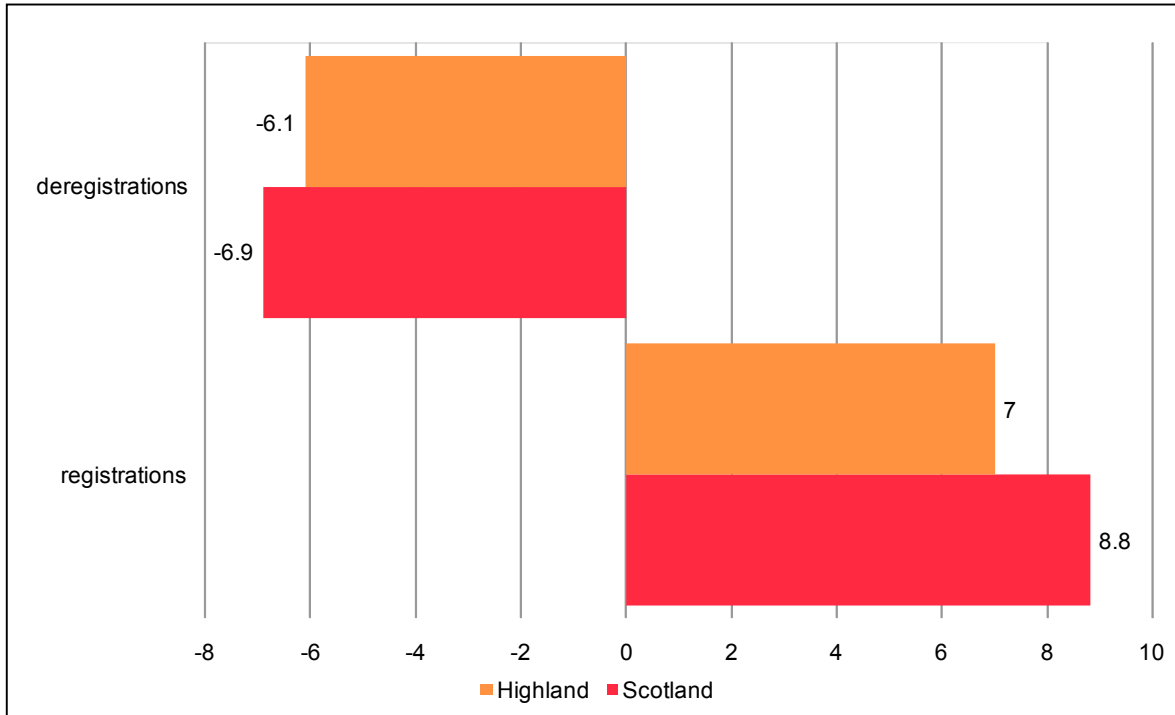


Source: Annual Business Inquiry, 2008 © Copyright

3.2.7 VAT registrations

Figure 4.9 illustrates the VAT registrations and de-registrations for Scotland and Highland. These figures provide an indication of how successful local economic conditions are in fostering/sustaining businesses. Highland had a lower proportion of registrations than the national level in 2006, suggesting a relatively lower level of entrepreneurial dynamism in the area. However, the proportion of de-registrations is lower in Highland than in Scotland as a whole. These figures suggest that the growth of businesses is higher in Scotland than in Highland, but that there is growth in the business stock in Highland.

Figure 3.9 VAT registrations and de-registrations, 2006



Source: Annual Business Inquiry, 2008 © Copyright

3.2.8 Quality of life indicators

A number of indicators highlight the differing position in the Highland area compared with the whole of Scotland. These quality of life, or social, indicators are also important in assessing an area's relative attractiveness.

Crime

Crime can have an impact on people's choice to move to an area. The total number of crimes recorded by the police can give an impression of actual crime committed, although as not all crime is reported or recorded, it can only give a partial picture. Although the Highland area accounted for 4.2% of the population in 2006, according to mid-year estimates, recorded crimes were only 3.1% of the total in Scotland in 2005-2006 and house breakings in the Highland area were only 1.2% of the of the Scottish total, indicating a lower level of crime in the Highland area than in Scotland as a whole. Table 3.9 (below) highlights that the proportion of crimes cleared up in the Highland area is also significantly greater than the proportion of crimes cleared up in Scotland as a whole.

Table 3.9 Crime and justice statistics

Crime and Justice	Highland	Scotland
Number of crimes recorded by the police: 2005-2006	12,854	417,785
Crimes cleared up by the police as a percentage of those recorded: 2004-2005	61%	46%
Number of housebreakings recorded by the police: 2005-2006	381	31,319
Housebreakings cleared up by the police as a percentage of those recorded: 2005-2006	44%	26%

Source: Scottish Neighbourhood Statistics, 2006.

Health

Mortality rates in the Highland area are lower than the Scottish average, with the GROS local mortality adjustment factors being 0.942 and 0.936 for males and females respectively. There are more admissions to hospital per 100,000 people for alcohol misuse (995 as opposed to 723 in Scotland). However, there were fewer admissions to hospital per 100,000 people for drug misuse (41 as opposed to 127 in Scotland). SIMD highlights that only 2% of datazones in the Highland area are in the most deprived health decile in Scotland¹².

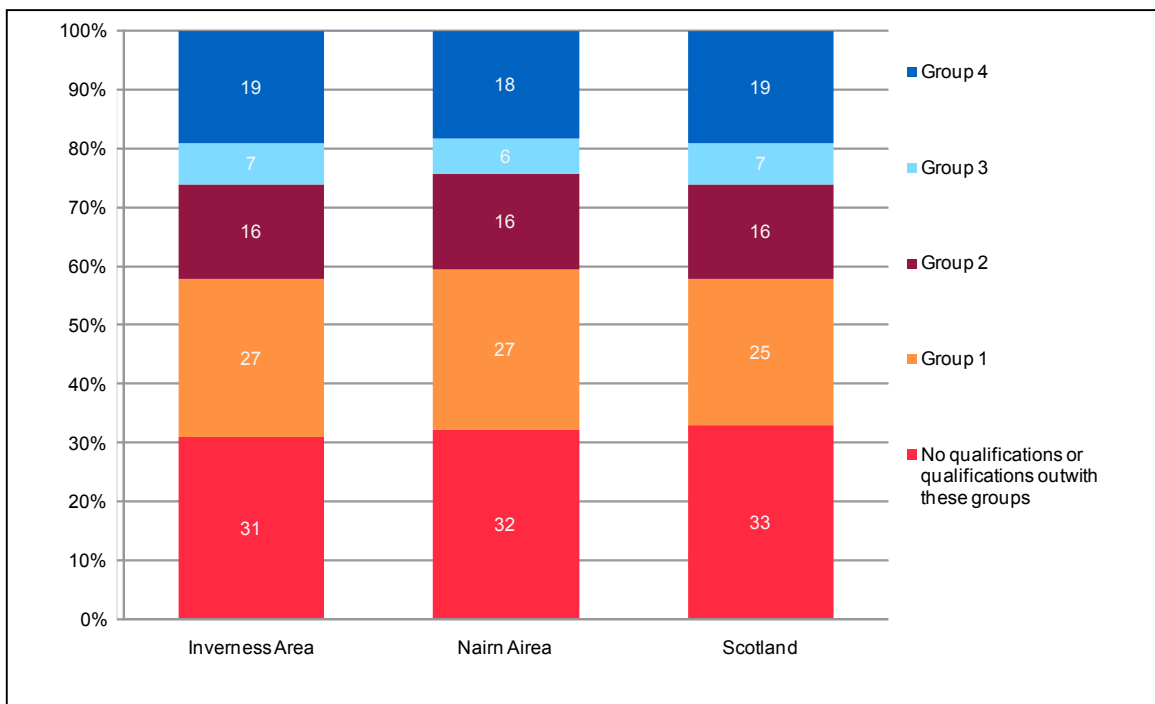
Education

The education profile of the area will also be a key determinant in any relocation decision. If the current school roll is poorly educated, then this may inhibit families from moving to an area.

The Inverness and Nairn areas both have a slightly greater proportion of those with Group 1 qualifications compared to the national level. The Nairn area has a slightly smaller proportion of those workers with Group 3 and 4 Qualifications. However, overall, the Inverness and Nairn areas broadly reflect the situation in Scotland as a whole.

¹² SIMD 2006.

Figure 3.10 Qualifications of the workforce, 2001



Qualifications	
Group 4	First degree, Higher degree, Professional Qualification.
Group 3	HND, HNC, RSA Higher Diploma, SVQ level 4 or 5, or equivalent.
Group 2	Higher Grade, CSYS, ONC, OND, City and Guilds Advanced Craft, RSA Advanced Diploma, SVQ level 3 or equivalent.
Group 1	'O' Grade, Standard Grade, Intermediate 1, Intermediate 2, City and Guilds Craft, SVQ level 1 or 2, or equivalent.
No Qualifications	No qualifications or qualifications outwith these groups

Source: SCROL © Crown Copyright

Scottish Neighbourhood Statistics indicate that the average tariff score for S4 pupils in Highland is higher than the Scottish average (181 compared to 171). In addition, the proportion of S4 cohort that attained SCQF levels or better in both English and Mathematics in 2006 in Highland was slightly better than the Scottish average (91.4% compared to 91.3%). Families can therefore reasonably expect their children to receive at least as good an education in Highland as in Scotland as a whole.

3.2.9 Travel to work

The ability to travel can affect quality of life, directly and indirectly, as this will determine people's ability to get to work, shops, public services and other amenities. If large numbers of people have access to cars or public transport and are willing to travel distances to work, this may make any development in the Inverness and Nairn areas more attractive for potential customers.

In all of the areas considered, the main method of travelling to work is by car. A slightly lower percentage in the Inverness and Nairn areas use a car to travel to work compared to Scotland as a whole. Fewer people in the Inverness and Highland area use public transport compared to Scottish averages, which perhaps indicates the frequency and quality of the services in these areas rather than any objection to public transport per se. The higher proportions of those who responded 'other' in Inverness and Nairn indicates a higher proportion of people walking to work, possibly because many do not have to travel that far.

Table 3.10 Method of Travel to Work, people in employment excluding full-time students, 2001

	Scotland	Inverness Area	Nairn Area
All people in employment, excluding full time students	5,062,011	54,777	8,418
Travel by Car (including passengers, car pools and taxis)	64%	63%	61%
Travel by train or bus	15%	10%	7%
Work Mainly at or from home	6%	5%	6%
Other	15%	22%	26%

Source: SCROL © Crown Copyright

Car

The level of car ownership is higher in rural areas (66-79%) than in urban areas (where it is typically between 51-64%).¹³ The Highland Council is seventh out of the 32 local authorities in Scotland in terms of car ownership, with 80% of households having at least one car (66% in Scotland) and 30% having two cars or more (23% in Scotland).¹⁴

The region's road network comprises a mix of national and local roads - there are no motorways in the region. The Inverness and Nairn areas are accessible to and from a number of towns in the north of Scotland, particularly from the A96 corridor and from further south via the A9. The A9 links Inverness with Edinburgh, Scotland's capital, and the largest city, Glasgow. To the east, the A96 links Inverness to Nairn and on to Aberdeen. To the southwest, the A82 links with Loch Ness, Fort Augustus and on to Fort William.

¹³ HITRANS Regional Transport Strategy for the Highlands and Island 2007

¹⁴ SHS Transport Across Scotland 2003-2004

Businesses have complained about both these main trunk roads (the main links between the Highlands and the central belt), which many of them branded as unsafe and too slow, and constraining development in the area.¹⁵ Weather conditions can have detrimental effects on the roads, with bad weather particularly in the winter causing temporary road closures. The growth and pace of development in the Inverness area has put considerable pressure on the local road infrastructure, and parts of Inverness and the surrounding area suffer from congestion. This is partly due to the dual purpose of the main trunk roads through Inverness, which carry both long distance through-traffic and provide local connections. To the immediate north of Inverness, congestion is significant on the Kessock Bridge and at the Longman roundabout. However, the Highlands and Islands strategic transport partnership outline, as a strategic priority, investment in improving the A9, A96 and A82.¹⁶

Bus

Inverness is the hub of bus transport in the Highland region, with regular buses linking Inverness with other Highland communities and express coaches running to the main cities of Scotland and the rest of the UK. In the Inner Moray Firth area, many buses are hourly six days per week, although some of the most rural areas have only a daily post bus or school bus that is also available to the public.¹⁷

There are frequent buses running to the airport from Inverness and there are two bus services that run from Inverness to Nairn, stopping at Tornagrain. These two bus services currently provide 33 departures a day during weekdays. The bus service starts at 0600, finishes at 2325, and between 0700 and 2325 buses depart every half an hour.

Rail

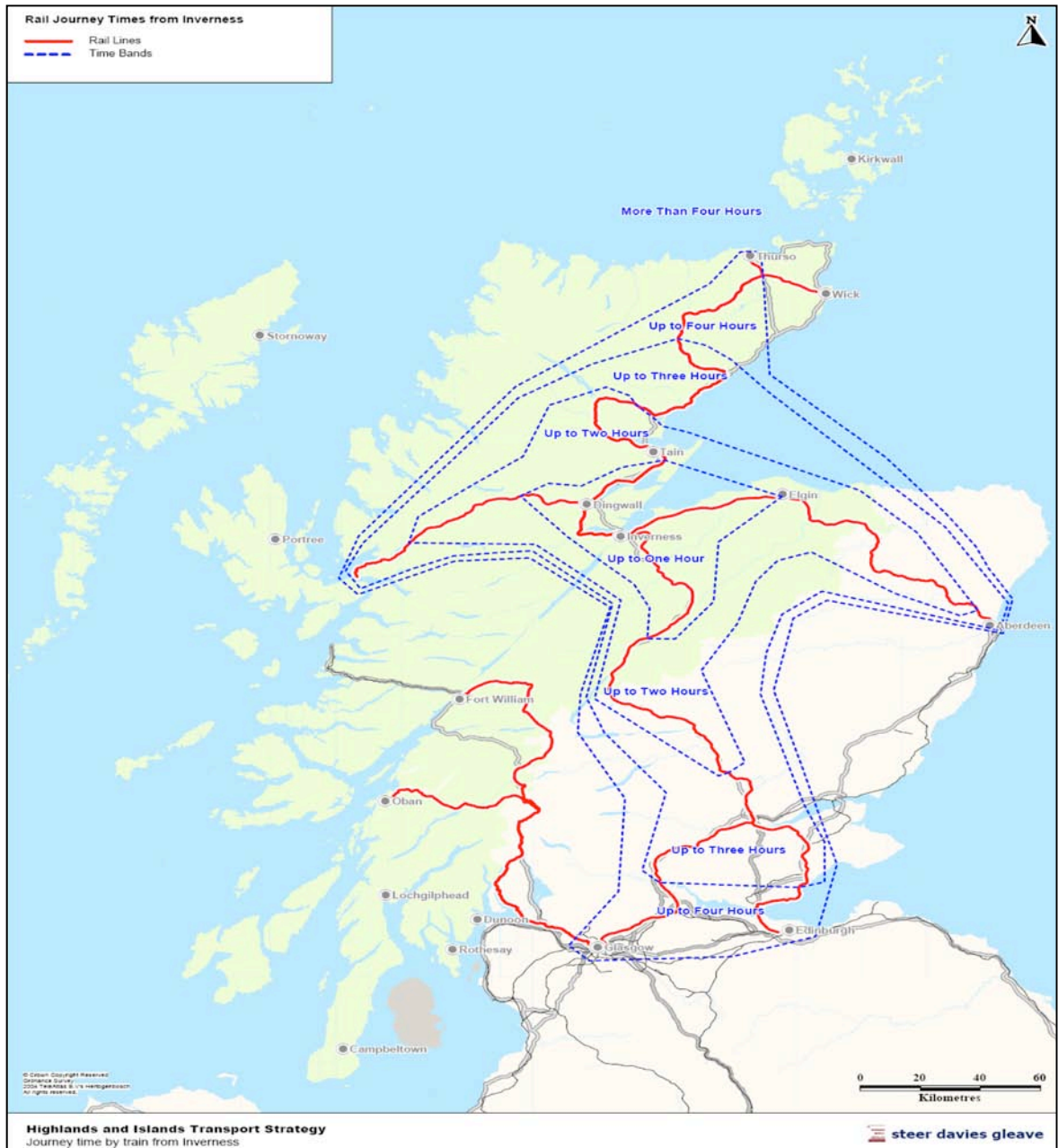
Inverness is the hub of the region's rail network, with the north-south route (Thurso/Wick to Glasgow/Edinburgh) and east-west route (Aberdeen to Kyle of Lochalsh) passing through the city. Inverness has good connection with the other major cities in Scotland: Aberdeen, Edinburgh and Glasgow. There are ten services a day to Aberdeen, ten to Edinburgh (of which seven are direct) and nine services to Glasgow (three direct). The map below (Figure 3.11) illustrates the rail journey times from Inverness to the rest of Scotland.

¹⁵ http://news.bbc.co.uk/1/hi/scotland/highlands_and_islands/5176610.stm

¹⁶ <http://www.scottish.parliament.uk/business/committees/lg/inquiries/fti/HITRANS.pdf>

¹⁷ Highlands and Islands Baseline of Transport Provision

Figure 3.11 Rail journey times from Inverness



Source: HITRANS Regional Transport Strategy for the Highlands and Islands 2007

Air

Inverness Airport is based ten minutes from the city centre and eleven miles from Nairn. It has scheduled flights to major UK destinations including:

- Belfast City;
- Birmingham;
- Bristol;
- East Midlands;
- Edinburgh;
- London (Gatwick and Luton);
- Manchester; and
- Southampton.

It also serves a number of remote/island communities including Kirkwall (Orkney), Stornoway (Western Isles) and Sumburgh (Shetland)¹⁸.

3.2.10 The housing market

The housing market in the Inverness and Nairn area has been buoyant in recent years. The volume and total value of house price sales in the vicinity of Tornagrain has been on a rising trend in the ten years to 2006. Average prices have risen year on year, with the exception of 1996 to 1997 (see Figure 3.12).

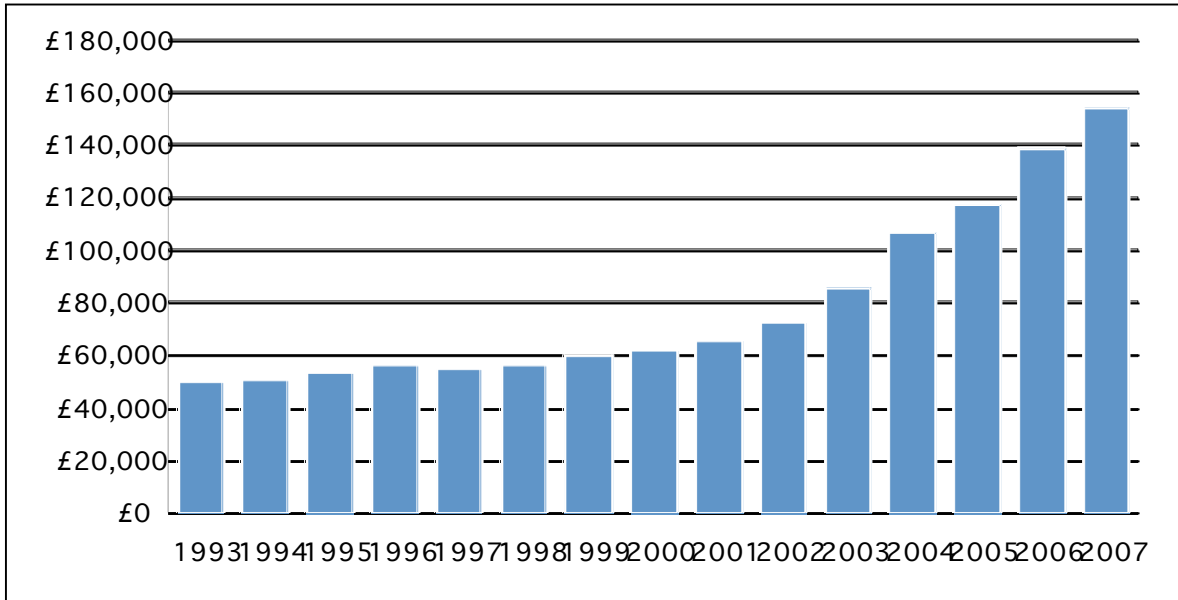
House prices give an indication of the relative attractiveness of an area and its housing stock. Growing numbers of sales alongside rising prices indicate strong demand and capacity for new housing stock. Planned residential housing expansions will increase supply, helping to regulate prices across a range of house types, but Figures 3.12 and 3.13 indicate that the area can cope with increased supply as prices are on a strong upward trend, with growth outstripping the Scotland average in recent years.

Current economic difficulties mean that this level of growth is unlikely to continue, at least in the short-term. Latest statistics from the Registers of Scotland show a rise of 2.4% in Highland in the second quarter of 2008, and growth of 9.4% over the previous year. The average price of a house in Highland is now over £160,000. The Highland housing market is faring a little better than the overall Scottish market, where prices rose by 3.6% in the second quarter of 2008 (up 4.6% on the year overall), with the average house price now standing just under £156,000¹⁹. Given the demand and supply pressures in the market, we would expect house prices to be broadly flat in Scotland over 2009, but to continue to grow again, at more modest levels than before, for the subsequent three to four years.

¹⁸ Full details available on: <http://www.hial.co.uk/inverness-airport.html>

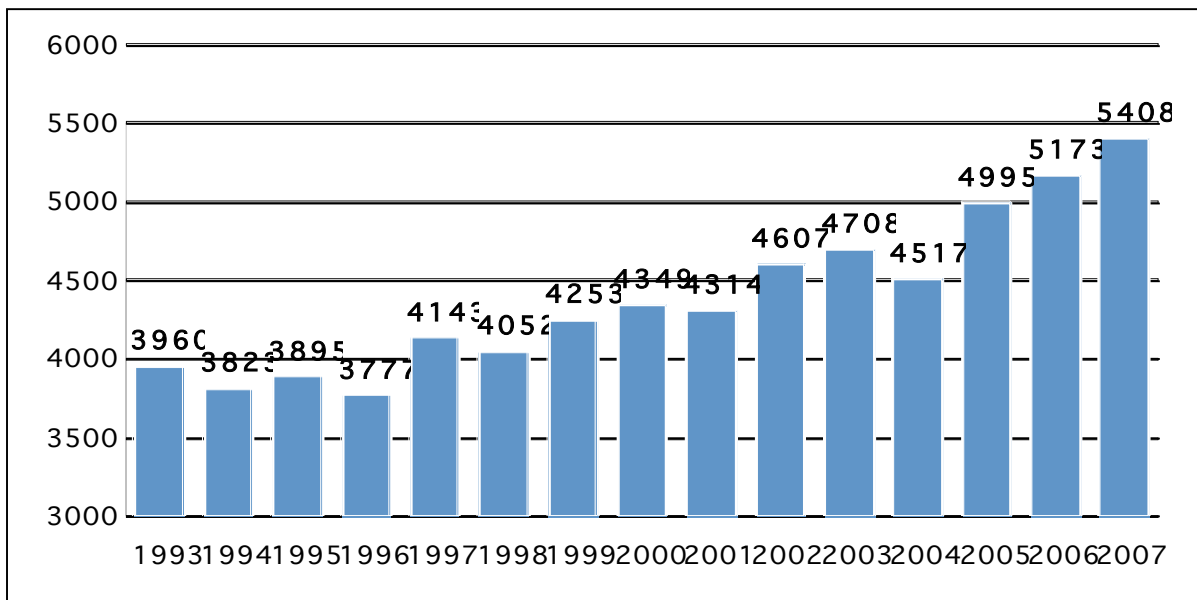
¹⁹ http://news.bbc.co.uk/1/shared/spl/hi/in_depth/uk_house_prices/regions/html/region12.stm

Figure 3.12 Average Sale Price in Inverness East, Nairn and Lochaber



Source: Scottish Neighbourhood Statistics, 2008

Figure 3.13 Number of sales in Inverness East, Nairn and Lochaber



Source: Scottish Neighbourhood Statistics, 2008

4.0 Social and economic impact assessment

4.1 Introduction

The methodology for calculating economic impact is based on the HM Treasury Green Book guidance²⁰ and additionality guidance developed for the UK Government and regional development agencies²¹. The gross and then the net economic impact of the proposed development is calculated by considering the likely direct, indirect and induced impacts, taking into account local and national multipliers and displacement levels.

The **gross economic impact** of the development is a measure of the total economic benefit generated and can be divided into the following elements:

- the jobs created through the construction of the development;
- the additional incomes / expenditure attracted to the area by new employees;
- the indirect jobs created through the purchases of supplies and services; and
- the induced jobs created by the wages and salaries of the direct and indirect jobs created.

The **net additional economic impact** will need to take account of a variety of factors which ensure that the proportion of the gross economic impact attributed to the development is not understated or overstated. Additionality needs to take account of a number of factors.

- **Leakage** – i.e. that part of the total economic benefit that ends up outside the region. This will be informed by the industrial profile, i.e. any impact occurring in sectors where there is no local representation will be lost.
- **Displacement** – i.e. loss of any activities that are in direct competition with the new development. For example, other developments may not go ahead or may be reduced in size. This loss of income will have to be offset against the final impact.
- **Deadweight** – i.e. impacts that would still have accrued regardless of the development. If there are competing developments, the new development may simply result in a redistribution of benefits away from existing sites, therefore reducing the attributable local expenditure and employment impacts, i.e. new businesses may have arrived in the area, regardless of the new development. The extent of this competition will be informed by desktop research of other residential development in the vicinity.

²⁰ HM Treasury, *Green Book: Appraisal and evaluation in central government*. London: TSO.

²¹ English Partnerships, *Additionality Guidance*. Second edition. 2004.

- **Multipliers** – i.e. the impact that the new businesses, residents and employees have as they spend money in the area. Bespoke local multipliers will be derived from the analysis to determine the knock-on effects that the direct expenditure injection has throughout the economy. This process will utilise the ONS's UK Input-Output tables, adjusted to take account of the local industrial profile, and corrected for the issues highlighted above.

In the absence of core data, assumptions have been made on the basis of national averages, which may reduce the robustness of the final impact figures.

In addition to the quantifiable economic indicators (output, employment, income and GVA), a commentary on the potential non-quantifiable benefits that a development of this type may have, i.e. the social costs and benefits, is also provided. This is a standard requirement of the Socio-economic inputs to an EIA. Examples of these wider social impacts may include:

- improvements in the skill base of those directly and indirectly employed;
- long-term improvements in the quality of local businesses;
- improvements in inward investment attractiveness;
- increased confidence in the local resident population and business population;
- improvements in the economic sustainability of the area (as a consequence of increased leisure and tourism or other sectors); and
- long-term benefits from infrastructure improvements (e.g. road improvements).

Any negative social impacts of the project have also been identified, as well as ways in which these can be mitigated.

4.2 Quantifiable impacts

In this section, the quantifiable economic impact of the development in terms of employment and output is assessed.

Impacts are considered in relation to the following:

1. population and housing;
2. social infrastructure;
3. the construction impact of housing and social infrastructure;
4. employment and the labour market; and
5. income.

4.2.1 Population and housing

The population and household growth for the A96 Corridor area under a number of scenarios was provided in Section 3. This was translated into population and households for Tornagrain under the best fit case scenario.

The development may have impacts on local housing markets in other parts of the wider area. There are a number of additional housing projects that are planned or underway, and it is possible that Tornagrain may affect, or be affected by, these developments. There may also be concern about the longer-term viability of some existing communities if the development proceeds.

Knowledge of the local housing markets, coupled with updated demographic projections, has been used to make an assessment of the impact of Tornagrain on local housing markets. The impact of other housing expansion on Tornagrain, and vice versa, is also considered.

Firstly, the prospective housing supply, and its phasing, in the Study Area is considered, based on *The A96 Growth Corridor Development Framework 2007* and Highland Council's *Housing Land Audit*.

As can be seen in Figure 4.1, there is existing provision for over 20,000 new housing units in the Study Area. This includes Tornagrain (in the Dalcross figures).

Table 4.1 Prospective new housing supply in the A96 Corridor area up to 2041

A96 Corridor & Inverness City	Phasing							Total
	2006-2011	2011-2016	2016-2021	2021-2026	2026-2031	2031-2036	2036-2041	
East Inverness	282	1,060	850	550	600	129	0	3,471
Whiteness	400	1,000	550	0	0	0	0	1,950
Nairn	229	550	700	750	850	800	750	4,629
Central	0	202	202	323	317	420	421	1,885
Dalcross	0	350	550	750	900	950	1,000	4,500
Inverness City	1,836						2,122	3,958
Total	2,747	5,284	2,852	2,373	2,667	2,299	2,171	20,393

Note 1: Figures for housing supply of Inverness City includes sites identified for housing in Local Plans, including windfall sites that have received planning permission for housing. In this case, all known owners and developers of housing sites have provided updated information about the sites. However, the figures for East Inverness, Whiteness, Nairn, Central and Dalcross represent the development potential of the A96 Corridor.

Note 2: The phasing of Inverness City dwellings is presented over the years 2006-2010, and beyond this time period only one figure is available for 2011 onwards.

Source: Highland Council and Halcrow, *The A96 Growth Corridor Development Framework*, Inverness: Halcrow, August 2007; and Housing Land Audit, Highland Council

Table 4.2 provides details of the increase in housing demand in the A96 Corridor area up to 2046 and summarises the total supply that is planned to be made available over this time. This allows for comparison of the demand and supply scenarios. The analysis of house prices earlier in the report highlights that there are already demand pressures in the Inverness and Nairn housing markets. This would seem to indicate the need for additional supply currently.

The A96 Framework estimates that 20,393 additional housing units (including the Tornagrain settlement) will be made available in the A96 Corridor area up to 2041. Under the best fit case, this would match the requirements (a demand for an additional 17,119 housing units).

The local housing market will also be highly dependent on the UK housing market, i.e. people have to sell their houses somewhere else if they are to move to the A96 Corridor area. At the moment, the national housing market is in decline in terms of house prices and sales, and there are significant fears of a sharp market downswing, particularly in the wake of recent shocks caused by problems with the sub-prime lending market in the US. The housing market is highly dependent on market confidence and, although many market commentators see a slowdown rather than a slump in the housing market in Scotland, any sharp correction will have serious consequences for people's willingness and ability to relocate to the A96 Corridor area.

The development would appear to have little adverse impact on other local housing markets under the best fit case.

Table 4.2 Future housing demand and supply

HOUSING DEMAND	2006 - 2011	2011 - 2016	2016 - 2021	2021 - 2026	2026 - 2031	2031 - 2036	2036-2041	Total increase 2006 – 2041
Best Fit Case								
Household increase	2,988	3,054	2,940	2,941	2,612	1,409	1,174	17,119
HOUSING SUPPLY								Total increase 2006 – 2041
Residential units	2,747	5,284	2,852	2,373	2,667	2,299	2,171	20,393

Source: DTZ

4.2.2 Social infrastructure

In order to create a genuinely sustainable settlement, not just a housing development, a wide range of social infrastructure needs to be integrated into the settlement.

On the basis of the population and household projections, the scale, nature and phasing of provision for the following range of facilities is considered below:

- education (primary and secondary);
- health care;
- open space / sports and recreation;
- ecclesiastical;
- cemetery;
- allotments; and
- retail.

Assumptions regarding the population thresholds required to make these various facilities viable are based on a combination of consultations with key providers, experience from other settlements and the consultancy team's experience in similar developments.

The Inverness Local Plan provides an indication of the classification of settlements in terms of population structure and general types of associated services as outlined below. On this basis, the proposed Tornagrain settlement would be classed at a district centre.

Table 4.3 Area definitions

	Population	Facilities
City	50,000+	Regional civic/admin, commerce/businesses, sports/leisure, cultural, heritage, transport centre, college / university, hospital
District	9,000-15,000	Supermarket or superstore, business park / industrial estate, health centre, secondary school, petrol station, service/police point, library, park, local nature reserve
Neighbourhood	3,000-5,000	Supermarket / shops, post office, schools, day care, petrol station, business site, health centre, police/service point, library, playing field, local nature reserve
Local Centre	1000+	Small supermarket / shops, primary school, post office, ATM, public house, hall, surgery, day care, playing fields, natural habitats,
Key Village	500+	Shop / post office, primary school/ day care, surgery, playing field, hall
Small Settlement	<500	Primary school, play area

Source: Inverness Local Plan, Highland Council, March 2006, Pg 24

Education

Tornagrain is currently zoned within the Culloden Academy catchment. The Culloden Academy catchment includes the following associated/feeder primary schools:

- Ardersier Primary School;
- Balloch Primary School;
- Cradlehall Primary School;
- Croy Primary School;
- Duncan Forbes Primary School; and
- Smithton Primary School.

Of these, Croy, Balloch and Ardersier are closest to the proposed development at Tornagrain, with the development located within a triangle between them. However, while there is some capacity projected within these three schools (Ardersier and Balloch will be under-utilised, but Croy will be over-subscribed), the available capacity within them (less than one stream in aggregate) would not cope with a significant development of the scale of Tornagrain.

In addition to the above, pupils attending St. Joseph's R. C. Primary School, on a denominational basis, subsequently transfer to Culloden Academy on completion of their primary schooling if they have an address within Culloden's catchment.

In developing the education capacity requirements for Tornagrain, The Highland Council was consulted regarding the school capacity assumptions for single- and double-stream primary schools.

The Highland Council school roll projections were reviewed to assess the vector of change in rolls at local schools and the detailed age breakdown of those in the projected population of school age in the A96 Corridor. The likely input of pupils was then assessed, generated as a consequence of the three population growth/phasing scenarios. Pupil impacts will be greatest on the catchments and associated primary schools of Nairn Academy and Culloden Academy. Analysis on the impact and key trigger points for developing schools is set out below.

Table 4.4 Interpretation of implications for the scale, nature and phasing of education capacity at primary school level

Milestone	Best Fit Case
New Single-Stream Primary (cumulative number of pupils)	2016 (75)
Extend to Double-Stream (cumulative number of pupils)	2019 (180)
New Single-Stream Primary (cumulative number of pupils)	2023 (324)
Extend to Second Double-Stream (cumulative number of pupils)	2027 (470)
New Single-Stream (cumulative number of pupils)	2031 (615)
Extend to Third Double-Stream (cumulative number of pupils)	2035 (771)
New Single-Stream (cumulative number of pupils)	2039 (928)
Extend to Fourth Double-Stream (cumulative number of pupils)	2043 (1,085)
Cumulative Impact at Primary Level by 2046	1,203
Notional capacity created	1,200 places (four 300 capacity double-stream schools)

Source: DTZ

The best fit case, of four 300-capacity double stream **primary schools** by 2046, is reflected in the current masterplan for the development.

It would probably be desirable to have a single stream school (150 capacity) built first and, as required, expand this to a double stream (300 pupils), therefore ensuring, given the advantage of relatively high population density, delivery of a minimum of four double-stream primary schools by 2046, serving clearly defined neighbourhoods/communities within the Tornagrain settlement. This would be preferable to expanding primary schools outside the settlement. A key requirement will be to establish well-defined, safe cycle and pedestrian routes to school, which will be achieved through the ability to masterplan neighbourhoods from the outset.

At **secondary school level**, the most sustainable solution, with the development of a coherent, unified community within Tornagrain, would be for the new local secondary school to be constructed to a size that is capable of delivering the total secondary school requirement.

Table 4.5 sets out the likely secondary school requirements for the Tornagrain settlement.

Table 4.5 Secondary school infrastructure requirements

Milestone	Best fit Case
Cumulative Pupil Product Impact at Secondary Level by 2036	637
Cumulative Pupil Product Impact at Secondary Level by 2046	945
New Secondary School Provision (capacity required by 2036)	New 800 capacity school (79.6% utilised)
Secondary School Provision (capacity required by 2046)	As above and extend new school to 1,100 capacity (85.6% utilised) or extend Nairn or Culloden to 1,100 capacity
Total New/Extended Places	1,100

Source: DTZ

It is estimated that a new secondary school would be viable for the A96 Corridor area by 2031 (800 capacity, with 483 pupils or 60% utilisation). The school will then need to be extended to 1,100 capacity by 2042 or, alternatively, an additional 300 places may be required²² at Nairn Academy, or Culloden Academy might be extended to circa 1,200 capacity (currently 965). However, this latter option may not be possible.

Looking beyond known housing growth, and the proposals for Tornagrain, in the event that further housing development was required in the catchments of those schools, developer contributions for any such future sites would be expected to address capacity issues at that time.

As regards the site curtilage for a primary school, which might indicate the required land allocation for primary and secondary schools, there is at present no 'hard and fast' rule. However, the National Playing Fields Association's six-acre standard is influential in terms of driving best practice, and Sport Scotland has also issued guidance on best practice provision of playing fields. As discussions between MEDCO and The Highland Council have indicated, the Council's aspirations for site curtilage are towards the upper end of the specifications.

²² Depending upon the prevailing school rolls in either school at that point. Highland Council roll projections have indicated a decline in school rolls in both schools in the period beyond 2010/11.

Moreover, it is advisable, in terms of future-proofing, to allow sufficient scope for expansion of any primary school and secondary school teaching accommodation on the same site, as required, and to allow for community use, particularly of open space, with many village schools not only serving as a community resource but also providing a vital green buffer and sense of place in masterplanning terms. It is clear that The Highland Council is keen to see partnerships develop with private sector operators or sports facilities, where appropriate, while community access to school facilities is a key requirement.

As stated previously, these areas help to build a sense of a settlement focal point, especially in the absence of other community meeting facilities and, typically, access to public transport and cycling and walking routes are a key aspect of successful school sites.

Indicative site curtilage requirements for proposed schools within Tornagrain are set out below.

Table 4.6 Highland Council requirements for curtilage for school types

	Estimated Site Curtilage per school required by Highland Council (Ha)
Primary School (Single Stream, 150 capacity)	1.4-2.2
Primary School (Double Stream, 300 capacity, based upon Inshes Primary)	2.6
Secondary School at 400 capacity	2.7
Secondary school at 800 capacity	7.2
Secondary School at 1,100 capacity (based upon Millburn Academy)	8.2

Source: Highland Council

The **best fit case** is therefore likely to require, depending on the specification chosen and land availability, **from 17.6 hectares**, if it is assumed that four double-stream schools and an 800 capacity secondary school are required, **to around 18.6 hectares** for 4 double-stream schools and a 1,100 capacity secondary school.

This land can make a significant contribution towards open space requirements and community playing fields/sports facilities. In estimating the contribution to open space within the settlement, data supplied by The Highland Council, as reported by Turnberry Consulting²³, was examined in relation to site curtilage requirements and examples of land usage at Inshes Primary School, Inverness, and at Millburn Academy, Inverness. These sites both contain approximately 60% of land used for grass playing fields, and it has therefore been assumed that 60% of new school sites would comprise playing fields, which could be available for open access. For the best fit case, this yields **10.6 hectares** of open space (assuming 17.6 hectares for four double primaries and an 800 pupil secondary) **to 11.2 hectares** of open space (assuming 18.6 hectares if the high school is built to 1,100 capacity).

²³ Turnberry Consulting, *Tornagrain Education Provision*. October 2007 (adapted from Highland Council data)

It should be noted that this would be additional to hard-surface playing areas or multi-use games areas (MUGAs) within each school, which may or may not be available for community use.

Health Care

A key aspect of NHS Scotland's approach as set out in *Delivering for Health*²⁴ is to, "tackle the causes of ill-health and provide care which is quicker, more personal and closer to home". One of the Key Actions listed in this document is to "establish new health and social care services in communities". This will be accomplished by:

- prioritising investment in local services, including Community Health Centres that deliver diagnostic and day-case treatment;
- developing practitioners with extended roles; and
- fully utilising the skills of all professionals through stronger teamwork in Community Health Partnerships.

With regard to current/expected facilities in the wider Inverness area, the following issues have been taken into account when considering the implications for Tornagrain:

- The relevant Community Health Partnership for this project would be the South East Highland Community Health Partnership, Inverness.
- The newly-configured Nairn Town and County Hospital opened in 2008. A review of the policy documents supporting the case for this new facility indicates that consideration has been given to proposed population expansion in the wider areas and, therefore, the new hospital facilities appear to have been planned with developments such as Tornagrain in mind.
- The new hospital is a new-build facility on the previous Town and County Hospital site and provides a 19-bedded in-patient facility together with a day hospital, accident and emergency, minor injury and outpatient accommodation. A community health service centre provides extensive general medical services, including GP minor injuries; the full range of community nursing services; community mental health services; chiropody; occupational therapy; speech therapy; physiotherapy services; social work services; NHS dental services; and paediatric services.
- In addition to these local services offered at Nairn, specialist services are based in Inverness. The population growth associated with Tornagrain is unlikely to have any significant impact on the capacity of these existing facilities.

Taking a notional 2,000 list size for one GP, the trigger points for GP facilities based on the best fit case are as follows:

²⁴ *Delivering for Health*. Scottish Executive, 2005

Table 4.7 Population trigger points for GP facilities

Population Threshold	Year required (best fit case)
2,000 (1 GP)	2020
4,000 (2 GPs)	2025
6,000 (3 GPs)	2030
8,000 (4 GPs)	2035
10,000 (5 GPs)	2040
12,000 (6 GPs)	2044
14,000 (7 GPs)	
16,000 (8 GPs)	

Source: DTZ

It is evident that it would only be necessary to house one GP in Tornagrain up to around 2025. Hence, for the foreseeable future, community health services for Tornagrain residents should largely be provided by Nairn Town and County Hospital and/or Ardersier Medical Practice.

As the population builds up in Tornagrain, it might be expected that the Nairn Town and County Hospital medical practice would develop outreach or satellite services and the number of GP practices would also grow.

By the time the population reaches around 10,000, it could be possible to combine the facilities into a 'super practice' that would also offer facilities such as community nursing. The population threshold for this is unlikely to be achieved before the 2030s.

In this respect, if a broad-based community resource and activity centre were to be established early on in Tornagrain, this would facilitate the phasing-in of medical and related facilities, e.g. providing office accommodation for district nursing and health visiting personnel. It would also help to alleviate some community concerns about pressure on local health services that may be caused by a rapidly expanding new town. MEDCO is examining bringing forward health and GP facilities earlier than the trigger points, above, would suggest.

Specialist medical care would continue to be provided in Inverness.

Open space/sports and recreation

The Inverness Local Plan specifies the minimum standards for open space / recreation required as part of any new development, as set out below in Table 4.8. This has been used to devise the open space requirements for Tornagrain (Table 4.9).

Table 4.8 Highland Council open space requirement

	Type	Standard	Proximity
Children	Neighbourhood Equipped Area for Play (NEAP)	0.85ha per 1,000 houses	Within 600m of every house
	Local Equipped Area for Play (LEAP)	0.36ha per 200 houses	Within 240m of every house
	Local Area for Play (LAP)	0.04 ha per 50 houses	Within 60m of every house
Adult / Youth	Playing Fields / Pitches / Courts	1.6-1.8 ha per 500 houses (1,000 pop)	Within 600m of every house

Source: Inverness Local Plan, Highland Council, March 2006, Pg 24

Table 4.9 Tornagrain open space requirements (best fit case scenario)

Year	No. of households	NEAP	LEAP	LAP	Courts / Pitches etc	Total Sports / Recreation Space
2016	350	0.30 ha	0.63 ha	0.28 ha	1.19 ha	2.40 ha
2021	1170	0.99 ha	2.11 ha	0.94 ha	3.98 ha	8.01 ha
2026	1990	1.69 ha	3.58 ha	1.59 ha	6.77 ha	13.63 ha
2031	2810	2.39 ha	5.06 ha	2.25 ha	9.55 ha	19.25 ha
2036	3630	3.09 ha	6.53 ha	2.90 ha	12.34 ha	24.87 ha
2041	4450	3.78 ha	8.01 ha	3.56 ha	15.13 ha	30.48 ha
2046	4960	4.22 ha	8.93 ha	3.97 ha	16.86 ha	33.98 ha

Source: DTZ and Inverness Local Plan

Based on the best fit case scenario, the settlement will need to allow for a phased expansion of the open space requirements over the projected growth period, making around **34 ha** available by 2046.

However, account also has to be taken of the space that will be made available from the schools. It is likely that, due to the increased desire to provide multi-use community facilities, the provision of sports pitches and other facilities could be combined with the open space requirements associated with the schools. If this space were to be made freely available at all times to the rest of the community, this would reduce the additional open space, which could be scaled back from **34 ha** to around **23 ha** by 2046.

As set out in the local plan, there is an expectation that this open space will be distributed throughout the area, depending on the type of space required.

In addition to the open space identified above, the overall masterplan / landscape design strategy will require the allocation of further space for amenity landscaping.

Ecclesiastical

Currently, the principal ecclesiastical facility in the area is Petty Church (Church of Scotland), which is the church for the existing Tornagrain population and surrounding areas. A discussion with the Church of Scotland headquarters in Inverness has indicated that once a population threshold of about 10,000 is achieved, it is likely that a church facility would be required (i.e. around 2040 under the best fit case). The Church of Scotland has indicated that it would be willing to act as a main point of contact for the other churches in the area to ensure that, where possible, an ecumenical approach to the provision of facilities is provided, as it is unlikely that all the various denominations would have sufficient congregations to support individual facilities. The Presbytery has enquired about using one of the leisure/cultural buildings.

Other non-Christian faiths are likely to remain relatively small in number and are unlikely to have any significant spatial requirements.

Cemetery

Discussions with the Burial and Cremations Officer at The Highland Council indicated that there are already a number of cemetery facilities in the area immediately around Tornagrain, namely at Ardersier, Croy and Tornagrain itself. This is in addition to crematoria facilities in Inverness. In general, there is a growing trend towards cremations and, when taking this into account along with the expansion options at nearby cemeteries, there is an expectation that additional cemetery facilities would not need to be specifically accommodated at Tornagrain.

Allotments

The Highland Council Local Plans team has indicated that it is unlikely that there would be any requirement for the provision of urban agriculture and allotments as part of the development. However, given the rural nature of the area, it would not be inappropriate to provide such a facility should the developer feel it would enhance the overall offer of the settlement. Responding to the comments made through the public consultation process, MEDCO has provided two areas for allotments in its masterplan for Tornagrain. There is no standard viability threshold or space requirement for such a facility.

Retail

Town centres are the commercial hubs of a settlement and it is important to realise their complexity, to understand their diverse qualities and to realise that creating a strong mix of complementary uses is required to allow them to be successful and vibrant.

Town centres are traditionally associated with Class 1 shopping or retail floorspace, which normally accounts for around 60-70% of a centre's total floorspace. Complementary uses include Class 2 use (financial, professional and other services); solicitors, estate agents, vets, dentist and doctor surgeries, betting shops, banks and building societies and Class 3 use (food and drink); cafes and restaurants form much of remaining town centre floorspace.

Many town centres also contain Class 4 use (Business); offices, Class 7 use (Hotels and Hostels), Class 9 use (residential), Class 10 use (Non-residential Institutions); colleges, training centres, museums, churches, libraries and nursing homes and Sui Generis uses; pubs, hot food take-aways, nightclubs, filling stations, amusement arcades and theatres form the remainder of town centre floorspace.

As changes in shopping patterns and increases in private car ownership have occurred, many settlements have seen some of these traditional town centre uses relocate to more peripheral areas of the towns, diluting the function of the town centre. The intention is that this will not be the case in Tornagrain. Rather, in implementing the design philosophy outlined in the planning application, the aim is to create a strong mix of commercial uses expected in a town centre that is easily accessible to the local population by means other than the private car. This approach underpins the principles of new urbanism and current planning policy on which Tornagrain is based.

SPP8 Town Centres and Retailing was approved in October 2006 and sets out the Scottish Government's policy for town centres and the key uses, particularly retailing, which contribute to their growth and enhancement. The key policy focus of SPP8 is town centres, how to plan for their development and how to respond to development proposals for town centre uses wherever they are proposed. The key policy objectives of the document for town centres are to:

- promote distinct, competitive places and encourage regeneration, in order to create town centres that are attractive to investors and suited to the generation of new employment opportunities;
- create a climate that enables all sectors of the community to have access to a wide choice of shopping, leisure and other services and for gaps and deficiencies in provision to be remedied;
- improve the physical quality and sustainability of our town centre environments;
- support development in existing accessible locations; and
- identify and promote a network of town centres.

The proposals for town centre development in Tornagrain are compliant with national policy aims to strengthen the role of our town centres.

The proposed location of Tornagrain will allow it to benefit from its proximity to Inverness with its regional shopping and commercial facilities, and to a lesser extent Nairn with its district centre facilities. It will be important, however, for Tornagrain to establish and promote itself as a self-sustaining retail centre in its own right, providing its community with the necessary shopping and commercial facilities. Tornagrain will operate within the existing network of centres in the area, complementing the existing retail offer.

Nairn and Forres are comparable sized settlements in close proximity to Tornagrain. They therefore give the best indication of the likely Class 1, 2 and 3 floorspace capacity that can be achieved at Tornagrain.

The town centres each contain a wide variety of uses, primarily:

- Class 1 (retail);
- Class 2 (financial, professional and other services); and
- Class 3 use (food and drink).

Other uses include Class 4, 7, 10, 11 and sui generis.

A number of sources were used to obtain the relevant Class 1, 2 and 3 floorspace of each town. These include a GOAD Centre analysis, discussions with Council Planning Officers and site visits by the DTZ Planning Team.

Nairn

Nairn is a traditional fishing port and market town located nine miles northeast of the proposed location of Tornagrain. The town centre has a traditional 'fishbone pattern' layout, with a linear high street and perpendicular connecting smaller streets. There is a strong mix of uses in the town centre, with a concentration of retail uses on the High Street and sections of Harbour Street and Leopold Street.

In Nairn, the Adopted Local Plan defines a tight town centre boundary. This is matched by the GOAD Town Centre plan, which identifies the linear nature of the commercial and retail area.

Table 4.10 Nairn floorspace

	GOAD	Additional floorspace identified on site visit	Total Existing floor space	Proposed	Total
Class 1	83,900 sq ft ¹	5,000 sq ft ²	88,900 sq ft	92,500 sq ft ³	181,400 sq ft
Class 2	17,900 sq ft		17,900 sq ft		17,900 sq ft
Class 3	9,900sq ft	3,500 sq ft ²	13,400 sq ft		13,400 sq ft
Total	111,700	8,500	120,200	92,500	212,700
Other town centre uses (theatre, hotel, police station etc)	7,800 sq ft	52,200 sq ft ²	60,000 sq ft		60,000
Total			180,200	92,500	272,700

Notes

1: GOAD breakdown of

- 29,600 sq ft of convenience
- 46,700 sq ft of comparison
- 7,600 sq ft of vacant

2: Two further Class 1 outlets at Bridge St & two Class 3 outlets at Harbour. There are also a number of service uses adjacent to the town centre including a theatre, the recently completed Nairn Community Centre, police and fire stations, hotels and bed and breakfast outlets. Other retail related uses in the town include two petrol filling stations and a car showroom.

3: The Local Plan identifies a large opportunity site in the west of the town centre at Leopold Street/ Fairley Lane. Somerfield have recently received approval to develop an enlarged supermarket 20,000 sq ft (1,860 sq m) on the site and are committed to replacing an existing smaller store 12,500 sq ft (1,160 sq m) and removing an adjacent vacant leisure outlet.

A planning application by Pettifer Estates for the development of an 85,000 sq ft (7,896 sq m) retail park on the outskirts of the settlement has recently been approved and demonstrates that there is demand for further retail floorspace provisions within the settlement that cannot be provided for in the traditional town centre.

This project would see the development of a 45,000 sq ft (4,180 sq m) Sainsbury's store with the remainder 40,000 sq ft (3,716 sq m) dedicated for non food retailing. This application has been submitted for approval by the Scottish Government.

Based on the GOAD information, existing Class 1, 2 and 3 floorspace in Nairn amounts to 111,700 sq ft. A site visit has revealed an additional 5,000 sq ft of Class 1 retailing, and 3,500 sq ft of Class 3 food and drink uses in the settlement. Therefore, it is considered 120,200 sq ft would be a more accurate figure of existing Class 1, 2 and 3 floorspace.

The addition of the proposed Class 1 retail developments would raise this further to 212,700 sq ft.

Forres

Forres is a traditional town located approximately ten miles to the east of Nairn and 19 miles from Tornagrain. In a similar format to Nairn, the town centre has a traditional layout focussed on a linear High Street that widens in the centre around the tollbooth building. Intersecting smaller streets lead off perpendicularly from the High Street. There is a strong mix of uses in the town centre, with a concentration of retail uses on the High Street and sections of Tolbooth Street. Forres is a district centre and plays a complimentary role to Elgin, which is the main retail and commercial centre in Moray.

In Forres, the Adopted Local Plan defines a larger town centre boundary than that identified in GOAD. This suggests that the GOAD figures only identify the retail core figures of the centre and do not reflect the true volume of town centre floorspace.

Table 4.11 Forres floorspace

	GOAD	Additional floorspace identified on site visit	Total Existing floor space	Proposed	Total
Class 1	80,500 sq ft ¹	93,100 sq ft ²	173,600 sq ft		173,600 sq ft
Class 2	16,800 sq ft	18,000 sq ft	34,800 sq ft		34,800 sq ft
Class 3	10,400 sq ft		10,400 sq ft		10,400 sq ft
Total	107,700	111,100	218,800		218,800
Other town centre uses (e.g. hotels, pubs, hot food takeaway etc)	8,400 sq ft	51,600 sq ft ³	60,000 sq ft		60,000
Total			278,800		278,800

Notes

1: GOAD breakdown of retail floorspace

- 20,400 sq ft convenience
- 53,200 sq ft comparison
- 6,900 sq ft vacant

2: Tesco have developed a store at an out of centre site on Nairn Road which extends to 50,000 sq ft. Tesco formally occupied a 20,000 sq ft unit on the edge of the town centre which is now vacant. Lidl are also in the process of developing a 15,000 sq ft store at Greshop Industrial Estate in the west of the town. An additional 15,000 sq ft allowance for other outlets throughout the town, i.e. the Garden Centre at Greshop Industrial Estate (10,000 sq ft) and shop units on South Street and Orchard Road (5,000 sq ft). Additional to this there are a number of Class 2 outlets located throughout the settlement including the dental surgery on Leys Road, a health centre on King's Way, a solicitors on Tollbooth Street and a vet surgery at Greshop Industrial Estate all of which amount to approximately 18,000 sq ft. There is also now a masterplan to regenerate the centre of Forres with a development comprising a new supermarket, non-food retail units, a garden centre, a 60-bedroom hotel and a restaurant, and visitor centre.

3: There are also a number of service uses adjacent to the town centre on Nairn Road (car showroom, petrol station and hotel) Victoria Road (petrol station, hotel, bed & breakfasts and a community education centre), Drumdruan Road (a bed & breakfast) Tytler Street (bed & breakfast) and Fluers Place (two hot food takeaways) meaning other service floorspace (Class 7, Class 10, Class 11 and Sui Generis uses) is more likely to be around 60,000 sq ft.

Based on the GOAD information, existing Class 1, 2 and 3 floorspace in Forres amounts to 107,700 sq ft. A site visit has revealed an additional 93,100 sq ft of Class 1 retailing, 18,000 sq ft of Class 2 financial, professional and other uses in the settlement. Therefore, it is considered 218,800 sq ft would be a more accurate figure of existing Class 1, 2 and 3 floorspace.

Each of the towns listed fulfils a different role in their local retail hierarchies. The majority of them are long-established small towns, a number of which are of historical significance and are important tourist centres. This has resulted in their town centre retail floorspace provisions being larger than the requirements of the local population. Examples of these tourist towns include Cupar, Haddington, Largs, Linlithgow and Oban.

In other cases, a number of the small towns are a significant distance from, or do not have convenient access to, major commercial centres, meaning that a number of them 'punch above their weight' and serve a wider catchment beyond the local population as a result of the lack of competition. Again, this has resulted in the towns developing larger retail provisions than is required by the local population. Towns in this category include Buckie, Dunoon and Fraserburgh.

Some towns are, or were historically, the administrative centres for their region, or have had the benefit of strong political support giving them higher priority in commercial provision and status than other comparably-sized settlements. Towns in this category include Haddington, Forfar and Cupar.

Considering Tornagrain in its geographical context, it is located eight miles east from Inverness City Centre, the regional centre for the Highlands, and five miles from one of Inverness's established out-of-town retail parks, complete with a large Tesco superstore and a number of major brand non-food retailers, leisure operators and fast-food restaurants. Nairn serves as an important district retail centre, with a relatively wide catchment, and is located less than nine miles to the east of Tornagrain. The retail and service provision of Tornagrain has taken account of the proximity to these well-established centres.

The principle underpinning Tornagrain is to create a sustainable modern community that encourages sustainable forms of transport, reducing the need to travel by private car. In order to achieve this, it will be important to create a town centre with an appropriate level of retailing that can sustain its own level of vitality and viability. It is intended to achieve a population of circa 12,000 by 2046, and an appropriate level of retail and service floorspace must be developed to accommodate the growing population.

A review of comparable sized settlements suggests that Tornagrain could accommodate 200,000 sq ft of Class 1, 2 and 3 floorspace, the majority of which will be concentrated within the town centre.

boundary is very tight and restricted primarily to the traditional 'high street'. As a result, the floorspace figures can be underestimated. It is also noted that the figures are based on annual surveys of floorspace and therefore may not reflect changes that have taken place in the previous 12 months.

4.2.3 Construction impact on housing and social infrastructure

Temporary employment supported by the construction of Tornagrain was estimated through the approximate construction cost of each type of use. The cost of construction of residential buildings, offices and industrial buildings was based on an approximate average cost per sq ft of development suggested by DTZ's Building Consultancy Team. The construction cost of hotels and residential institutions is based on costs per room outlined in the Hotel Development report (Knight Frank, 2005). The construction cost of other developments was based on the Initial Feasibility Study carried out by Gardiner & Theobald (2006). The estimated construction cost of each development is outlined in the table below at 2007 prices²⁶.

Table 4.13 Assumed construction costs of uses

Development	Total construction cost (£)
Retail	15,490,196
Business	10,247,243
General industrial	861,113
Storage and distribution	861,113
Hotels	6,626,263
Residential institutions	8,282,828
Residential	622,248,744
Primary schools	14,096,078
Secondary school	16,140,784
Community hall	929,412
Place of worship	588,627
Libraries	702,222
Adult education	826,144
Healthcare	4,233,987
Emergency services	516,340
Assembly & leisure	3,201,307
Filling stations	1,161,765
Total	707,014,166

Source: Adapted by DTZ from various sources

Employment associated with the construction of these uses was then estimated through dividing the cost values with the average output per worker for the construction industry from the Scottish Input-Output tables. Direct employment amounts to an estimated 12,200 employment years or **349 Full Time Equivalents (FTEs) per annum**. Including indirect and induced employment (calculated through applying employment multipliers from the Input-Output tables), the Tornagrain development would support a total of 23,500 employment years in the Scottish construction industry over 35 years, or **672 FTEs per annum**.

²⁶ Costs published for 2004, 2005 and 2006 were inflated to Q4 2007 prices based on the Construction Statistics Annual (ONS, 2008)

Table 4.14 Employment arising through the construction of Tornagrain

	Construction cost	Direct Construction employment	Indirect Construction employment	Induced Construction employment	Total	FTEs
Off-site works	48,040,261	443	261	149	853	24
Infrastructure works	249,516,078	2,301	1,354	776	4,431	127
Development	707,014,166	6,521	3,837	2,197	12,556	359
Other costs	319,955,163	2,951	1,737	994	5,682	162
Total	1,324,525,669	12,217	7,189	4,117	23,522	672

Source: DTZ

The extent to which these impacts are additional to the local economy will depend on the range of alternative construction projects undertaken in the Highlands over the proposed build period, i.e. would the construction workforce have been occupied in the area in the absence of Tornagrain? The long-term nature of the project suggests that it will be competing with alternative developments; an approximate estimate of displacement on the following basis has therefore been made.

- The HM-Treasury Green book recommends 100% displacement for construction projects at the national level, given the industry's commitments over the coming decade (e.g. construction associated with the Olympic Games in 2012) and the current skills shortage, i.e. given the current employment forecasts, construction of Tornagrain would result in a delay for other national building projects. However, a degree of additionality is permitted for projects that utilise more advanced or niche skill sets, as is likely to be the case for such a diverse development as Tornagrain.
- Guidance published by English Partnerships²⁷, based on a review of previous project appraisals, suggests that large-scale local projects tend to generate additional benefits equal to one-third of the estimated gross benefit, i.e. displacement of 67% at the local level.

Applying this rate to the gross employment estimates results in a net additional construction impact of 7,762 person-years of employment supported, averaging 221 FTEs per annum on site over the 35-year construction period. This value will, however, vary over the period, depending on the staging of the more labour-intensive build elements.

²⁷ English Partnerships and Regional Development Agencies, *Employment Densities: A Full Guide*. 2001.

4.2.4 Employment and the labour market

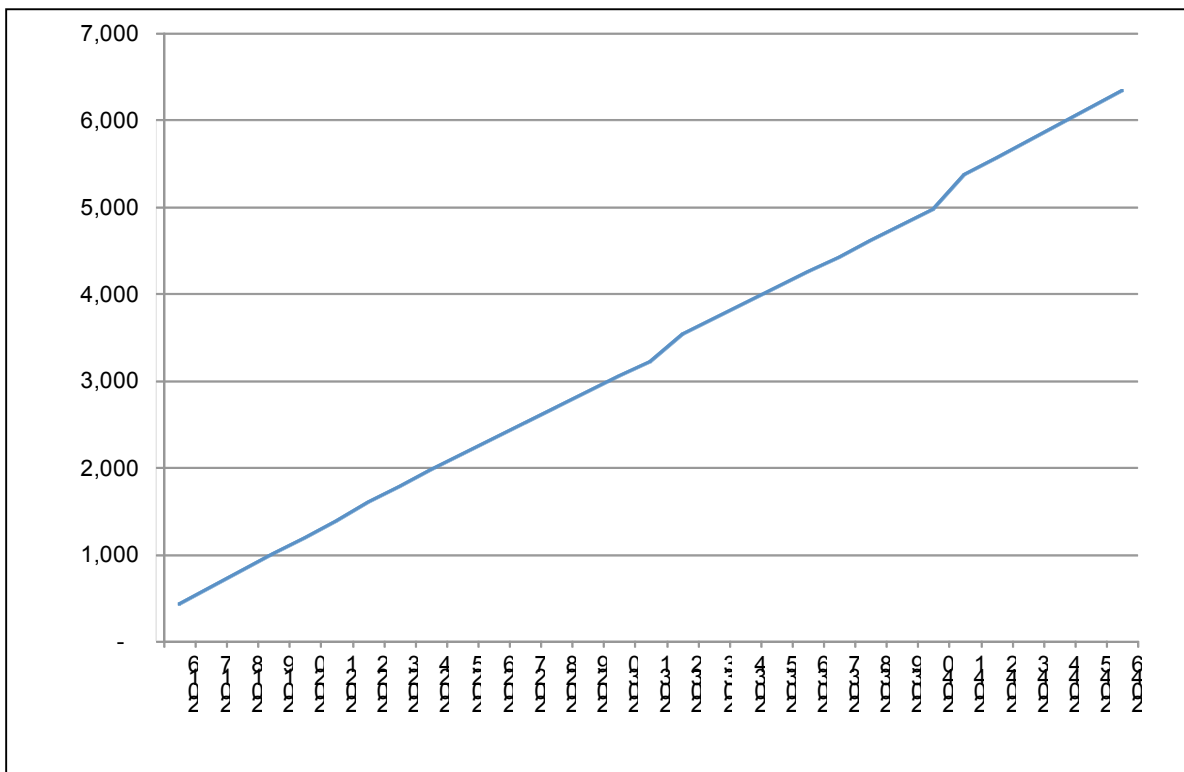
Permanent employment effects will occur from two sources.

- **Resident-based employment:** Tornagrain residents who are available for employment earn incomes and spend in the local area. This includes those who commute to work elsewhere in the Highlands.
- **Workplace-based employment:** Employment supported by companies located in Tornagrain, determined by the profile of local industrial, office and retail provision.

The number of economically active people (those available for employment) in Tornagrain was estimated by applying the economic activity rate for Highland²⁸ to the working age population of Tornagrain, based on the DTZ population projections. This gives an estimate of resident-based employment.

The following figure outlines the projected number of economically active people in Tornagrain between 2016 and 2046 for the best fit case scenario.

Figure 4.1 Projected economically active population in Tornagrain



Source: DTZ

²⁸ Taken from Nomis

Under the best fit case, around 6,000 Tornagrain residents will be in employment by 2046.

Employment generated by Tornagrain was estimated by applying employment densities (industry average m² per worker) published by English Partnerships²⁹ to the proposed scale of development for each employment use. Direct employment associated with hotels and residential institutions was calculated through average room sizes suggested by DTZ's Hospitality Team. Indirect and induced employment was calculated by applying industry specific employment multipliers published in the Scottish Government's National Accounts: Input-Output tables. This gives an estimate of the workplace-based employment supported by companies located at Tornagrain, as illustrated in Table 4.15.

Table 4.15 Scotland-wide employment impact

	Area sq m	Direct employment	Indirect employment	Induced employment	Total Scotland-wide employment impact
Retail (shops)	12,800	640	93	102	835
Finance/professional	1,200	60	39	22	121
Food and drink	6,000	462	31	61	553
Business	7,000	368	189	132	689
General industrial	1,000	29	13	10	52
Storage and distribution	1,000	20	6	6	32
Hotels (2)	4,000	36	2	5	44
Residential institutions	5,000	45	23	10	78
Assembly & leisure	3,000	33	25	12	71
Total	49,350	1,695	421	360	2,475

Source: DTZ

In addition to the **2,475 employees** supported by the uses outlined above, there will be marginal employment associated with other uses, including health and emergency facilities, libraries, places of worship, the community hall and filling stations.

The direct employment of 1,695 will be captured in Tornagrain. However, the estimated 780 indirect and induced jobs will be leaked from the local area, given that these relate to suppliers and consumer spending outside the local area. Given the scale of these knock-on employment effects, it is assumed that they will be captured within the Highland region.

²⁹ English Partnerships, *Additionality Guide: a standard approach to assessing the additional impacts of projects*. 2004

<http://www.englishpartnerships.co.uk/docdownload.aspx?doc=Additionality%20Guide.pdf&pid=64241OphaK9K2AAJhI5lwMwRzZ4YhYXY>

There will also be sizeable employment in schools. The number of direct staff FTEs employed within local schools was estimated, including those specifically built to serve Tornagrain and those extended to accommodate additional pupils. In doing so, the estimated number of teachers required has been derived from Scottish Government data³⁰ for the number of teachers and support staff employed within The Highland Council primary schools and secondary schools in 2006, and associated pupil: teacher ratios³¹ in that year. These figures have then been applied to pupil number projections arising from the population model.

From these, it was possible to calculate the number of teachers and, pro-rata, the number of support staff that would be required in aggregate. These headcount data were then allocated to full-time or part-time posts, according to the average proportion of staff employed full-time and part-time, to generate an estimate of FTEs for teachers and support staff required in delivering education services for all children arising from Tornagrain households. Separate figures were generated for each of the three cases, as set out below. However, these assume that pupil: teacher and pupil: support staff ratios remain constant throughout the period from now to 2046, in the context of dynamic change in class-size policy and within the pedagogy of teaching, so they should be regarded as indicative only.

Table 4.16 Employment impact of schools

2046	Headcount	FTE (est.)	Teachers FTE (est.)	Support FTE (est.)
Best Fit Case	186	174.6	150.1	24.4

Source: DTZ

The proposed development, therefore, has the capacity to support 2,650 jobs, with 1,857 based in Tornagrain itself (including 175 schools staff).

4.2.5 Income

Local impacts will occur as residents and workers spend their incomes. The level of expenditure is determined by the profile of employment, corresponding income levels and the capacity of local retailing and services to meet demand.

Gross Disposable Household Income (GDHI) measures the total spending power of Tornagrain residents, including those who are non-earning, i.e. those who are not of working age or are on benefits. The Office for National Statistics published figures for GHDI per head up to 2006 for the Inverness & Nairn and Moray, Badenoch & Strathspey NUTS3 region. Converting this to 2008 prices, using the HM Treasury's guidance, gives a GDHI per head of £13,751 for the area.

Applying this rate to the predicted population scenario yields the following purchasing power of local residents.

³⁰ Scottish Government, *Teachers in Scotland* Scottish Government Statistical publication (Education Series) Edn/G5/2007/2, March 2007

³¹ For primary schools in Highland, there were 15.4 pupils per teacher, while for secondary schools, there were 11.6 pupils for every teacher

Table 4.17 Purchasing power of Tornagrain residents

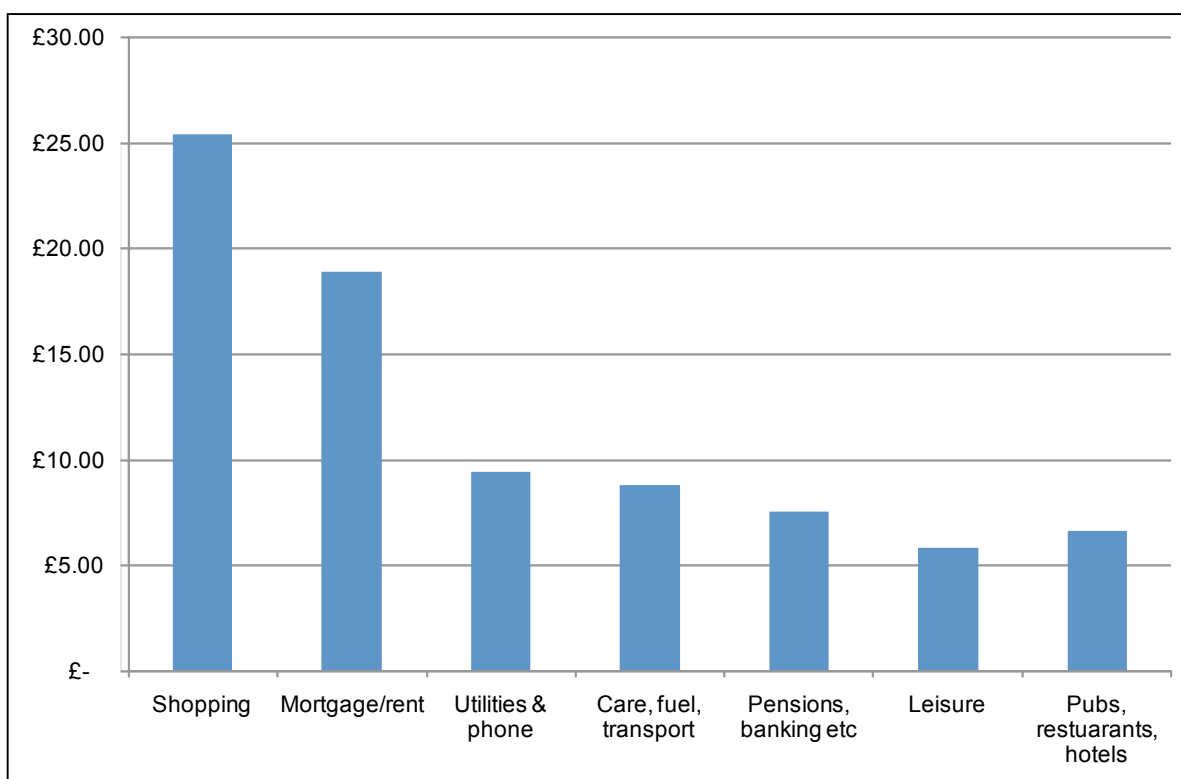
Population scenario	2016	2046
Best fit case	£10.8 million	£181 million

Source: DTZ

Under the best fit case scenario, total resident expenditure is estimated to reach £181 million by 2046, growing annually over the development period in line with the population increase.

The Scottish Government's published national accounts demonstrate average patterns of consumer expenditure by sector and product. Applying this standard rate to the estimate of total spending power for Tornagrain under the best fit case scenario results in the following national expenditure profile (in Scotland):

Figure 4.2 Estimated expenditure of Tornagrain residents in Scotland (£ million)



Source: DTZ

Allowing for indirect and induced effects, this expenditure is estimated to support a further £126 million around Scotland via supply chain and expenditure effects. The extent to which this expenditure and employment will be captured locally will depend on the provision of local retail and leisure services to meet the demand profile. The capacity of local provision is addressed in the following section.

However, a 2005 household survey conducted across small towns and surrounding rural areas in Scotland found that 50% of respondents spend at least half of their disposable income in local shops. Even when local shops are available, a significant proportion of expenditure is still outside the area, e.g. at 'out-of-town' retail parks and supermarkets. On this basis, leakages from the development are likely to be high, regardless of the local provision and are estimated to be in the order of 50% to 75% across both direct and knock-on impacts.

The total national impact related to expenditure is therefore **£307 million at national level**, of which **£76 million to £154 million will be captured by Tornagrain businesses**. It is expected that this figure would be closer to the lower estimate because a proportion of residents are assumed to be employed outside the town. Therefore, leakages will occur as residents spend at their place of work rather than in Tornagrain, e.g. transport, shopping, etc.

4.3 Non-quantifiable impacts

In addition to the quantifiable economic indicators, a number of potential non-quantifiable benefits may be anticipated, as described below.

It will bring improvements in the ability to attract inward investment. Until the development is underway, it is not possible to accurately measure the size of this impact. However, if the development helps the local economy to grow, it would be expected that sizeable inward investors would consider relocating to the area, particularly within IABP, bringing commensurately high economic and social impacts.

It will increase confidence in the local resident and business populations. Increased income and output will improve the confidence that people will have in the local area, particularly if it is seen as augmenting economic success and its future viability is assured. This will also help to make the area more attractive to those currently based outside it, further increasing its dynamism if it is able to attract these people.

The development will help to improve the economic diversification of the area, if successful in attracting growing private businesses and sectors. This would improve sustainability and future growth prospects. The relative lack of economic diversification and the dependency on a small number of sectors are currently serious weaknesses in the local economy.

Helping to provide a stronger and more diversified economy will **help the area to retain more of its younger people**, i.e. those with high levels of economic potential.

This will also help the drive to up-skill the local labour force and make the area an attractive destination for skilled migrants. Both of these effects would lead to a more **productive and skilled workforce that will be more attractive to businesses** seeking to move to or expand in the area.

The attendant infrastructure improvements that the development will bring would bring long-term social and economic benefits, e.g. reduced transportation and communications costs, shorter travelling times and increased accessibility.

It will **increase the supply of affordable housing** in the area, which is a major constraint to economic expansion.

The area may be able to market itself more successfully as a tourism destination, helping to **increase the number of tourists** to the region.

5.0 Conclusions and recommendations

5.1 Conclusions

Table 5.1 below sets out the significance of the predicted social and economic impacts. There are clear potential benefits from Tornagrain, particularly if the best fit case population projection is realised. However, there are also possible adverse impacts, particularly if future population growth reflects the low case scenario.

For this reason, we have developed two impact tables. Table 6.1 lists each of the potential positive impacts of the development, their significance and the potential benefits that each will bring. Table 6.2 lists potential negative impacts, as well as proposed mitigation measures, before identifying the residual impacts.

The significance criteria are as outlined in Section 2. The impact is considered to be major if it is significant enough in scale to be considered a national (i.e. Scottish) impact. Impacts confined to the region or local levels are considered to be moderate. Impacts that will only be felt by a minority of people in the area are judged as minimal, and impacts that will have no measurable consequences are viewed as negligible.

Table 5.1 Summary of potential positive impacts

Predicted Impact	Significance	Benefits
Additional housing	Major	Will bring a considerable supply of a range of quality new housing to the area. Plans to boost the economic base of the area and diversify the economy will help to create the demand conditions to enhance the value of the benefit.
Additional social infrastructure	Major	Will bring new, quality schools, health, leisure and other facilities to the area.
Direct employment and output generation in construction and operation phases	Major	Will increase local and national income and employment, improving economic performance.
Income	Major	Increasing population and employment will create significant income in the local and regional economy. Building quality retail and other infrastructures will help to retain more spending in the local area.
Ability to attract inward investment	Moderate	Will help the area to market itself to potential investors, with the potential for economic gains.
Confidence in local resident and business confidence	Moderate	Will help to maintain current levels of population and economic growth and help to ensure future economic success.
Economic diversification	Moderate	Will improve future economic growth prospects.
Retaining more young people	Moderate	Will help future economic growth by securing more of those with high levels of economic potential.
More skilled and productive workforce	Moderate	Will help future economic vitality of the region.
Better transportation and communication	Moderate	Will bring long-term Socio-economic benefits to the wider region.
Increased supply of affordable housing	Moderate	Will help to rectify shortages of affordable housing in the area.
Increased tourism	Minor	Will help to market the area to those outside Scotland. Will increase tourist visits to the area, and therefore tourist spend.

Table 5.2 Summary of potential negative impacts

Potential Impact	Significance	Proposed Mitigation	Residual Impact
Additional housing if no/little increase in demand	Major - The increase of housing supply beyond that demanded may impact detrimentally on existing communities.	Population/household growth should be monitored throughout the Study Area and expansion plans should be revised if demand conditions weaken over time.	There may still be an impact given the likely time lag between a confirmed trend of reduced demand over a period of time and a decision to revise the expansion plans.
Displaced employment and output generation from elsewhere in construction and operation phases	Minor - There will be some displacement from elsewhere, but overall impact is additional.	An attempt to target companies from outside Scotland will limit the displacement effect on other parts of the Scottish economy.	Minimal to negligible.
Displaced income from elsewhere	Minor - There will be some displacement from elsewhere, but overall impact is additional.	An attempt to target companies from outside Scotland will limit the displacement effect on other parts of the Scottish economy.	Negligible
Displaced tourist activity from elsewhere	Minor - There will be some displacement from elsewhere, but overall impact is additional.	Targeting new tourists or persuading existing tourists to spend more days in the area would minimise this impact.	Minimal to negligible.

5.2 Recommendations for mitigating negative impacts and enhancing benefits

Population and household growth will need to meet the best fit case, or higher, in order to avoid negative impacts on the local housing market. Lower growth is likely to result in excess supply. This requires in-migration to the A96 Corridor area to be at a similar level to that over the last 10 years if all the planned developments, including Tornagrain, are to be successful.

As a result, the area needs to meet a number of conditions for enhanced economic performance, the most important of which are summarised below.

- There need to be higher levels of economic growth in the region, especially in the high value-added parts of the private sector.
- The planning regime in the region must continue to recognise the importance of population and economic growth and have policies and procedures that facilitate development.
- The current workforce needs to be up-skilled and skilled migrants need to continue to be attracted to the region.
- The local transport infrastructure needs to be developed through the upgrading of the major roads in the area and improving rail links with other Scottish cities.

The Highland Council, HIE and other key partners recognise this and have a number of viable plans to create these conditions, including expansion of the airport, the development of IABP, the creation of a new golf course and hotel (currently under construction), building the health care sector around Lifescan and building the education and lifelong learning sector around UHI. The success of these ventures will help to determine the future of the local economy and, by extension, the viability of Tornagrain and other developments in the area.

If all this were to be achieved, the development would be likely to have a major positive benefit on the local and regional economies by increasing economic growth and providing new quality housing and social infrastructure for the growing population. It will also help to attract people to work in the area at a time that additional employees are required.

The socio-economic analysis has not highlighted any significant negative impacts of the development if the best fit case conditions are met, apart from there being some displaced activity likely elsewhere in Scotland in terms of employment, output and tourism. Some possible mitigation measures to limit this would be for the development to focus on trying to attract companies from outside Scotland or companies that are expanding in already growing parts of Scotland, e.g. the Central Belt, where any displacement is unlikely to be felt. It could also focus on attracting tourists from outside Scotland or increasing the expenditure of existing foreign tourists to the region. However, overall this impact is likely to be minimal, given that additional employment and output will be created in the Scottish economy as a whole.

5.3 Cumulative effects

Tornagrain would interact with a number of other developments in the area. These are summarised below.

It is calculated that, by 2021, the **IABP** development will be generating just over 2,000 jobs in Inverness that would not accrue without alternative developments³². This amounts to an increase in local output of some £178 million per annum. By 2021, only 31% of the total proposed IABP space will have been developed. Demand forecasts are uncertain beyond this point (as are the rate of occupancy and competition from other sites). However, as an initial estimate, the development could be expected to have the following annual impacts by 2061.

- **Gross impact (potential at full occupancy):** 14,912 jobs and £1,449 million output;
- **Projected occupancy:** 10,692 jobs and £975 million output; and
- **Net impact (adjusting for other vacancies):** 6,599 jobs and £586 million output.

Castle Stuart Golf Course is due to open formally in the summer of 2009. The development will consist of a new golf links course (with around 17,500 visitor rounds per annum), a four-star hotel/spa with 93 rooms/apartments and 120 self-catering timeshare units. The total net employment impacts of this project have been calculated at 267 FTEs at the Inverness and East Highland level and 242 FTEs at the Highland level³³.

The impact of the proposed **Inverness campus development at Beechwood** has been considered under a number of scenarios³⁴. The first scenario assessed the impact of Inverness College remaining at Longman and Midmills campuses. A further three scenarios assessed the economic impact of relocation to the Beechwood development with varying profiles. The first relocation scenario assumes that the level of activity remains unchanged from Longman and Midmills, the second scenario assumes growth in activity and the third identifies additional developments, which are not directly funded by Inverness College. In the final two scenarios, growth is based on UHI Millennium Institute achieving University title.

The following net additional impacts for the three Beechwood options were estimated:

- Relocation only - **£17.5 million GVA and 160 jobs;**
- Relocation and growth - **£51.9 million GVA and 257 jobs;** and
- Relocation and growth and additional facilities (best case) - **£53.9 million GVA and 314 jobs.**

³² DTZ, *Inverness Airport Business Park socioeconomic assessment: Technical Annex 6 of Environmental Statement*. 2008.

³³ Reference Economic Consultants, *Technical Annex 8: Proposed Castle Stuart Golf Links – Economic Impact Assessment*. Cornerstone Golf Development Company and Moray Estates Development Company. 2005.

³⁴ DTZ, *Economic Impact Assessment: Beechwood*. HIE and UHI. 2008. Unpublished.

A number of qualitative benefits were also highlighted in relocation to Beechwood, including: improving the Inverness city infrastructure, graduate retention, knowledge transfer and improving the area's attractiveness to students as a city.

5.4 Future monitoring

The key socio-economic indicators to be monitored, as well as the sources of this information, are listed below. This will allow the future planning for the development to account for changing socio-economic conditions and to be flexible enough in its build out to respond to them.

Table 5.3 Key Socio-economic indicators for monitoring purposes

Indicator	Level	Details	Time period	Sources
GVA	A96 Corridor area, Highland, Scotland	GVA trends, GVA by industry	1998-2005	Scottish Annual Business Statistics
Employment	A96 Corridor area, Highland, Scotland	Employment/unemployment levels by age and sex	2004-2007 (APS)	Annual Population Survey, Labour Force Survey
Industrial sector	A96 Corridor area, Highland, Scotland	Employment by industry (by age and sex)	1994-1998 (annual LFS)	Annual Population Survey, Labour Force Survey
Occupation	A96 Corridor area, Highland, Scotland	Occupations, qualifications by age and sex	1995-2007 (quarterly LFS)	Annual Population Survey, Labour Force Survey
			1999-2007 (local area LFS)	Annual Population Survey, Labour Force Survey
Earnings	Highland, Scotland	Average pay and hours worked by sex and full/part-time status	2002-2007 (resident analysis)	Annual Survey of Hours and Earnings
			1998-2007 (workplace analysis)	
Commuting patterns	A96 Corridor area, Highland, Scotland	Travel-to-work areas, number of people moving to and from an area to another for employment	2001	Census
VAT registrations by sector	Highland, Scotland	The number of businesses registering/ deregistering for VAT each year, stock at the end of each year	1994-2006 (1980-1993 for old local authorities e.g. Inverness)	VAT Registrations & Stocks
Population and	Trends: small	Trends and forecasts,	1996-2007	GROS mid-year

Indicator	Level	Details	Time period	Sources
households	areas, A96 Corridor area, Highland, Scotland Projections: Highland, Scotland	migration (split by age and gender)	2006-2031	estimates and projections
Registrations of overseas nationals	A96 Corridor area, Highland, Scotland	The number of overseas nationals on national Insurance recording system.	2001/02-2006/07	Department of Work and Pensions
House prices and sales	A96 Corridor area, Highland, Scotland	Average and median house prices and total sales	1993-2007	SNS for annual data, Registers for Scotland for annual and quarterly data (the latter at Highland and Scotland levels only)
Education and training	Individual school catchments, A96 Corridor area, Highland, Scotland	School leaver destinations (full-time HE and FE, training, employment, unemployed and not known), destinations of students, courses offered, skills and qualification levels	1999-2007 (earlier data may be available)	Scottish Executive Education Department/ Careers Scotland
New space created by IABP	IABP area	Amount of space available by class/type	-	IABP
Take-up of new space	IABP area	Proportion of space taken up by class/type	-	IABP
Rental rates	IABP area	Rental rates charged by class/type	-	IABP
Employees	IABP area	Number of employees working within IABP	-	IABP
Businesses	IABP area	Number of businesses working within IABP	-	IABP

Appendices

Appendix A:	DTZ Population Forecast Model Methodology
Appendix B:	Population and Household Projections for the Inverness and Nairn Area Under the Different Scenarios
Appendix C:	Household Projections for the Tornagrain Area Under the Ideal Scenario
Appendix D:	Datazone Definition of the Inverness and Nairn Area

Appendix A

DTZ Population Forecast Model Methodology

Base year

The base year for the model uses 2006 local area population estimates produced by GROS. GROS data aggregates the over 90 age group. The distribution of those in the 90+ group by single year of age which was required for the model is based on a progression of the population who were aged under 90 in 2006.

Fertility

Fertility assumptions are based on GROS data for Scotland with a weighting applied to adjust Scottish fertility rates for the population in the Inverness and Nairn areas. The Nairn adjustment is 1.0895 of the Scottish rate and the Inverness adjustment is 1.116. This allows higher fertility rates than the Scottish average to be reflected in the model. This locally adjusted fertility rate is then used to calculate the number of births to women aged between 15 and 46.

GROS data on likely future changes in fertility is only available to 2029. The 2029 rates were assumed to carry forward to the end of the forecast period (2046).

Mortality

Mortality assumptions are based on GROS data for Scotland with a weighting applied to adjust Scottish fertility rates for the Inverness and Nairn areas. The Nairn adjustment is 0.9121 of the Scottish rate for males and 0.9468 of the Scottish rate for females. The Inverness adjustment is 0.9793 for males and 0.9031 for females. This allows lower mortality rates than the Scottish average to be reflected in the model. This locally adjusted mortality rate is then used to calculate the number of deaths for males and females by single year of age.

Mortality rates for those aged 90 and over are based on a linear projection of mortality rates from age 80 - 89 in 2004-05. It is assumed that mortality rates are constant over the projection period for this group. Projections by individual year of age were completed from birth to age 105.

GROS data on likely future changes in mortality is only available to 2029. The 2029 rates were assumed to carry forward to the end of the forecast period (2046).

Migration

Out-migration

Out-migration is assumed to be a function of the population. The level of out-migration is calculated separately for male and female out-migrants by single year of age.

In-migration

The level of in-migration varies under each of the scenarios, and is based on assumptions regarding the level of net migration expected. The level of in-migration is calculated separately for male and female out-migrants by single year of age.

Appendix B

**Population and Household Projections for the Inverness and Nairn Area
Under the Different Scenarios**

Population Projections – ideal case

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Under 16	14,851	14,947	15,013	15,095	15,188	15,301	15,388	15,463	15,497	15,541	15,696	15,764	15,853	15,905
16-64	52,407	52,867	53,307	53,726	54,164	54,614	54,836	55,049	55,300	55,566	55,715	55,973	56,188	56,410
65+	13,578	13,403	13,757	14,123	14,450	14,713	15,210	15,718	16,231	16,690	17,155	17,596	18,067	18,569

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Under 16	15,946	15,963	15,938	15,906	15,882	15,865	15,856	15,857	15,869	15,895	15,932	15,977	16,025	16,078
16-64	56,624	56,868	57,116	57,291	57,482	57,696	57,787	57,947	58,033	58,113	58,143	58,150	58,169	58,231
65+	19,052	19,534	20,043	20,619	21,146	21,637	22,229	22,712	23,261	23,763	24,312	24,841	25,365	25,804

	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Under 16	16,132	16,189	16,247	16,305	16,364	16,422	16,479	16,534	16,587	16,639	16,689	16,737	16,785
16-64	58,322	58,405	58,511	58,604	58,746	58,929	59,115	59,292	59,517	59,732	59,919	60,087	60,248
65+	26,188	26,567	26,930	27,301	27,537	27,731	27,920	28,128	28,278	28,439	28,611	28,796	28,976

Population Projections – high case

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Under 16	14,851	15,069	15,268	15,491	15,734	16,002	16,249	16,487	16,687	16,900	17,224	17,462	17,720	17,941
16-64	52,407	53,394	54,355	55,292	56,245	57,208	57,941	58,663	59,420	60,191	60,842	61,603	62,319	63,043
65+	13,578	13,446	13,844	14,256	14,633	14,949	15,505	16,077	16,659	17,194	17,742	18,271	18,835	19,437

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Under 16	18,150	18,331	18,467	18,596	18,728	18,860	18,996	19,136	19,285	19,443	19,609	19,780	19,953	20,127
16-64	63,757	64,503	65,253	65,926	66,617	67,332	67,924	68,585	69,171	69,747	70,271	70,768	71,272	71,815
65+	20,024	20,616	21,241	21,939	22,594	23,218	23,950	24,578	25,279	25,939	26,651	27,351	28,052	28,673

	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Under 16	20,302	20,477	20,653	20,828	21,002	21,175	21,346	21,515	21,682	21,846	22,008	22,168	22,327
16-64	72,382	72,936	73,508	74,060	74,655	75,285	75,914	76,528	77,185	77,826	78,435	79,019	79,591
65+	29,246	29,821	30,385	30,962	31,410	31,819	32,228	32,660	33,036	33,426	33,831	34,252	34,671

Population Projections – low case

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Under 16	14,851	14,835	14,781	14,735	14,692	14,665	14,606	14,532	14,414	14,306	14,307	14,221	14,155	14,054
16-64	52,407	52,387	52,353	52,302	52,273	52,257	52,014	51,764	51,555	51,362	51,053	50,855	50,614	50,381
65+	13,578	13,364	13,679	14,002	14,284	14,498	14,942	15,392	15,841	16,232	16,622	16,983	17,368	17,781

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Under 16	13,943	13,810	13,639	13,460	13,295	13,142	13,001	12,875	12,764	12,670	12,590	12,519	12,455	12,396
16-64	50,138	49,926	49,718	49,441	49,178	48,937	48,572	48,276	47,908	47,537	47,117	46,679	46,257	45,882
65+	18,168	18,550	18,953	19,419	19,830	20,200	20,665	21,016	21,427	21,785	22,185	22,559	22,923	23,195

	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
Under 16	12,342	12,290	12,241	12,194	12,148	12,101	12,054	12,005	11,955	11,905	11,853	11,800	11,747
16-64	45,540	45,195	44,878	44,553	44,284	44,059	43,844	43,624	43,455	43,282	43,087	42,877	42,663
65+	23,408	23,610	23,789	23,973	24,016	24,014	24,003	24,008	23,952	23,906	23,865	23,836	23,798

Household Projections – ideal case

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1 person male	5,416	5,524	5,663	5,802	5,944	6,283	6,424	6,562	6,700	6,835	7,172	7,310	7,447	7,584
1 person female	6,973	7,095	7,263	7,433	7,587	7,998	8,168	8,340	8,504	8,665	9,080	9,248	9,420	9,590
2 person all adult	12,020	12,195	12,456	12,716	12,977	13,664	13,923	14,170	14,418	14,655	15,323	15,550	15,780	16,016
1 adult, 1 child	1,092	1,098	1,110	1,119	1,130	1,178	1,190	1,202	1,214	1,227	1,274	1,289	1,302	1,316
3+ person all adult	2,754	2,708	2,681	2,658	2,633	2,684	2,647	2,607	2,564	2,520	2,548	2,501	2,452	2,403
1 adult 2+ children	978	978	980	980	983	1,020	1,023	1,026	1,030	1,035	1,070	1,076	1,083	1,090
2+ adult 1+ children	7,511	7,319	7,156	6,992	6,838	6,904	6,736	6,577	6,427	6,283	6,319	6,183	6,046	5,907
Total no of households	36,744	36,917	37,308	37,701	38,092	39,732	40,110	40,484	40,858	41,219	42,785	43,156	43,530	43,906
Total no of persons	80,836	81,216	82,077	82,943	83,803	84,628	85,435	86,230	87,028	87,797	88,566	89,333	90,107	90,884

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1 person male	7,717	8,043	8,175	8,306	8,433	8,560	8,904	9,029	9,153	9,273	9,393	9,629	9,673	9,715
1 person female	9,746	10,153	10,329	10,508	10,677	10,842	11,277	11,434	11,597	11,745	11,892	12,290	12,455	12,608
2 person all adult	16,239	16,855	17,051	17,234	17,412	17,588	18,209	18,367	18,514	18,655	18,794	19,297	19,396	19,486
1 adult, 1 child	1,330	1,379	1,395	1,413	1,430	1,448	1,503	1,522	1,541	1,561	1,581	1,613	1,612	1,612
3+ person all adult	2,353	2,360	2,305	2,250	2,196	2,145	2,149	2,097	2,046	1,997	1,951	1,994	1,997	2,000
1 adult 2+ children	1,098	1,135	1,147	1,158	1,170	1,182	1,224	1,238	1,252	1,267	1,281	1,307	1,307	1,308
2+ adult 1+ children	5,778	5,800	5,685	5,574	5,467	5,364	5,401	5,306	5,218	5,133	5,051	5,148	5,145	5,142
Total no of households	44,262	45,725	46,087	46,444	46,787	47,128	48,666	48,993	49,321	49,630	49,943	51,279	51,585	51,872
Total no of persons	91,622	92,364	93,096	93,816	94,510	95,198	95,873	96,516	97,163	97,772	98,387	98,968	99,560	100,113

	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
1 person male	9,755	9,793	9,833	9,884	9,926	9,968	10,010	10,052	10,094	10,135	10,175	10,214	10,251
1 person female	12,758	12,899	13,043	13,110	13,166	13,222	13,277	13,334	13,388	13,443	13,496	13,547	13,597
2 person all adult	19,572	19,660	19,746	19,847	19,932	20,016	20,100	20,186	20,269	20,352	20,431	20,509	20,585
1 adult, 1 child	1,612	1,612	1,613	1,621	1,628	1,635	1,642	1,649	1,655	1,662	1,669	1,675	1,681
3+ person all adult	2,001	2,004	2,006	2,016	2,025	2,033	2,042	2,051	2,059	2,067	2,076	2,083	2,091
1 adult 2+ children	1,308	1,308	1,309	1,315	1,321	1,327	1,332	1,338	1,343	1,349	1,354	1,359	1,364
2+ adult 1+ children	5,140	5,139	5,139	5,166	5,188	5,210	5,231	5,254	5,275	5,297	5,318	5,338	5,357
Total no of households	52,146	52,415	52,688	52,959	53,185	53,410	53,634	53,862	54,084	54,305	54,517	54,726	54,927
Total no of persons	100,642	101,161	101,688	102,211	102,648	103,081	103,514	103,954	104,382	104,810	105,219	105,621	106,009

Household Projections – high case

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1 person male	5,416	5,571	5,759	5,949	6,143	6,545	6,744	6,942	7,142	7,340	7,758	7,965	8,172	8,380
1 person female	6,973	7,156	7,386	7,621	7,842	8,332	8,575	8,824	9,065	9,305	9,823	10,076	10,336	10,596
2 person all adult	12,020	12,299	12,667	13,037	13,412	14,234	14,617	14,990	15,369	15,737	16,576	16,943	17,315	17,697
1 adult, 1 child	1,092	1,108	1,128	1,147	1,168	1,227	1,249	1,272	1,294	1,317	1,378	1,404	1,429	1,454
3+ person all adult	2,754	2,731	2,726	2,725	2,721	2,796	2,779	2,758	2,733	2,707	2,756	2,725	2,691	2,655
1 adult 2+ children	978	986	997	1,005	1,016	1,062	1,074	1,085	1,098	1,111	1,158	1,173	1,189	1,205
2+ adult 1+ children	7,511	7,381	7,277	7,169	7,067	7,192	7,072	6,958	6,851	6,747	6,836	6,736	6,634	6,527
Total no of households	36,744	37,231	37,940	38,654	39,369	41,389	42,110	42,829	43,552	44,265	46,284	47,022	47,765	48,512
Total no of persons	80,836	81,909	83,467	85,039	86,612	88,158	89,694	91,226	92,766	94,285	95,808	97,336	98,874	100,421

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1 person male	8,585	9,008	9,217	9,426	9,631	9,837	10,297	10,506	10,714	10,919	11,125	11,471	11,589	11,705
1 person female	10,843	11,371	11,645	11,925	12,194	12,460	13,041	13,304	13,575	13,830	14,085	14,641	14,922	15,191
2 person all adult	18,067	18,878	19,224	19,557	19,886	20,213	21,057	21,371	21,671	21,967	22,260	22,988	23,237	23,477
1 adult, 1 child	1,479	1,544	1,573	1,603	1,634	1,664	1,738	1,770	1,804	1,838	1,872	1,921	1,932	1,942
3+ person all adult	2,618	2,643	2,599	2,553	2,508	2,465	2,485	2,440	2,395	2,352	2,311	2,376	2,393	2,409
1 adult 2+ children	1,222	1,272	1,293	1,314	1,336	1,358	1,416	1,440	1,466	1,492	1,518	1,558	1,566	1,575
2+ adult 1+ children	6,429	6,496	6,409	6,325	6,244	6,165	6,246	6,174	6,108	6,044	5,982	6,133	6,164	6,196
Total no of households	49,242	51,213	51,961	52,704	53,435	54,164	56,279	57,005	57,733	58,441	59,153	61,088	61,802	62,495
Total no of persons	101,931	103,450	104,960	106,461	107,938	109,410	110,870	112,299	113,734	115,129	116,531	117,899	119,277	120,616

	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
1 person male	11,818	11,930	12,044	12,170	12,287	12,405	12,522	12,639	12,755	12,871	12,984	13,097	13,208
1 person female	15,457	15,714	15,975	16,142	16,298	16,454	16,609	16,765	16,918	17,072	17,222	17,372	17,519
2 person all adult	23,712	23,950	24,184	24,437	24,674	24,909	25,144	25,380	25,613	25,845	26,073	26,300	26,523
1 adult, 1 child	1,953	1,964	1,975	1,996	2,015	2,034	2,053	2,073	2,092	2,111	2,129	2,148	2,166
3+ person all adult	2,425	2,441	2,457	2,482	2,507	2,530	2,554	2,578	2,602	2,625	2,649	2,672	2,694
1 adult 2+ children	1,584	1,593	1,603	1,620	1,635	1,651	1,666	1,682	1,698	1,713	1,728	1,743	1,758
2+ adult 1+ children	6,227	6,260	6,294	6,360	6,422	6,483	6,544	6,606	6,666	6,727	6,786	6,845	6,903
Total no of households	63,177	63,852	64,531	65,207	65,838	66,466	67,092	67,722	68,343	68,963	69,572	70,176	70,772
Total no of persons	121,931	123,234	124,545	125,850	127,067	128,279	129,488	130,703	131,902	133,099	134,274	135,440	136,589

Household Projections – low case

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
1 person male	5,416	5,481	5,575	5,855	5,952	6,045	6,133	6,216	6,481	6,561	6,639	6,715	6,788	7,031
1 person female	6,973	7,040	7,151	7,501	7,598	7,695	7,797	7,901	8,226	8,317	8,405	8,495	8,587	8,889
2 person all adult	12,020	12,101	12,264	12,832	12,995	13,146	13,292	13,423	13,947	14,066	14,184	14,284	14,384	14,847
1 adult, 1 child	1,092	1,090	1,092	1,129	1,131	1,134	1,136	1,139	1,174	1,177	1,179	1,184	1,187	1,220
3+ person all adult	2,754	2,687	2,640	2,683	2,636	2,583	2,527	2,469	2,480	2,419	2,358	2,297	2,235	2,228
1 adult 2+ children	978	970	965	989	985	981	976	972	997	993	991	989	987	1,011
2+ adult 1+ children	7,511	7,262	7,046	7,056	6,848	6,643	6,431	6,231	6,217	6,031	5,849	5,679	5,511	5,476
Total no of households	36,744	36,630	36,733	38,046	38,145	38,225	38,292	38,351	39,522	39,565	39,605	39,642	39,680	40,701
Total no of persons	80,836	80,587	80,813	81,038	81,250	81,419	81,562	81,688	81,810	81,900	81,982	82,059	82,137	82,215

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
1 person male	7,099	7,165	7,228	7,289	7,530	7,586	7,638	7,687	7,734	7,938	7,980	7,954	7,932	7,906
1 person female	8,966	9,045	9,132	9,221	9,534	9,608	9,673	9,734	9,799	10,053	10,103	10,153	10,212	10,261
2 person all adult	14,939	15,016	15,076	15,123	15,548	15,587	15,619	15,637	15,644	15,968	15,968	15,941	15,903	15,858
1 adult, 1 child	1,223	1,228	1,234	1,240	1,277	1,283	1,289	1,295	1,302	1,336	1,343	1,332	1,322	1,312
3+ person all adult	2,165	2,103	2,038	1,974	1,961	1,901	1,843	1,785	1,729	1,710	1,657	1,647	1,638	1,627
1 adult 2+ children	1,010	1,011	1,014	1,016	1,045	1,047	1,050	1,054	1,058	1,084	1,089	1,080	1,072	1,064
2+ adult 1+ children	5,316	5,167	5,026	4,891	4,882	4,754	4,633	4,517	4,409	4,393	4,291	4,253	4,219	4,185
Total no of households	40,718	40,736	40,748	40,753	41,778	41,766	41,745	41,709	41,675	42,483	42,431	42,361	42,298	42,214
Total no of persons	82,249	82,287	82,311	82,321	82,303	82,278	82,239	82,167	82,099	81,992	81,892	81,757	81,635	81,473

	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046
1 person male	7,879	7,851	7,824	7,806	7,779	7,753	7,726	7,701	7,674	7,648	7,620	7,592	7,563
1 person female	10,305	10,340	10,378	10,354	10,319	10,283	10,248	10,215	10,179	10,145	10,108	10,070	10,031
2 person all adult	15,809	15,761	15,711	15,674	15,621	15,568	15,515	15,464	15,411	15,358	15,302	15,246	15,186
1 adult, 1 child	1,302	1,292	1,283	1,280	1,276	1,271	1,267	1,263	1,259	1,254	1,250	1,245	1,240
3+ person all adult	1,616	1,606	1,596	1,592	1,587	1,582	1,576	1,571	1,565	1,560	1,554	1,549	1,543
1 adult 2+ children	1,056	1,049	1,041	1,039	1,035	1,032	1,028	1,025	1,021	1,018	1,014	1,010	1,006
2+ adult 1+ children	4,152	4,119	4,089	4,079	4,066	4,052	4,038	4,025	4,011	3,997	3,983	3,968	3,953
Total no of households	42,119	42,018	41,922	41,824	41,683	41,541	41,399	41,263	41,121	40,980	40,831	40,680	40,522
Total no of persons	81,289	81,095	80,909	80,720	80,448	80,174	79,901	79,637	79,363	79,092	78,805	78,513	78,208

Appendix C

Household Projections for the Tornagrain Area Under the Ideal Scenario

Household Projections – ideal case

Tornagrain households	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
1 person male	46	68	89	111	133	155	170	185	200	215	230	245
1 person female	58	85	113	140	168	196	215	234	253	272	291	310
2 person all adult	98	144	189	234	280	325	354	383	412	441	470	499
1 adult, 1 child	8	12	16	19	23	27	29	31	34	36	39	41
3+ person all adult	36	53	69	86	103	119	143	167	190	213	235	257
1 adult 2+ children	15	23	31	39	48	57	71	86	101	117	134	152
2+ adult 1+ children	89	130	171	212	252	292	352	413	472	532	591	650
Total no of households	350	514	678	842	1006	1170	1334	1498	1682	1826	1990	2154
Total no of persons	788	1157	1526	1895	2264	2633	3068	3445	3823	4200	4577	4954

Tornagrain households	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
1 person male	260	276	291	305	312	319	325	332	338	346	353	360
1 person female	330	349	369	390	402	413	425	437	449	458	468	478
2 person all adult	527	555	583	612	625	639	652	666	679	694	709	723
1 adult, 1 child	44	46	49	51	52	53	54	55	55	57	58	59
3+ person all adult	278	299	319	343	374	406	437	469	500	531	562	594
1 adult 2+ children	170	189	209	225	245	265	286	306	326	347	367	387
2+ adult 1+ children	709	767	825	885	964	1043	1123	1202	1281	1361	1441	1521
Total no of households	2318	2482	2646	2810	2974	3138	3302	3466	3630	3794	3958	4122
Total no of persons	5331	5709	6086	6463	7138	7531	7925	8318	8712	9106	9499	9893

Tornagrain households	2040	2041	2042	2043	2044	2045	2046
1 person male	368	375	382	389	397	404	411
1 person female	487	497	507	516	526	536	545
2 person all adult	738	753	767	782	797	811	826
1 adult, 1 child	60	61	63	64	65	66	67
3+ person all adult	625	656	687	718	749	780	811
1 adult 2+ children	408	428	448	469	489	509	529
2+ adult 1+ children	1601	1680	1760	1840	1920	1999	2079
Total no of households	4286	4450	4614	4778	4942	5106	5270
Total no of persons	10286	11125	11535	11945	12355	12765	13175

Appendix D

Datazone Definition of the Inverness and Nairn Area

Datazones, Nairn	
Auldearn	S01003883
Cawdor	S01003857
Nairn Academy	S01003886
Nairn Achareidh North	S01003896
Nairn Achareidh South	S01003891
Nairn Boath Park	S01003892
Nairn Central	S01003894
Nairn East Rural	S01003888
Nairn Fishertown East	S01003900
Nairn Fishertown West	S01003898
Nairn Lochloy	S01003899
Nairn Moss-side	S01003882
Nairn Sandown	S01003885
Nairn Showfield	S01003890
Nairn South	S01003887
Nairn South Rural	S01003782
Nairn West Rural	S01003875

Datazones, Inverness	
Ardersier	S01003878
Balloch North	S01003863
Balloch South	S01003851
Balnain	S01003770
Beauly East	S01003854
Beauly Rural	S01003843
Beauly West	S01003847
Bunchrew	S01003803
Cradlehall South	S01003811
Croy	S01003865
Culloden Academy	S01003859
Culloden Alltan	S01003856
Culloden Blackwell	S01003850
Culloden Ferntower	S01003844
Culloden North	S01003861
Culloden Walker Crescent	S01003858
Dalcross	S01003874
Drumnadrochit	S01003769
Drumossie	S01003780
Inverness Ballifeary	S01003805
Inverness Castle Heather North	S01003791
Inverness Castle Heather South	S01003784
Inverness Central & Longman	S01003853
Inverness Central North West	S01003833
Inverness Central West	S01003824
Inverness Clachnaharry	S01003852
Inverness Crown Central	S01003823
Inverness Crown East	S01003832
Inverness Crown South	S01003814
Inverness Crown West	S01003820
Inverness Dalneigh Central	S01003818
Inverness Dalneigh East	S01003827
Inverness Dalneigh North	S01003837
Inverness Dalneigh South	S01003812
Inverness Dalneigh South West	S01003817
Inverness Dalneigh West	S01003829
Inverness Drakies Central	S01003807
Inverness Drakies North	S01003813
Inverness Drakies South	S01003799
Inverness East	S01003828
Inverness Haugh East	S01003810
Inverness Haugh West	S01003815
Inverness Hilton East	S01003797
Inverness Hilton North	S01003801
Inverness Hilton North East	S01003806
Inverness Hilton South	S01003793
Inverness Hilton South West	S01003790
Inverness Hilton West	S01003796

Inverness Holm Mains	S01003786
Inverness Inshes	S01003792
Inverness Inshes Wood	S01003804
Inverness Kinmylies North	S01003821
Inverness Kinmylies South	S01003809
Inverness Lochardil Central	S01003788
Inverness Lochardil East	S01003787
Inverness Lochardil South	S01003785
Inverness Lochardil West	S01003789
Inverness Lower Drummond	S01003794
Inverness Merkinch East	S01003849
Inverness Merkinch North	S01003860
Inverness Merkinch South	S01003855
Inverness Merkinch Telford	S01003845
Inverness Milton	S01003802
Inverness Ness Castle	S01003781
Inverness Raigmore North	S01003839
Inverness Raigmore South	S01003822
Inverness Raigmore West	S01003825
Inverness Scorguie	S01003848
Inverness Scorguie Central	S01003840
Inverness Scorguie East	S01003834
Inverness Scorguie South	S01003831
Inverness Scorguie West	S01003835
Inverness South	S01003778
Inverness South Kessock	S01003862
Inverness Upper Drummond	S01003798
Inverness West	S01003783
Kiltarlity	S01003777
Kirkhill	S01003842
Loch Ness East	S01003758
Loch Ness North West	S01003776
Loch Ness South	S01003753
Moniack	S01003795
Smithton North East	S01003836
Smithton South	S01003830
Smithton West	S01003838
Strathglass	S01003775
Strathnairn & Strathdearn	S01003762
Westhill East	S01003819

